Self-Reported Research Skills Changes in a Psychology Communications Course

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Abstract

Psychology students (*N*=102) completed a research skills assessment test before and after completion of a psychology communication course. Overall, student assessment of research skills improved over the semester. Specifically, student skill ratings regarding writing a research report significantly increased, although oral communication skills did not. Implications for assessment and course development are discussed.

Introduction

Recent guidelines for undergraduate psychology programs highlight the need for students to develop more than just knowledge of psychological concepts and the research literature (APA, 2009). These guidelines highlight the importance of developing critical thinking skills, the ability to produce and consume scientific research, an understanding of ethical principles and behaviors, and the ability to use technology to locate psychological literature. Research methods courses have long been a part of the regular curriculum in undergraduate psychology programs, and these courses address many of these guidelines.

More recently however, a growing emphasis has been placed on developing the skills necessary for students to communicate psychological information both verbally and in writing. Related to this aim, many undergraduate programs are including scientific literacy or scientific communication courses that provide students with additional training regarding how to conduct research, how to critically evaluate research, and how to communicate scientific findings.

Although these scientific literacy courses have been found to increase students' skills in these areas (e.g., Luttrell Bufkin, Eastman, & Miller, 2010; Rileigh, 1998), the specifics of class offerings and the methods of assessing student performance in these courses vary. It also has become increasingly important to provide evidence of increased student research skill outcomes upon completion of these types of courses to meet university assessment and accreditation requirements (APA, 2009).

Current Study Hypotheses

The current investigation was designed to examine how student self-perceptions of their research skills, specifically writing and speaking skills, would change upon completion of a sophomore level communication course in psychology. We predicted that students would indicate an improvement in their research skills from the beginning to the end of the course overall. We were particularly interested in the question areas focusing on writing and speaking skills, as these areas were the focus of the communication course. We also predicted that students who put forth greater effort in the course would report more of an increase in overall research skills.

Method

Participants

One hundred and two students from a medium sized, public university in the Southeastern United States enrolled in six unique sections of a required psychology communications course participated in the current study. The racial distribution of the sample included 56.9% Caucasian, 36.3% African-American, and 6.8% Hispanic. The average age of the participants was 22.68 years (*SD*=2.86), and most of the participants were psychology majors (90.5%). Most of the participants enrolled in the course were women (86.3%) and 38.2% were sophomores, 51% juniors, and 10.8% seniors.

Communications Course

The communications course, Introduction to Scientific Communication: Psychological Perspectives (PSYC 202), is a psychology major requirement students generally complete during their sophomore year. The course is "An in-depth exploration of the role(s) in Psychology of oral and written communication; includes communication-skill development through an examination of the literature of specialized areas of Psychology." Topics discussed in the communication course focused on writing an APA style literature review and practicing oral communication via presentations to the class.

Materials & Procedure

Students completed a research skills test (Kardash, 2000) at the beginning and end of the semester. The research skills test was comprised of 14 Likert-style questions related to specific research skills typically developed during a research experience. Example research skill areas included understanding concepts in the field, using primary scientific research literature, formulating hypotheses, collecting data, statistically analyzing results, and communicating results. Participants rated their skills on each scale item using a 5-point Likert scale.

Participants also reported their anticipated course grade, their course effort, enjoyment of the course, and whether the course increased their communication skills on a 10-point Likert scale.

Participant age, sex, class rank, and major were collected on a demographic questionnaire.

Table. *Descriptive Statistics for Perceived Course Outcomes*

Questions (all answered on a 10-point Likert scale)	*M*	(*SD*)
How much effort did you put into the class?	7.75	1.45
How much did you enjoy the class?	6.95	2.59
How much has the class increased your communication skills?	6.66	2.41

Results

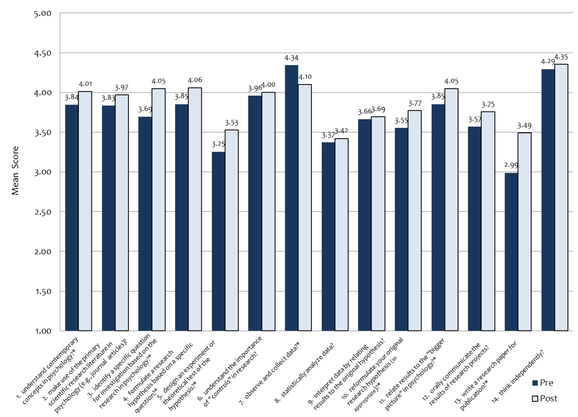
As predicted, the composite score of research skill ratings increased from the beginning to the end of the class, $t(101)=2.63$, $p=.01$. In particular, student responses to the specific question regarding "writing a research paper for publication" did significantly increase, $t(101)=3.97$, $p<.001$. However, student responses to the specific question regarding "orally communicating the results of research projects" did not significantly increase, $t(101)=1.56$, $p=.12$. Seven additional areas showed significant improvements from the beginning to the end of the class. Specific research skill area results are provided in the **Figure.**

Students reported positive course outcomes regarding their course effort, course enjoyment, and communication skills gained from completing the course. These values are reported in the **Table**.

We were also interested in how student's self-perceived effort was related to changes in research skill ratings. Difference scores were calculated to examine student research skill rating changes from the beginning of the course to the end. Overall, there was a positive relationship between course effort and perceived increased communication skills, $r(100)=.51$, $p<.001$ and between course enjoyment and perceived increased communication skills, $r(100)=.76$, $p<.001$. The relationship between course effort and change in research skills overall was positive, but not significant, $r(100)=.12$, $p=.23$. Specifically, there was a positive relationship between increased course effort and the writing skills question, $r(100)=.29$, $p<.01$, and between increased course effort and the oral skills question, $r(100)=.24$, $p=.01$.

Those anticipating As in the course reported a slightly greater increase in overall research skills than those anticipating Bs or Cs (Ms=.22, .18, and -.08, respectively).

Figure. *Mean Pre and Post Research Skills Assessment Scores*



Note. Higher scores indicate greater student self-assessments of research skills areas. *$p < .05$.

Discussion

As predicted, research skill ratings increased from the beginning to the end of the class. However, specific areas related to writing and speaking showed mixed results. While self-perceived writing skills increased significantly, speaking skills did not, perhaps because a disproportionate amount of time was devoted to developing writing as opposed to oral communication skills. Those who reported the greatest effort in the class reported greater increases in research skills.

Similar studies have been performed on students' perceived research skills as well as their faculty mentor's views of their students' research skills (Kardash, 2000). Results showed that mentors and students' scores were very similar on the majority of specific skills measured on this particular scale.

Limitations of this research include a small sample size of predominately women, and the possibility that students did not fully comprehend the skill areas they rated.

Our selected measure of research skills (Kardash, 2000) may be useful for many assessment purposes. Psychology programs may want to measure changes in research skills at multiple stages across the curriculum to follow growth and learning in students and to address program assessment. Specific skill areas may also be identified and emphasized as part of continuous quality improvement measures.

Our results suggest students enrolled in our communication course believed their writing skills improved after completing the course, but further course emphasis may be placed on speaking skills.

Selected References

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