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Mindset and motivational predictors of effective teaching practice: Research informs the future of professional development

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Abstract

Attempts to inform and engage faculty members about effective teaching may benefit from a consideration of how instructor attitudes impact teaching practices. This study employed Dweck's concept of growth mindset to examine the relationship of mindset and mastery motivation to evidence-based teaching practices. Faculty members at a research comprehensive university in the United States completed a survey that included measures of mindset, motivation, and teaching practice. Regression analysis revealed that good teaching practice was predicted by growth mindset, mastery goals for students, and instructors' confidence in their teaching ability. Addressing implicit theories of intelligence and beliefs about mastery might increase the impact and effectiveness of professional development offerings that aim to improve teaching ability.

1 Introduction

Educational developers frequently report that extensive efforts at engaging and informing faculty members about effective teaching practices rarely lead to significant changes. A consideration of the underlying factors that distinguish faculty members who adopt effective teaching practices may provide guidance for future faculty development. This study examined instructor attitudes as predictors of effective teaching practice.

Dweck's (2000) social-cognitive approach to motivation and personality explains why some individuals may perform poorly in the face of challenge, while others adopt a mastery-oriented pattern that involves exerting effort in the face of sought-after challenges. Those individuals who have a fixed mindset (i.e., believe that intelligence is set and unchangeable) are likely to fear failure and adopt strategies that lead them to avoid challenge. Those who have a growth mindset (i.e., believe that intelligence is malleable) are likely to adopt mastery-oriented goals that lead them to exert effort in the face of challenge. Using Dweck's model, we considered how instructor beliefs about student intelligence relate to their mastery orientation and, ultimately, their teaching behaviors. We hypothesized that instructors with a more growth-oriented mindset would be likely to adopt mastery-oriented goals and evidence-based, effective teaching practices.

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2 Method

Faculty members ($n = 132$) from a comprehensive research university in the southern United States completed surveys during department meetings. We selected departments that focused primarily on undergraduate education, and we asked respondents to think about teaching a challenging undergraduate course as they answered the questions. These faculty members first completed a measure of growth mindset (Cook, Gas, & Artino, 2018; e.g., “You can change even your basic intelligence/ability level considerably”) and a measure of mastery orientation that included items about academic efficacy for students (e.g., “I am confident that students can master the material taught in my classes”), mastery goals for students (e.g., “I make an effort to recognize students for effort and improvement”), and personal teaching efficacy (e.g., “If I try hard, I can get through to most of the students in my class”). The mastery orientation items were adapted from the Pattern of Adaptive Learning Scales (PALS; Midgley et al., 2000). Teaching behaviors were assessed with items adapted from the Teaching Practices Inventory (Weiman & Gilbert, 2014). These items assessed the extent to which faculty members report using six types of evidence-based effective teaching practices, including active learning (e.g., “Most class periods include some small group work or problem solving activities”), transparent assignments (e.g., “Assignments describe clear criteria for successful completion”), opportunities for practice and feedback (e.g., “I assure that students receive feedback on homework assignments and quizzes”), reflective activities (e.g., “I ask students to evaluate and reflect on their own learning and study habits”), motivating activities (e.g., “I employ distinct activities that encourage students to make connections between the course material and their own lives”), and reflective teaching (e.g., “I compare student performance across sections and/or semesters to improve course delivery”).

3 Results

Correlational analyses revealed that more effective teaching practices were endorsed by instructors who reported a stronger growth mindset ($r = .35$), more mastery goals for their students ($r = .55$), more confidence in student ability to learn ($r = .34$), and more confidence in their ability to contribute to student success ($r = .34$).

Stepwise multiple regression produced a model in which Mastery Goals, Personal Teaching Efficacy, and Mindset accounted for 42% of the variance in Teaching Behaviors. Mastery Goals entered the model first and accounted for 30% of the variance in Teaching Behaviors. Personal Teaching Efficacy entered next, produced a significant increase, $F(1, 126) = 16.80$, $p = .000$, in variance accounted for; this two-predictor model accounted for 38% of the variance in Teaching Behaviors. Mindset was the last predictor to enter the model; it produced a significant increase in variance as well, $F(1, 125) = 8.32$, $p = .005$, to the total of 42%. Academic Efficacy did not enter the stepwise model at any point.

4 Conclusions, limitations, and future research

These findings suggest that faculty members who report more evidence-based, effective teaching practices believe (1) that students can meet learning expectations if they exert appropriate effort (mastery goals for students); (2) that their own efforts can contribute to student learning (personal teaching efficacy); and (3) that intelligence/ability are malleable (growth mindset). With these three sets of beliefs taken into consideration, the instructors' beliefs about the effect of their encouragement of students to exert effort (academic efficacy) did not add to the ability to predict teaching behaviors.

An understanding of the beliefs that underlie an individual's approach to teaching and learning may provide guidance for future faculty development. A number of programs have been designed to develop stronger growth mindset in students (e.g., Blackwell, Trzesniewski, & Dweck, 2007). These findings suggest that it may also be worthwhile to create programs that develop stronger growth mindset as well as mastery orientation among faculty members. Many

efforts to support and encourage good teaching practice focus on offering practice with and information about evidence-based practices. The findings of this study suggest that professional development offerings may do well to address implicit theories of intelligence and beliefs about mastery, and to actively cultivate instructor self-efficacy.

Although suggestive of directions for faculty development, this study is limited in its reach. Data were collected at one institution, focused on undergraduate education, and did not consider possible differences among disciplines in teaching culture or teaching practices. Future research addressing these limitations and attempting replication of these findings is called for.

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