Communication Apprehension and Basic Course Success: The Lab-supported Public Speaking Course Intervention

Karen Kangas Dwyer  
*University of Nebraska - Omaha*

Robert E. Carlson  
*University of Nebraska - Omaha*

Sally A. Kahre  
*University of Nebraska - Omaha*

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The lab-supported public speaking course intervention was designed to address communication apprehension among students. The study focused on the effectiveness of the intervention in improving students' public speaking skills and attitudes towards public speaking.

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Communication Apprehension and Basic Course Success: The Lab-supported Public Speaking Course Intervention

Karen Kangas Dwyer
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It has been estimated that 15 to 20 percent of the student population of universities suffers from high communication apprehension (CA), "the fear or anxiety associated with either real or anticipated communication with another person or persons" (McCroskey, 1977, p. 78; Richmond & McCroskey, 1998). It is imperative that educators attempt to help these high communication apprehensives (HCAs) overcome their anxiety because HCAs are more likely to drop out of college and to receive lower grades than their lower apprehensive counterparts (Ericson & Gardner, 1992; Richmond & McCroskey, 1998). Consequently, one goal of basic communication course instruction is to assist HCAs reduce their anxiety and, thus, avoid the negative academic consequences.

Although there are a multitude of in-class treatment techniques for high CA, such as systematic desensitization (McCroskey, 1972), cognitive restructuring (Freemouw & Scott, 1979), visualization (Ayres, Hopf, & Ayres, 1997), and rhetoritherapy/skills training (Phillips, 1997; Kelly, 1989), these interventions can con-
sume a lot of precious class time. One fairly new inter-
vention that relies little on class time is the lab-sup-
ported public speaking course. This use of a speech lab
"to support communication instruction in higher educa-
tion is increasing in popularity," especially with the in-
creased availability of high technology in the form of
computers, computer software, and video equipment
(Morreale, 1998, p. 8).

An assumption made by those who incorporate
speech labs in public speaking classes appears to be that
use of technology can somehow help students become
more comfortable with the mechanics of preparing a
speech. If students are better prepared, the reasoning
goes, they will be less anxious about actual speaking
performance and able to perform better in the course
(Daly & Vangelisti, 1995). However, few studies have
examined the effects of speech lab usage on student
communication apprehension level or on grades in the
basic public speaking course, especially for HCA's.

The purpose of this study is to query the effect of a
lab-supported beginning public speaking course on the
CA level of those who use the lab versus those who do
not choose to use the lab. In addition, this study ex-
plores the potential impact of speech lab usage on the
academic success of those who are enrolled in the lab-
supported course.

LITERATURE REVIEW

Those who experience high CA have reported that it
permeates every facet of their lives — school, work,
friendships (Richmond & McCroskey, 1998). In fact,
high CA has been related to avoidance of postsecondary education (Monroe & Borzi, 1988), apprehension in the classroom setting (Ayres, 1996; Neer, 1987 and Jaasma, 1997), significantly lower grade point averages (McCroskey & Anderson, 1976; McCroskey, Daly, & Sorensen, 1976) more negative views in the workplace (Richmond & Roach, 1992), more apprehension in employment interviews (Ayres & Ayres, 1993), lower ratings as effective communicators in interviews (Ayres, Keereetawee, Tanichya, Chen, & Edwards, 1998), lower perceptions of self-worth (Colby, Hopf & Ayres, 1993), and lower degrees of self control, adventurousness and emotional maturity (Richmond & McCroskey, 1998).

Recent studies have reported that CA is a potential barrier to student academic success including both retention and academic achievement as measured by grade point averages. A meta-analysis by Bourhis and Allen (1992) found a significant negative relationship between CA and cognitive performance. HCAs tend to suffer lower overall grade-point averages and evaluations (McCroskey, 1977; Powers & Smythe, 1980; Richmond & McCroskey, 1998). Data from two, four-year longitudinal studies at a four year undergraduate college showed that "high CA students were significantly more likely to drop out compared to low CA students" and that the HCAs "tended to drop out significantly more after only one year" (Ericson & Gardner, 1992, p. 127). HCAs often will drop a class with high communication requirements, even if it is a required course and HCAs "who remain in courses with high communication requirements are likely to be absent on days when they
are scheduled for presentations” (Richmond & McCroskey, 1998, p. 62).

The concern for HCA students’ success in the classroom is what has led researchers for decades to look at different ways and techniques to help HCAs. CA reduction techniques, such as systematic desensitization (McCroskey, 1972) (the pairing of deep muscle relaxation with graduated anxiety-eliciting stimuli in the speech making process), cognitive restructuring (Freemouw & Scott, 1979) (identifying negative self-talk about public speaking and replacing it with positive coping statements), visualization (Ayres, Hopf, & Ayres, 1997) (picturing oneself giving a successful speech) and skills training or rhetoritherapy (Phillips, 1997; Kelly 1989) (learning proper preparation and delivery skills) have all been found to be effective and helpful for the HCAs. “However each of these techniques requires a considerable amount of time to develop and operate with the exception of skills training, which may be included as part of normal lectures” in a public speaking course (Robinson, 1997, p. 190).

Often, it is a basic public speaking course that serves as a general education requirement that all students must fulfill prior to graduation (Gibson, Hanna, & Leichty, 1990). Since the basic course enrolls many students, it would seem to be an ideal way for instructors to help many HCAs. This is not always the case. Although a majority of students report a decrease in self-perceived public speaking anxiety and an increase in self-perceived competency by the end of the semester, the “literature seems to suggest that completing a public speaking course is likely to be a punishing experience for high CA students” (Ellis, 1995, p. 67). Many will
drop the course and even drop out of college (Richmond & McCroskey, 1998).

Treating students' CA is a real problem that many speech departments and instructors face every semester (Robinson, 1997). Some colleges and universities have developed special sections of a public speaking course specifically designed for apprehensive students (e.g., Dwyer, 1995; Dwyer, 1998; Dwyer, 2000; Hoffman & Sprague, 1982; Raker, 1992). Other colleges and universities have opened university-wide communication labs to assist students from any discipline with communication skills (Flores, 1997; McKiernan, 1984; Morreale, 1998).

One fairly new intervention to help HCAs is the lab-supported public speaking course. In this course, all students have the opportunity to use a speech lab that offers a wide range of instruction beyond the traditional classroom. The goals for most speech labs include helping students prepare for oral communication activities, providing coaching and feedback during rehearsal stages, and providing evaluative and constructive feedback after the communication events” (Grice & Cronin, 1992, p. 9). A variety of pedagogical methods are offered, such as playback equipment to help students improve oral performance, training in using outlining skills, Internet research skills and presentational software, as well as self-paced interactive instructional modules, communication resource books or audiotapes, and computerized software programs (Morreale, 1998).

One recent study related to the use of speech labs examined “relationships between public speaking anxiety and self-perceived public speaking competency for students with high, moderate, and low CA in the labora-
CA and Speech Lab Intervention

tory-supported course” (Ellis, 1995, p. 65). The study reported that “high CA students perceived more improvement than moderate and low CA students” (p. 71), but no significant difference among CA groups was found. It was noted that this “laboratory-supported instructional model provided a nonthreatening, nurturant environment that helped all students, including high apprehensives, to perceive significant increases in self-perceived competency” (Ellis, 1995, p. 74). The laboratory setting offered one-on-one support consisting of “goal setting and accountability interviews, optional coaching in preparation for upcoming speeches, video feedback, and required, private feedback sessions with TA’s following each speech” (p. 74).

In order for a speech lab to benefit HCAs, they have to utilize the lab. Although the lab may be available on campus, the student experiencing HCA has to feel comfortable utilizing the lab. This aspect leads to a very important point: the “approach avoidance” chase that can occur between good-intentioned instructors and apprehensive speech students. In one incidence, speech anxious students “upon being encouraged by their public speaking instructors to visit the school’s speech lab, responded by dropping the class” (Proctor, Douglas, Garerra-Izquierdo & Wartman, 1994, p. 312). It is apparent that being ‘sent for treatment’ is so embarrassing and/or threatening for HCAs that they will leave a course. This is a critical factor as Monroe & Borzi (1998) pointed out that HCAs face a major obstacle overcoming CA in order to continue their education. That is why the lab-supported course where all are encouraged to use the speech lab can be most useful as no one is singled out to go to the lab.
Based on the negative academic consequences reported for high CA in the communication literature as well as the limited research involving lab-supported public speaking courses, the following hypotheses were proposed.

H1: High and moderate communication apprehensives will show a significant drop in overall and context CA levels at the conclusion of the lab-supported public speaking fundamentals course.

H2: High and moderate communication apprehensives who utilize the speech lab will show a greater decline in overall CA level than the high and moderate communication apprehensives (respectively) who do not use the lab.

H3: High and moderate communication apprehensives who utilize the speech lab will receive higher course grades than high and moderate communication apprehensives (respectively) who do not use the lab.

METHODOLOGY

Participants

Public Speaking Fundamentals Course. Participants for this study were 537 undergraduate students enrolled in 23 sections of a basic public speaking course at a large midwestern university. Participants enrolled in this course represented a cross-section of class rankings (384 [71.5%] freshmen, 106 [19.7%] sophomores, 29 [5.4%] juniors, 17 [3.2%] seniors, and 1 [0.2%] missing) and disciplines because the course fulfills a university-
wide general education requirement for public speaking. Fifty-three percent were female and 43.8 percent were male (2.4% missing data). The 23 sections represented one-fourth of all students enrolled in the 15-week course over three semesters; 470 completed at least the pretest while 390 students completed both the pretest and post-test instruments.

Speech Lab. With funds from a university grant, a speech lab was staffed by graduate students and made available to all students enrolled in the public speaking fundamentals course. All students in the sample made at least one initial in-class visit to the speech lab at the beginning of the semester. A lab instructor explained the benefits of the lab that focused largely on assistance in all aspects of preparing speeches, but also provided video recording and playback capabilities. All students who visited the lab were required to sign a check-in sheet every time they used the lab. They were asked to sign their name, date of attendance, time, and instructor of their public speaking class.

Measurement Instruments

CA was measured using the Personal Report of Communication Apprehension* (PRCA-24) (McCroskey, 1982). This 24-item scale assesses overall communication anxiety across four contexts, as well as anxiety in each of four contexts (groups, meetings, interpersonal conversations, and public speaking). It uses a five-point Likert-type format and has demonstrated excellent reliability and predictive validity in its wide use in CA research (McCroskey, Beatty, Kearney & Plax, 1985; Richmond & McCroskey, 1998). The obtained reliability
coefficients (Cronbach alphas) for the overall scale used in this study were (for the pretest and posttest respectively) .93, and .94. The reliabilities for the context scales were (for the pretest and posttest respectively): groups, .87, .86; meetings, .91, .91; interpersonal, .84, .86; and public speaking, .87, .87.

National norms established in the communication literature show a mean of 65.6 and standard deviation of 15.3 (Richmond & McCroskey, 1998). Low CAs are defined as scoring less than one standard deviation below the norm mean (50 or below). Moderate CAs are defined as scoring between one standard deviation below and one standard deviation above the mean (51 to 80), and high CAs are defined as scoring more than one standard deviation above the norm mean (81 and above).

Speech Lab Usage

Lab usage was measured using the lab check-in sheets. Of the 537 students enrolled in the 23 sections of the public speaking course, 192 (35.8%) used the lab beyond the initial visit and 345 (64.2 percent) chose not to use the speech lab. Eighty-five students (15.8%) used the lab once, 38 students (7.1%) used the lab twice, 25 students (4.7%) used the lab three times, 11 students (2.0%) used the lab four times, 11 students (2.0%) used the lab five times, seven students (1.3%) used the lab six times and 15 students (2.8%) used the lab seven times or more.
Grades

Students' final grades in the course were obtained from departmental records and the instructors who taught the classes. The records showed that 21 (3.9%) received an "A+," 142 (26.4%) received an "A," 53 (9.9%) received a "B+," 138 (25.7%) received a "B," 30 (5.6%) received a "C+," 55 (10.2%) received a "C," 12 (2.2%) received a "D+," 11 (2.0%) received a "D," 27 (5.0%) received an "F," and 48 (8.9%) "withdrew."

Procedure

Data was collected through PRCA-24 questionnaires that were administered to beginning public speaking students by their instructors during regular class time. The pretest PRCA-24 questionnaire was given during the first week of the semester and the posttest PRCA-24 questionnaire was given during the last week of the semester.

Calculations on speech lab usage were made using the speech lab check-in sheets. Since every student who utilized the lab was introduced to the lab as part of a class assignment, calculations were made on any additional visits to the lab. In addition, the students' public speaking course grades were obtained through departmental records.

RESULTS

The results for Hypotheses One and Two were based on the scores of the 390 students who completed both pre and posttests on the PRCA-24 questionnaires. From
the 390 students, 47 (12.1%) were categorized as high CAs with PRCA-24 overall scores at or above 81 (one standard deviation above the norm mean) and 268 (68.7%) students were categorized as moderate CAs with PRCA-24 overall scores between 51 and 80. This was a total of 315 students scoring in the moderate to high range for CA. The results for Hypothesis Three was based on the scores of 470 students who completed at least the pretest on the PRCA-24 questionnaires, and from that cumulative number, 373 scored within the moderate to high range.

The first hypothesis, which predicted that high and moderate CAs would show a significant drop in overall and context CA levels at the conclusion of the lab-supported public speaking fundamentals course, was supported. Paired t-tests showed a significant difference at the .000 level of probability for the pretest vs posttest scores on overall scores and context scores for both high and moderate CAs. Thus, at the completion of the public speaking fundamentals course, high and moderate CAs did report lower overall and context CA scores (Table 1).

The second hypothesis, which predicted high and moderate CAs who utilized the speech lab would show a greater decline in overall CA level than those high and moderate CAs (respectively) who did not choose to use the lab beyond the initial visit, was not supported. The results of the paired t-tests for Hypothesis Two indicated no significant difference (Table 2).

Hypothesis Three predicted that high and moderate CAs who utilized the speech lab would receive higher course grades than high and moderate CAs (respectively) who did not use the lab beyond the initial visit. The results of the paired t-tests supported the
<table>
<thead>
<tr>
<th></th>
<th>High CA Mean</th>
<th>SD</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Change</th>
<th>t</th>
<th>p</th>
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<td></td>
<td>Overall</td>
<td>47</td>
<td>88.81</td>
<td>74.51</td>
<td>14.30</td>
<td>8.40</td>
<td>.000</td>
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<td></td>
<td>PS</td>
<td>47</td>
<td>26.36</td>
<td>20.83</td>
<td>5.53</td>
<td>4.63</td>
<td>9.74</td>
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<td>GRP</td>
<td>47</td>
<td>21.36</td>
<td>17.30</td>
<td>4.06</td>
<td>3.68</td>
<td>.000</td>
</tr>
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<td></td>
<td>MTG</td>
<td>47</td>
<td>22.53</td>
<td>19.70</td>
<td>2.83</td>
<td>3.61</td>
<td>5.17</td>
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<td>INTP</td>
<td>47</td>
<td>18.55</td>
<td>16.68</td>
<td>1.87</td>
<td>3.68</td>
<td>.004</td>
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<td>65.38</td>
<td>57.38</td>
<td>8.00</td>
<td>7.97</td>
<td>.000</td>
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<td></td>
<td>PS</td>
<td>268</td>
<td>21.02</td>
<td>17.89</td>
<td>3.13</td>
<td>3.66</td>
<td>9.97</td>
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<td></td>
<td>GRP</td>
<td>268</td>
<td>14.17</td>
<td>12.43</td>
<td>1.75</td>
<td>3.41</td>
<td>8.46</td>
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<td></td>
<td>MTG</td>
<td>268</td>
<td>15.89</td>
<td>14.29</td>
<td>1.88</td>
<td>3.66</td>
<td>7.16</td>
</tr>
<tr>
<td></td>
<td>INTP</td>
<td>268</td>
<td>14.29</td>
<td>13.06</td>
<td>1.24</td>
<td>3.21</td>
<td>5.23</td>
</tr>
</tbody>
</table>

Table 1: Hypothesis One: Paired T-Test PRCA-24 Results for High and Moderate CAs
### Table 2

Hypothesis 2 Paired T-Test Speech Lab Utilization Results for High and Moderate CAs

<table>
<thead>
<tr>
<th>Lab Usage</th>
<th>n</th>
<th>PRCA-Pre Mean</th>
<th>PRCA-Pre SD</th>
<th>Change Mean</th>
<th>SD</th>
<th>Change t</th>
<th>p</th>
</tr>
</thead>
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<td></td>
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<td></td>
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<tr>
<td><strong>High CAs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>24</td>
<td>89.03</td>
<td>6.67</td>
<td>-14.92</td>
<td>11.79</td>
<td>.367</td>
<td>.715</td>
</tr>
<tr>
<td>No</td>
<td>23</td>
<td>88.58</td>
<td>6.57</td>
<td>-13.65</td>
<td>11.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Moderate CAs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=268</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>103</td>
<td>64.03</td>
<td>7.52</td>
<td>-7.88</td>
<td>10.65</td>
<td>.129</td>
<td>.898</td>
</tr>
<tr>
<td>No</td>
<td>165</td>
<td>66.23</td>
<td>8.15</td>
<td>-8.07</td>
<td>11.71</td>
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</table>
higher course grades for high CAs (p = .004), but did not support it for moderate CAs (Table 3). (The scale for statistical analysis of grades was: 4.5 = A+, 4 = A, 3.5 = B+, 3 = B, 2.5 = C+, 2 = C, 1.5 = D+, 1 = D, 0 = F.)

Table 3
Hypothesis 3 Paired T-Test Grade Results for High and Moderate CAs

<table>
<thead>
<tr>
<th>Lab Usage</th>
<th>n</th>
<th>Grade Mean</th>
<th>SD</th>
<th>Change</th>
<th>t</th>
<th>p</th>
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<td>High CAs</td>
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<td></td>
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</tr>
<tr>
<td>N=59</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28</td>
<td>3.32</td>
<td>.67</td>
<td>2.23</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>2.69</td>
<td>1.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate CAs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=314</td>
<td></td>
<td></td>
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<tr>
<td>Yes</td>
<td>114</td>
<td>3.03</td>
<td>.96</td>
<td>.11</td>
<td>.28</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>200</td>
<td>2.88</td>
<td>1.29</td>
<td></td>
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</tr>
</tbody>
</table>

DISCUSSION

The primary purpose for conducting this study was to determine if students who report moderate to high CA, as measured by the PRCA-24, benefit from the lab-supported public speaking fundamentals course. The paired t-test results yielded support for Hypotheses One and Three.
Hypothesis One, which posited that high and moderate CAs would show a significant drop in their overall and context CA levels at the conclusion of a public speaking fundamentals course, was supported. The change scores indicate that the lab-supported basic public speaking course has a positive impact on students experiencing moderate and high CA in public speaking contexts. These findings confirm previous research that found skills training in a public speaking class helps with the reduction of public speaking anxiety (Greene, Rucker, Zauss, & Harris, 1998; Glaser, 1981; Kelly, 1997).

The findings of this study also indicated that the lab-supported basic public speaking course positively impacted all communication contexts for high and moderate CAs. The significant change scores for high CAs (public speaking [5.53], group [4.06], meeting [2.83] and interpersonal communication [1.87]) and for moderate CAs (public speaking [3.13], group [1.75], meeting [1.88] and interpersonal communication [1.24]) were noteworthy. Since CA has been shown to permeate “every facet of an individual’s life – school, work, friendships” (Richmond & McCroskey, 1998, p. 41), the students’ experience in the lab-supported public speaking fundamentals course positively permeated their lives (i.e., school/group context; work/meeting context and friendships/interpersonal context). “The key point to remember is that in the U.S. culture, talk is highly valued” (Richmond & McCroskey, 1998, p. 28). Regardless of the advancement of technology in our lives, it still does not replace the importance of being able to communicate well. The significant change scores of the overall and four communication contexts of high and moderate CAs indicate a
direct benefit received through the lab-supported public speaking fundamentals course.

Researchers have substantiated the benefit of instruction. They have examined CA and communication competence in the educational settings and "have documented the impact of instruction on reducing apprehension and improving competence and success" (Rubin, Rubin & Jordan, 1997, p. 105). "If communication educators can improve, even slightly, the degree of student participation throughout their institution, they will be providing a valuable service and most likely will gain the appreciation and support of colleagues in other disciplines" (Phillips, 1980, p. 217).

Communication studies have found that "quiet students often will drop a class with high communication requirements, even if it is a required course" and high CAs who remain in courses with high communication requirements will likely be absent on days when they are scheduled to give speeches (Richmond & McCroskey, 1998, p. 62). Because the lab-supported public speaking fundamentals course benefited moderate and high CA's by lowering their overall, as well as their four communication context scores, the lab-supported course certainly could contribute to retention. This gives further merit to the need to continue studying benefits of the speech lab.

Hypothesis Two, which asserted that high and moderate CAs who utilized the speech lab would show a greater decline in their CA level than high and moderate CAs who did not choose to use the lab beyond the initial visit, was not supported. After reviewing the speech lab usage data, it was found that the majority of students, who did use the lab, used it between one and three times. The lack of significant CA reduction for
high and moderate CAs may be attributed to the fact that the lab was not used a lot throughout the semesters. (Only 55.7% of the public speaking students who initially visited the lab utilized the lab more than the initial visit and only 8.2% used it more than three times.) As this was the first time (first three semesters) the speech lab was open, the lack of awareness and importance of using the lab may not have been emphasized by the instructors. In addition, it is possible that once students learned how to prepare a public speech, they may not have felt the need to return to the lab for continued assistance and practice.

Hypothesis Three, which posited high and moderate CAs who utilized the speech lab would receive higher course grades than high and moderate CAs who chose not to use the lab was supported for high CAs but not for moderate CAs. The positive finding for high CAs could have stemmed from many factors including the additional help they received in the lab. This extra effort by the students may have led to higher grades than for those who did not put forth the extra effort to obtain the needed assistance. Another possibility is that HCAs who utilized the lab may have increased their confidence level in public speaking. If so, this would further support Ellis’ (1995) conclusion that in addition to the high teacher immediacy it is likely that the “laboratory-supported instructional model provided a nonthreatening, nurturant environment that helped all students, including high apprehensives, to perceive significant increases in self-perceived competency” (p. 74). Higher self-competency for HCAs may have translated into higher course grades. Higher course grades do not necessarily equate with cognitive learning but they are one
indicator of personal success in the course and are definitely important in terms of student retention in higher education.

**Conclusions.** The present study was limited to one sample from one university with data collected over a period of only three semesters. Results provide additional support for the often-reported positive impact associated with completing a basic public speaking course and lowering of overall and context CA levels for high and moderate CAs. In addition, results give some indication that use of technology in a speech lab setting may be beneficial to high CAs in terms of obtaining higher course grades. However, the benefit of speech lab use in lowering CA levels for high and moderate CAs was not supported. This result should not be interpreted to mean the speech lab has no positive benefit in terms of lowering high and moderate CA levels. Perhaps to show such benefit, the lab simply has to be utilized more often than was done by the high and moderate CAs of the present study.

**Recommendations for Future Research.** The present study can serve as one benchmark for evaluating speech lab usage as an aid in the reduction of CA for high and moderate apprehensives. Future research should continue to explore the potential benefits of the lab-supported basic public speaking course. In addition to utilizing the pre and posttests, it would be beneficial to distribute a questionnaire to those moderate and high CAs who choose to utilize the speech lab to assess their perceptions of skill advancement related to lab usage. As CA stems from a person's fear of communication, it would be important to query if students perceive their fear decreases with the increase of skills and additional
assistance obtained through the lab. Due to the limited research on lab-supported public speaking classes, this would be valuable information to benefit the continued funding of the speech lab.

Another issue that deserves empirical attention involves the instrument used in this study—the PRCA-24. The PRCA-24 has been widely used to measure overall and context CA for over two decades (Richmond & McCroskey, 1998). The PRCA-24 overall scores reported in this study (and several others) suggest that a public speaking course does impact perceived change in CA levels across four communication contexts. In the past, researchers have linked an overall score on the PRCA-24 to trait CA. However, the communibiological perspective for trait CA suggests that trait CA involves manifestations of neurotic introversion and is not amenable to change (Beatty, McCroskey, & Heisel, 1998; McCroskey & Beatty, 2000). It may be that the PRCA-24 predominately measures self-perceived CA in three public contexts—meetings, group, and public speaking—plus the dyadic context, but not necessarily trait CA. Since a public speaking course appears to help reduce self-perceived CA in public contexts, as well as in dyadic contexts, it could mean that a more refined instrument needs to be developed to measure trait CA instead of the PRCA-24.

Finally, this study suggests the need for continued research on retention of students through the benefit of the lab-supported basic public speaking course. Of the 537 enrolled students, 8.9% withdrew from the course and 5.0% failed the course. This is nearly one-sixth of the enrolled students who did not either complete or pass the course. It would be relevant to explore the re-
tention variable to discern if students who withdrew from the class also withdrew from the educational setting. It would be imperative to find out why one-sixth of the enrolled students did not receive a passing grade. Since Ericson & Gardner's (1992) study found "high CA students were significantly more likely to drop out compared to low CA students" and that the HCAs "tended to drop out significantly more after only one year" (p. 127), finding a way to reach these students is of the utmost importance. As has been shown by these findings, the speech lab could serve as a principal way for reaching the HCA students.

For now, it appears that the present study shows benefits of the lab-supported basic public speaking class and the need for continued research to test the lab-supported course as an intervention for HCAs. Any intervention or program that can help HCAs succeed in their post-secondary endeavors is worth the effort for universities, instructors, and most of all for students.

Note:
*The PRCA-24 was used in this study to measure self-perceived overall CA (across four contexts) and self-perceived CA in each of four contexts—groups, meetings, public speaking, and interpersonal conversations. For this study, overall CA is not equivalent to trait CA that may involve "manifestations of neurotic introversion" (Beatty, McCroskey, & Heisel, 1998, p. 201).
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Volume 14, 2002
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CA and Speech Lab Intervention


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CA and Speech Lab Intervention

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