

Cognitive transfer outcomes in post-secondary statistics

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Abstract:

This mixed-methods study describes learning outcomes related to cognitive transfer among post-secondary students upon completion of a first course in statistics, and makes a case for emphasis of such outcomes as part of the curriculum. A new assessment tool called the Introductory Statistics Understanding and Discernment Outcomes (ISTUDIO) assessment tool was developed and administered to nearly 2000 students attending a wide variety of post-secondary institutions primarily in the United States. Students were observed to demonstrate measureable evidence of both forward-reaching and backward-reaching high road transfer outcomes. Unexpected response patterns revealed by the analysis of constructed response tasks will be presented. Implications for teaching and research will be discussed with attention toward both simulation-based and non-simulation-based introductory statistics curricula.

Topic Preferences:

1. [ICOTS Topic 3] Statistics education at the post-secondary level
2. [ICOTS Topic 8] New approaches to research in statistics education
3. [ICOTS Topic 1] Statistics education: Looking back, looking forward

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