

# Student confidence correlated with academic performance

April 4 2011

---

Do those who know more also know that they know more? And does a student's confidence level correlate to academic performance? These questions have long inspired researchers in the fields of decisionmaking and education to study confidence. New research from Kansas State University professor Candice Shoemaker looked at the psychological constructs of "confidence" and "self-efficacy" to evaluate the effectiveness of targeted learning objectives on student achievement.

Shoemaker, from Kansas State University's Department of Horticulture, Forestry, and Recreation Resources, explained: "In psychological literature "knowing" refers to performance accuracy, while "knowing how much they know" relates to confidence. Confidence is a measure of one's belief in one's own abilities and is considered a psychological trait that is related to, but distinct from, both personality and ability traits". An interrelated construct is "self-efficacy", which refers to a person's belief in one's capabilities to learn or perform behaviors. Research shows that self-efficacy influences academic motivation, learning, and achievement. "Although confidence and self-efficacy are interrelated, a defining aspect of self-efficacy, which distinguishes it from the more general construct of confidence, is its domain-specific nature", said Shoemaker.

The research focused on Shoemaker's Principles of Horticultural [Science classes](#), in which student learning outcomes, or SLOs, were used as the framework for course development. "The use of SLOs for the development and implementation of the course was a new approach for

me", said Shoemaker, who designed the current study to assess student confidence as a way to evaluate if in-class activities, lectures, assignments, and examinations effectively targeted the SLOs such that the [students](#) were achieving the intended outcomes.

A pre- and post-assessment was given to students enrolled in the course in the fall semesters from 2005 to 2008 to assess whether the SLOs were being met. The 50-item assessment asked students to record their confidence in ability to do something such as "distinguish between transpiration and respiration" or "write a scientific plant name." Students were asked to indicate how confident they were on that day—from "not confident at all" to "very confident"—using a five-item Likert-type scale. Students reported slight confidence (close to two on the five-item Likert scale each year) at the start of the course and confidence (around four on the five-item Likert scale) at the end of the course in performing the 50 horticultural tasks. The positive change in confidence was significant every year, averaging from 1.49 to 2.04 on the scale.

Students' reported confidence at the conclusion of the course was correlated with their academic performance in three of the four years that were examined. "It is more likely that self-efficacy, rather than confidence, was impacted as students moved through the course because all the activities associated with a course means a course is a domain-specific construct, and the students' reported confidence at the end of the semester was correlated with academic performance", Shoemaker remarked.

Having three to five learning goals (SLOs) for each unit, featuring them repeatedly, and reinforcing them through lecture and assignment activities may have also targeted self-efficacy. Shoemaker said that this may explain the improvement in overall academic performance from 2005 to 2008. "There were more opportunities to affect self-efficacy because each year I built on the previous year, thus increasing

opportunities to understand and demonstrate mastery of the SLOs through more assignments, lecture activities, and online resources." According to the study, this may also explain why student confidence at the end of the semester was lower in the first year than the other years.

Based on the pre- and post-assessment results compared with the students' [academic performance](#), the change in confidence was an indication of student learning, Shoemaker said in summary. "Using SLOs as a framework for the course was certainly a useful tool for me as an instructor. However, for SLOs to be effective for student learning, the students must be aware of them and must be presented with several opportunities to develop the desired outcomes. Ensuring this inadvertently resulted in targeting domain-specific mediators of self-efficacy that ultimately resulted in improved student learning."

**More information:** [horttech.ashspublications.org/...nt/abstract/20/4/683](http://horttech.ashspublications.org/...nt/abstract/20/4/683)

Provided by American Society for Horticultural Science

Citation: Student confidence correlated with academic performance (2011, April 4) retrieved 12 May 2024 from <https://phys.org/news/2011-04-student-confidence-academic.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--