Immediate Feedback: A Means of Reducing Distracting Filler Words during Public Speeches

Michael Hazel
Gonzaga University

Colleen McMahon
Gonzaga University

Nancy Schmidt
Gonzaga University

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In the past half century, the importance of effective public speaking as part of a basic communication course is evidenced both by its inclusion as a requirement in many universities across the country, and the growth in the number of students seeking communication as a major of study. Because the act of public speaking involves the effective synthesis of a considerable number of communication components (e.g. well constructed content; organizational and rhetorical strategies; recall; eye contact; projection; oratorical style; management of communication apprehension), investigation into the best of ways of improving such competencies might run the gamut from studies that examine interventions targeting broad speech performance competencies (Ayres & Heuett, 1999), to more focused teaching strategies (e.g. Ayres & Schliesman, 1998; King, Young & Behnke, 2000; Selinow & Treinan, 2004; Smith & King, 2004) aimed specifically at micro-skill components like preparation, delivery, and instructor feedback processes. King et. al., for example, found that providing delayed feedback to students is more effective if the speech component task required effortful mental processing (e.g. developing an organizational format and incorporating re-
search), while immediate feedback was more effective if the speech task was automatic (e.g. rate of speech, eye contact.) Since instructor feedback is an essential component of effective instruction (Smith & King), instructors who are knowledgeable in the most effective ways of delivering feedback in public speaking courses may have greater success as teachers. This assertion is buttressed by the findings of Kluger and DeNisi (1996), who conducted a meta-analysis of research focused on feedback interventions (FI) and their impact on performance. They found that in 1/3 of the completed FI research studies, feedback interventions produced detrimental effects on performance. Specifically, interventions that focused on meta-tasks (those which drew focus to themselves thereby diverting cognitive resources from specific behaviors) attenuated performance, while interventions that focused on specific performance tasks enhanced performance.

Given these findings, examination of the impact of feedback style for one aspect of the speech giving process may serve to enhance the effectiveness of an overall approach to effective public speaking instruction. Specifically, this study examines in-class interventions designed to provide immediate feedback to students who struggle with the problems of overuse of filler words during speeches.

**Filler Words in Public Speeches**

Many contemporary communication texts (e.g. O'Hair, Stewart & Rubenstein, 2004) advocate an extemporaneous style of delivery for most public speaking
occasions. That is, student speakers are encouraged not to read from a script or memorize, but rather to employ a style of language and delivery that resembles a polished conversation (Caputo, Hazel, McMahon & Dannels, 2003). As such, the occasional use of filler words, or vocalized pauses, such as um, uh, like, and you know may serve a valuable rhetorical purpose by communicating spontaneity and a natural conversational style. According to O’Connell and Kowal (2005), “Rhetoric makes a virtue of all the hesitation phenomena by deliberately employing silent pauses, repeats, prolongations, uh and um... with a view to effectively influence listeners” (p. 557). However, excessive or unconscious use of fillers may become distracting and diminish a speaker’s effectiveness. Additionally, anecdotal evidence suggests that many students, as part of the current generation of millennials, often intersperse “likes” and “ums” in conversational communication with considerable frequency, and such sociolinguistic patterns carry over into more formal speech settings.

The study of the meaning and function of the words um, uh, like, and you know has produced mixed findings. Clark & Fox Tree (2002) demonstrated that um and uh are conventional English words which signal hesitation or delay. However, O’Connell and Kowal found that um and uh are not necessarily reliable indicators of upcoming delay and the “basic meanings” (p.574) of these words are ambiguous and warrant further study. Fox Tree (2007) reported that lay people generally attribute um and uh as speech production trouble, you know as a type of speaker-listener interaction, and like (e.g. I like went to the store) as eluding clear definition (p. 299). Public speaking texts (e.g.
O’Hair, Stewart & Rubenstein) typically advocate awareness and minimal use of filler words because of their distracting nature, and this notion has empirical support. According to Chaney, Green, & Cherry (2005) corporate trainees reported that the repeated use of filler words was the most annoying or distracting presenter behavior among 13 commonly recognized distracting behaviors. Thus, investigation of classroom interventions specifically targeting distracting filler words serves a valuable purpose for both students and instructors in public speaking courses and leads to the following research question:

RQ 1: How are speakers’ use of filler words during speeches impacted by immediate feedback timing?

Given the demonstrated effectiveness of immediate feedback on automatic speech tasks (Smith & King; Kluger & DeNisi), it was expected that students exposed to an immediate feedback intervention would use fewer filler words during speeches than students exposed to a placebo or no immediate feedback intervention. For the purposes of creating an intervention easily adapted to a classroom setting, the immediate feedback intervention involved signaling a student by dropping a penny into an aluminum tea container right after the speaker vocalized a filler word during a speech. The theoretical rationale for this intervention was based on classical and operant conditioning (see Kirsch, Lynn, Vigorito, & Miller (2004) for a contemporary perspective on classical and operant conditioning.) That is, the intervention strategy stems from the notion that the use of an immediate “signal” that an undesired behavior has occurred
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will, over time, decrease the likelihood that the undesired behavior will continue to occur. Students also learn this vicariously by observing other students “signaled” after using filler words. According to Kirsch, Lynn, Vigorito and Miller (2004), “There is now virtually universal agreement that conditioning involves the production of expectancies” (p. 3). Thus, when the student speaker utters any of the undesirable filler words, the expectation will be that a penny will be dropped into the jar. Over time, the speaker becomes conditioned to expect that the penny will drop and will avoid the use of the filler words in order to avoid the signal.

Feedback Style, Anxiety and Self-perceived Communication Competence

Past investigation (e.g. Chesbro & McCroskey, 2001; King & Behnke, 1986; Smith & King) of the impact of instructional feedback has focused on learner affect and anxiety. Smith & King, (2004) found that participants receiving immediate feedback on specific speech tasks reported significantly higher affect than delayed feedback or control conditions, but no significant differences in state anxiety levels. Ayres (1997) found that communication apprehension could be predicted by levels of fear of negative evaluation and self-perceived communication competence. Green, Rucker, Zauss, and Harris (1998) demonstrated that highly anxious individuals had slower skill acquisition and more performance variability than people with low anxiety (p. 345). Given these findings, an in-class intervention offering immediate feedback on graded speeches delivered in front
of peers and an instructor may not be effective if relevant affective and cognitive states are adversely impacted. Specifically, an intentional and prominent focus on filler words signaled by clinking coins during a live speech in front of an audience might lead to increased anxiety and decreased self-perceived communication competence. Therefore, the following research question is advanced:

RQ 2: How will an in-class, immediate feedback intervention affect participants’ levels of trait and state speech anxiety, and self-perceived communication competence?

**METHOD**

**Participants**

One hundred seventeen students enrolled in a required basic hybrid public speaking/introduction to communication course at a moderately-sized private university served as participants in this study. Students had the option of refusing to participate as outlined in the consent form, and safeguards for welfare and confidentiality were approved by the university’s institutional review board. Fifty-three percent of the students were female and the students ranged in age from 17 to 33 with an average age of 18.7 years. In order to best simulate a natural classroom environment, the participants’ course sections were randomly assigned to the treatment procedures, which were integrated into the course content.
**Instruments**

**Trait Speech Anxiety**

The Audience Anxiousness Scale (AAS) (Leary, 1983) is composed of twelve items and directs respondents to indicate “the degree to which each statement is characteristic or true of you” on a five point scale (1-not at all, 2-slightly, 3-moderately, 4-very, and 5-extremely). The measure assesses self-reported social anxiousness in the presence of an audience. Leary (1983) argues that the audience anxiety scale is a more comprehensive measure of CA in public speaking situations than the Personal Report of Communication Apprehension (Levine & McCroskey, 1990). The AAS has demonstrated construct and criterion validity, good test-retest reliability (.84) and consistent inter-item reliabilities (.88) and (.91) (Leary, 1983, p. 70). In this study, the alpha reliability was .89 in the first admission, and .91 in the second admission.

**State Speech Anxiety Inventory, A-State**

The State Anxiety scale (Spielberger, Gorsuch, & Lushene, 1970) is a five-item Likert-type instrument designed to tap state communication apprehension. Research indicates that this scale has reasonable reliability and validity (McCroskey, 1984). In prior research, alpha levels have been reported at .83, .86 (Ayres, Hopf, & Will, 2000), and .94, .94 (Ayres, Wongprasert, Silva, Story, Hsu, and Sawant, 2001). Alpha reliabilities in the present study were .86 in the first admission, and .91 in the second admission.
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Self-Perceived Communication Competence

Self-Perceived Communication Competence (SPCC) was measured using the Self-Perceived Communication Competence scale (McCroskey & McCroskey, 1988). This 12 item scale asks respondent to indicate their perceptions of their own competence in four communication situations (public speaking, stranger, acquaintance, and friend communication) anchored in a scale of 0 (totally incompetent) to 100 (competent). In previous work (Richmond, McCroskey & McCroskey, 1989), the overall SPCC instrument has demonstrated acceptable reliability of .93. In the present study, the total SPCC yielded an alpha of .89 in the first admission and .94 in the second admission. The public speaking sub-scale alpha reliabilities were .83 in the first admission and .78 in the second admission.

Data Gathering and Procedures

Instructors were two professors, who were also the researchers, each teaching three sections of the required basic course. In order to control for instructor effects the professors each taught one section of the immediate feedback, placebo, and control conditions (that is, each condition) an equal number of times. However, during the course of the study, one of the professors took a leave of absence and two experienced adjunct instructors served as substitutes for her class sections. These instructors were not informed as to the nature of the study and were trained in the specific protocols for the appropriate treatment conditions. The study conditions were designed to mirror each other and reduce demand
characteristics by using the same treatment protocols, assignment descriptions, and scoring rubrics in all sections.

**Treatment Conditions**

**Immediate Feedback Experimental Condition.** The intervention was developed and refined a semester before the study commenced. Before the first informative speech, delivered early in the semester, the instructor explained the procedures of the feedback treatment. That is, during student speeches trained student assistants were instructed to drop a penny in a jar within 1 to 2 seconds each time after the speaker uttered any of the following filler words: “*um*, “*uh*”, “*like*” and “*you know*.” The use of signals to indicate a particular speech behavior is not unusual (e.g. Toastmasters.) The assistants were informed when the words “*like*” and “*you know*” were contextually and grammatically appropriate and not considered filler words. In addition, the instructor kept a tally of the number of filler words on the student’s speech outlines for recording and feedback purposes. Students filled out the instruments immediately after the completion of the speech. After completing the first round of speeches, students received their grades with feedback and were informed that they would be delivering the same speech again. (This allowed for control of speech length and type.) The procedures for the second round of speeches mirrored the first.

**Placebo Condition** Participants in this condition were exposed to the same protocols above except that the pennies were dropped only when the speaker’s rate became too rapid during the speech.
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Control Condition. This condition adhered to above procedures except that no immediate feedback of any kind was given during the speeches.

Design and Analysis

This study employed a non-equivalent control group design involving an experimental group exposed to an immediate feedback intervention targeting filler words, a placebo condition where the immediate feedback intervention targeted a different speaking behavior (rate of speech), and a control condition. Number of filler words used, and the state and trait anxiety and self-perceived communication competence scales served as the dependent variables. The scores on first instrument admission and filler word count on the first speech served as the covariates for the multiple analysis of covariance analysis.

RESULTS

The multiple analysis of covariance yielded no significant results $F(10, 196) = .91, p > .05$ for the treatment conditions. Accordingly, no follow-up ANCOVA procedures were applied to any of the dependent variables. In addition, Box’s test of equality of the covariance matrices yielded significant results $F(30, 29610) = 4.09, p < .001$, indicating unequal covariance in the dependent variables. A follow-up Levene’s test for equality of variance was significant for the filler word variable $F(2,105) = 4.6, p < .05$ only. Table 1 presents pre and
Immediate Feedback

posttest means and standard deviations for all measures.

Given the resulting means and standard deviations reported in Table 1, we conducted a follow-up multiple analysis of variance of the first speech variables only. The MANOVA yielded significant results $F(10, 212) = 2.13, p < .05$. Follow-up ANOVAs indicated that the filler word dependent variable was significant $F(2, 113) = 10.0, p < .001$. Post hoc tests (Dunnett T3 for unequal

<table>
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<th>Speech One</th>
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<td>M</td>
<td>SD</td>
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<tr>
<td><strong>Filler Word Use</strong></td>
<td></td>
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<tr>
<td>Immediate Feedback</td>
<td>4.7</td>
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<tr>
<td>Placebo</td>
<td>5.5</td>
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<tr>
<td>Control</td>
<td>14.4</td>
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<tr>
<td><strong>Audience Anxiety</strong></td>
<td></td>
</tr>
<tr>
<td>Immediate Feedback</td>
<td>33.3</td>
</tr>
<tr>
<td>Placebo</td>
<td>35.6</td>
</tr>
<tr>
<td>Control</td>
<td>34.2</td>
</tr>
<tr>
<td><strong>State Speech Anxiety</strong></td>
<td></td>
</tr>
<tr>
<td>Immediate Feedback</td>
<td>15.7</td>
</tr>
<tr>
<td>Placebo</td>
<td>16.4</td>
</tr>
<tr>
<td>Control</td>
<td>15.6</td>
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<tr>
<td><strong>Self-Perceived Public Speaking Competition</strong></td>
<td></td>
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<tr>
<td>Immediate Feedback</td>
<td>77.4</td>
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<tr>
<td>Placebo</td>
<td>78.9</td>
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<tr>
<td>Control</td>
<td>79.3</td>
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</table>

N=36 in immediate feedback condition, 27 in placebo condition, and 45 in control conditions.
variances) indicated that participants in both immediate feedback conditions had significantly lower filler word use than the control condition in the first round of speeches, but the experimental and placebo conditions did not differ from each other. No significant differences emerged for any of the self-report variables.

**DISCUSSION**

The results of this study confirm an association between the use of feedback interventions during speeches and reductions in the use of filler words. That is, students receiving immediate feedback in the experimental and placebo conditions used a significantly lower number of filler words than students who received no immediate feedback in the first round of speeches. In fact, students in the control group used over three times as many filler words as participants in the experimental condition, and over twice as many fillers as participants in the placebo group. While no significant differences in filler word use were indicated in the MANCOVA analysis, most likely due to the non-constant variance differences between the control condition and placebo and experimental groups (see Neter, Kutner, Nachtsheim, and Wasserman, 1996), practical differences did emerge. That is, in the second round of speeches, while participants in the control condition reduced the average use of filler words by 60%, they still used almost three times as many fillers as the experimental group. Somewhat unexpectedly, no differences emerged between the experimental and placebo conditions. It appears that as a function of almost simultaneous, task-specific feedback
present in the immediate feedback conditions, students are more vigilant about performing well across a variety of speech delivery skills. Of equal significance, the study indicates that trait and state speech anxiety and self-perceived communication competence are not adversely impacted by the use of the immediate feedback intervention as no significant differences among these variables emerged from the treatment conditions.

That the control group also reduced the use of fillers by 60% from the pre to post test speech speaks to the value of the delayed feedback that most students receive as part of their experience in public speaking courses. While the immediate feedback treatment appears effective in combination with delayed feedback, the impact of immediate feedback applied over the duration of an entire course warrants further investigation. One might suspect, for example, that filler word reductions might be more dramatic if immediate feedback was used by instructors throughout the semester.

**STUDY TWO**

Since study one provided evidence that immediate feedback is significantly related to reductions in the use of distracting filler words in an initial exposure, it was decided to see if such feedback integrated over the duration of a public speaking course might have a greater degree of impact on filler word reductions than just two speeches. In addition, as no baseline measurements of self-reported trait, state, and self-perceived public speaking competence were gathered in study one prior to exposure to the intervention, we decided to investi-
gate the impact of initial exposure to the immediate feedback intervention. Thus, the following research questions were advanced:

RQ 1: How is the speaker use of filler words during speeches impacted by immediate feedback timing when integrated over the duration of a public speaking course?

RQ 2: Consistent with study one, will exposure to an in-class, immediate feedback intervention over the duration of an entire course have negligible effects on participant’s reported levels of trait and state speech anxiety, and self-perceived communication competence?

**METHOD**

This study employed a non equivalent control group design involving an experimental group exposed to the immediate feedback intervention targeting filler words over the course of a number of speeches, and a control condition, where the speeches were evaluated without immediate feedback.

**Participants**

Upper division undergraduate communication majors (N = 36) enrolled in two sections of a required advanced public speaking courses at a mid-size private university served as participants in the study. Sixty-seven percent of the students were female and participants ranged in age from 19 to 49 with an average age
of 21.5. Students responded to a questionnaire three times during the course of the semester: once, on the first day of the course, again after the first major speech, and finally after the last major speech. The order of the forms was systematically varied and there was a multiple week time period between each distribution of the questionnaire. Students were informed of the confidential and voluntary nature of the study.

**Instruments**

*Trait Speech Anxiety*

As in study one, the Audience Anxiousness Scale (AAS) (Leary) was used to tap trait speech anxiety. In this study, the alpha reliability was .90 in the initial administration, .88 after speech one, and .79 after speech two.

*State Speech Anxiety Inventory, A-State*

The State Anxiety scale (Spielberger, Gorsuch, & Lushene) was used to assess state speech anxiety. Alpha reliabilities in the present study were .89 in the initial administration, .86 after the first speech, and .91 after the second speech.

*Self-Perceived Communication Competence*

Self-Perceived Communication Competence (SPCC) was measured using the Self-Perceived Communication Competence scale (McCroskey & McCroskey). In this study, the total SPCC yielded an alpha of .89 in the first administration, .89 after speech one and .88 after
speech two. Public speaking subscale alphas were .75, .68, and .61 respectively.

**Instructors**

Instructors were two professors, who were also the researchers, each teaching a section of a required advanced public speaking course. The courses were designed to mirror each other by using identical syllabi, course progression, assignment explanations, and scoring rubrics. The classes were randomly assigned to either the experimental or normal class condition.

**Treatment Conditions**

*Experimental Condition.* On the first day of class, students filled out the questionnaire in order to obtain initial measurements (henceforth referred to as time 1) of the self-report measures. As no speeches were delivered on the first day of class, no tallies of filler words were compiled. The immediate feedback intervention and data gathering procedures mirrored the experimental condition in study one. However, after the first informative speech and questionnaire distribution (henceforth referred to as time 2), the intervention was used during ensuing speech and feedback sessions over the duration of the course. Towards the end of the semester, after students had delivered a number of different speeches, students again delivered the same informative speeches (in order to control for speech length and type) (henceforth referred to as time 3) and again filled out the questionnaire. Over the course of the semester, in addition to the use of the “um jar,” the instructor pro-
vided other teaching methods designed to reduce the use of distracting filler words. First, evaluation rubrics had a grading category for filler words and feedback included a tally of the number of filler words uttered during their speeches as part of the instructor feedback. Secondly, at periodic times during the semester, the instructor employed a commonly used practice exercise designed to help students become more cognizant of their use of filler words. In these exercises, students sat in a circle and generated impromptu speech topics. Then each student had to speak for a minute on one of the topics and the number of filler words spoken during the minute was tallied and reported to the student. During these impromptu sessions, the “um jar” was also employed. Thus, the immediate feedback intervention was integrated into formal and informal speaking assignments as part of the course content.

Control Condition. This condition adhered to how the course is normally taught during the semester. That is, this condition mirrored all of the above procedures with the exception of the use of the immediate feedback intervention. Thus, students were provided with delayed feedback and there was no integration of immediate feedback during the course.

Analysis

A series of MANCOVA procedures were employed to assess between groups differences. In the first analysis, MANCOVA procedures with initial baseline self-report measurements (time 1) serving as the covariates and the self-report (time 2) measurements serving as dependent variables were employed to assess the impact of
initial exposure to the treatment. In the second MANCOVA procedure, the number of filler words used, and the state and trait anxiety and self-perceived communication competence scales administered after time 2 served as the covariates, and the time 3 measurements served as the dependent variables.

Results

The multiple analysis of covariance yielded no significant results when the initial measurements were used as the covariates and the time 2 measures served as the dependent variables $F(2, 22) = 1.61, p > .05$ for the treatment conditions. Accordingly, no follow-up univariate procedures were applied to any of the dependent variables. When the time 2 variables were used as the covariates and the time 3 means as dependent variables, the MANCOVA yielded no significant differences $F(4, 21) = .577, p > .05$. Table 2 presents pre and post test means and standard deviations for all measures.

As in study one, based on the non-significant differences reported in the MANCOVA, we conducted a follow-up multiple analysis of variance of pre-test variables only. The MANOVA also yielded no significant results $F(4, 27) = 1.45, p > .05$. Box's test of equality of the covariance matrices yielded significant results $F(10, 4135) = 2.683, p < .003$, indicating unequal covariance in the dependent variables. A follow-up Levene's test for equality of variance was significant for the filler word variable $F(1,33) = 4.21 p < .05$ only, consistent with study one.
Immediate Feedback

Table 2

Initial Test (Time 1), Speech One (Time 2), and Speech Two (Time 3) Means and Standard Deviations across Four Dependent Variables

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<tr>
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<th>Initial Test</th>
<th>Speech One</th>
<th>Speech Two</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
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<tr>
<td><strong>Filler Word use</strong></td>
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<td></td>
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<tr>
<td>Immediate Feedback</td>
<td>3.21</td>
<td>2.76</td>
<td>.82</td>
</tr>
<tr>
<td>Control</td>
<td>8.06</td>
<td>10.2</td>
<td>1.54</td>
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<tr>
<td><strong>Audience Anxiety</strong></td>
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</tr>
<tr>
<td>Immediate Feedback</td>
<td>34.02</td>
<td>8.9</td>
<td>33</td>
</tr>
<tr>
<td>Control</td>
<td>34.35</td>
<td>9.8</td>
<td>37.8</td>
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<tr>
<td><strong>State Speech Anxiety</strong></td>
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<td></td>
</tr>
<tr>
<td>Immediate Feedback</td>
<td>17.3</td>
<td>4.4</td>
<td>14.9</td>
</tr>
<tr>
<td>Control</td>
<td>16.6</td>
<td>4.6</td>
<td>16.0</td>
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<tr>
<td><strong>Self-Perceived Public Speaking Competence</strong></td>
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</tr>
<tr>
<td>Immediate Feedback</td>
<td>82.9</td>
<td>16.9</td>
<td>84.7</td>
</tr>
<tr>
<td>Control</td>
<td>79.4</td>
<td>13.1</td>
<td>83.2</td>
</tr>
</tbody>
</table>

N=17 in immediate feedback condition, and 15 in control condition.

Since no statistically significant between group differences emerged from the multivariate analysis, we conducted within groups procedures on all measures with a Bonferroni correction to control for familywise error rate (Wilk’s Lamda critical F probability values were adjusted from .05 to .01). Results indicated all measures significant beyond the .001 level. Participants used significantly fewer filler words in speech two than speech one $F(1,33) = 13.04 \ p < .001$, eta-squared = .283. Trait audience anxiety differences were also significantly different $F(2,30) = 16.34 \ p < .0001$, eta-squared = .52. Bonferroni post hoc analyses revealed that time one
and two measurements indicated significantly higher anxiety than time three, although times one and two did not differ from each other. State speech anxiety was also significantly different $F(2,29) = 23.63 \ p < .0001$, eta-squared = .62. Post hoc procedures indicated that all three measurements were significantly different from each other with initial test measurements higher than speech one, and speech one measures higher than speech two. Self perceived public speaking communication competence was also significantly different $F(2,31) = 8.96 \ p < .001$, eta-squared = .366. Post hoc analyses indicated that time one and two measurements were not significantly different from each other but both were significantly lower than time three. Means and standard deviations for all values are reported in table 3.

Table 3

<table>
<thead>
<tr>
<th></th>
<th>Initial Test</th>
<th>Speech One</th>
<th>Speech Two</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>M SD</td>
<td>M SD</td>
<td>M SD</td>
</tr>
<tr>
<td>Filler Word Use</td>
<td>5.5 7.58</td>
<td>1.12 1.15</td>
<td></td>
</tr>
<tr>
<td>Audience Anxiety</td>
<td>33.7 8.54</td>
<td>34.9 8.9</td>
<td>30.1 6.9</td>
</tr>
<tr>
<td>State Speech Anxiety</td>
<td>17.51 4.02</td>
<td>15.22 4.51</td>
<td>11.67 4.51</td>
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<tr>
<td>Self-Perceived Public</td>
<td>80.63 15.63</td>
<td>83.5 11.37</td>
<td>89.76 8.26</td>
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<tr>
<td>Speaking Competence</td>
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DISCUSSION

The purpose of these studies was to explore the effectiveness of immediate feedback interventions targeting excessive filler word use in speech class settings as well as assess the potential impact of such procedures on trait and state speech anxiety and self-perceived public speaking communication competence. Results from study one indicate that state and trait speech anxiety and self-perceived communication competence are not significantly associated with or adversely impacted by the use of the immediate feedback intervention. In addition, the statistical results in study one support the notion that immediate feedback is effective in reducing distracting filler words in initial exposures. The means and standard deviations of filler word use in study one support the premise that students exposed to immediate feedback use considerably fewer filler words and show much smaller within group variation than students receiving no immediate feedback, regardless of whether or not the feedback is specifically targeting filler word use. While no statistically significant differences emerged when examining speech two measurements, with speech one values as covariates, it is likely that within group variation (see Neter et. al, 1996) contributed to the no significant difference findings in study one. For example, even though the mean score for filler word use was over double that of the immediate feedback placebo and experimental conditions in both speeches, and standard deviations of the control group were also considerably higher in the control group than either of the immediate feedback conditions, the statistical differences were non significant. While a typical
remedy for Type II error is to increase sample size, it is unlikely that such an adjustment would be effective in future replication studies. As evidenced by the reported standard deviations, there were considerably more extreme values in the delayed feedback only control condition. One student in the control condition, for example, uttered 62 disfluencies in the first speech and over 100 in the second. Such extreme values make it more difficult for the statistical procedures to detect significant differences, and these variations are highly likely to be present in actual classroom settings.

Since the data in study one indicate no harmful effects of employing this immediate feedback intervention and result in a considerably lower number of filler word use in conditions employing immediate feedback, this study offers evidence that these procedures can be effectively adopted into public speaking class settings. Follow-up qualitative anecdotal evidence provided by students involved in study two demonstrated considerable support for the positive impact of the “penny jar.” Many students reported that they are more aware of their own use of language in multiple contexts, and now notice more when others use distracting fillers in speeches and conversations. As such, we recommend that instructors encourage but not require immediate feedback in public speeches. Another interesting finding of study two was the significant reduction of reported trait and state anxiety and increase in self-reported speech competence across all conditions. This finding is encouraging for instructors of basic public speaking courses and speaks to the benefits such courses provide to college students.

Several limitations of this study warrant discussion. First, in study one, a professor had to take a leave of ab-
sence and was replaced by adjunct instructors who completed her sections of the study. While we were careful about adhering to consistent protocols in the design and implementation of the study, and the substitute instructors were not aware of the research questions, this change may have introduced some systematic variance. In addition, in study two each instructor ran a different condition. Again, while procedures were designed to be consistent throughout the conditions, this dynamic may have introduced systematic variance that affected the results. Finally, in study two a greater number of participants in each condition might have provided more power to detect differences. Means and standard deviations of the filler word use variable in both studies suggest possible type II error and a larger sample size may serve to provide more power to detect these differences.

Overall, the use of immediate feedback during public speeches appears to be a non-threatening and useful way to enhance public speaking competencies in students. Future studies may want to investigate the direct and concomitant benefits of providing task specific immediate feedback on elements of public speaking delivery like eye-contact, projection, or body movement. In study one, for example, targeting rate also appeared to lower the use of speech fillers. More work in this area is warranted, but the evidence presented in this study indicates that immediate feedback is a fruitful method for improving public speaking instruction.
REFERENCES


Immediate Feedback


Immediate Feedback


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