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Significant Psychology Score Increases from Pretest to Post-test across the Major

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Scores from 2,633 psychology ACAT pretests and 6,190 post-test administered between 1989 and 1997 were compared to determine score gains across the major. Results show significant increases in all eleven content areas tested as well as in overall scores from pretest to post-test.

Several studies suggest that exposure to introductory level psychology courses do not significantly increase proficiency scores in psychology. Greeson (1986) and Crain (1989) found no differences between pretest and posttest performance on proficiency test scores following an introductory level psychology course. Calhoun (1975) also found that prior knowledge in psychology does not enhance performance. Thus, exposure to a limited introductory psychology course should not be expected to produce great changes in psychology based knowledge. However, if we look more closely at performance across the major of psychology, a significant increase is anticipated.

According to Messick's (1988) criteria for validity, outcome measures should produce significant differences between students taking the instrument as a pretest and those taking it during the final term of their senior year. Furthermore, the results should be directly applicable to the evaluation of the curriculum underlying the major. One way to gain access to such information is through the Area Concentration Achievement Test (ACAT).

The ACAT is an accurate measure intended to assess the effectiveness of the curriculum in a particular major (Crain, 1989; Smith, Draper, & Bradley, 1993). It is designed to be sensitive to knowledge acquired in the major and to be insensitive to superficial knowledge, such as that found in an introductory level course. The ACAT is divided into subtests related to courses offered in the major, therefore each subtest may be evaluated individually (Kidda & Golden, 1997).

The current study examined the differences in pretest and post-test scores across the major.

SAMPLE

Participants included 2,633 entry level (60% women, 40% men) and 6,190 senior level psychology students (75% women, 25% men) who attended colleges and universities within the United States. Students completed the ACAT between 1989 and 1997 and voluntarily disclosed their gender and the courses taken prior to the examination date.

INSTRUMENT

The ACAT for Psychology is an instrument used to assess the outcome of college-level students with regard to their major. The instrument is constructed primarily of examination items gathered from participating psychology faculty, and covers twelve content areas in combinations ranging from 4 to 10. The ACAT is constructed, distributed, and scored by the Project for Area Concentration Achievement Testing located at Austin Peay State University, in Clarksville, Tennessee.

RESULTS

Scores from 2,633 pretests and 6,190 post-tests were compared applying multiple t-tests with a Bonferroni correction (SYSTAT). The results of the analyses indicated that graduating seniors scored significantly higher ($p < .001$) in all content areas. Overall scores displayed a significant gain of 118 points, $t(8820) = -49.7$, $p < .001$. Thus, students scored higher on post-tests than on pretests.

DISCUSSION

The findings suggest that the ACAT in psychology is appropriately sensitive to the gains in content area knowledge demonstrated by graduating senior majors. More specifically the ACAT measured gains across all twelve content areas. There was a significant increase in scores from pretest to post-test within these areas. The overall composite score for the psychology ACAT was also found to have a significant increase from pretest to post-test.

These findings support Crain's (1989) validity investigation concerning the ACAT, which states that the ACAT is an adequate measure for specific psychological content areas. The data also indicate that the ACAT in psychology conforms to Messick's (1988) validity standards concerning pretest and post-test, because it did in fact display a statistically significant difference between pretest and post-test across all content areas

References

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PRETEST AND POST-TEST COMPARISON

ContentArea	Difference	t	p
Abnormal	89.00	-36.32	<.001
Learning and Motivation	83.27	-34.71	<.001
Clinical / Counseling	127.39	-13.17	<.001
Experimental Design	114.25	-52.32	<.001
Developmental	91.69	-40.03	<.001
History and Systems	111.94	-44.02	<.001
Cognitive	45.78	-18.82	<.001
Personality	90.86	-37.39	<.001
Physiological	23.17	-9.34	<.001
Sensation and Perception	42.16	-2.23	<.05
Social	52.75	-22.33	<.001
Statistics	79.82	-37.17	<.001
Overall	118.84	-49.74	<.001