

Enhancing Student Engagement and Professional Development through Podcasting, Mentorship, and Case-Based Learning



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BACKGROUND

AREC 224 (Introduction to Agribusiness Entrepreneurship) transitioned from a 1-credit course to a 3-credit experiential course in Fall 2025, integrating four active learning strategies:

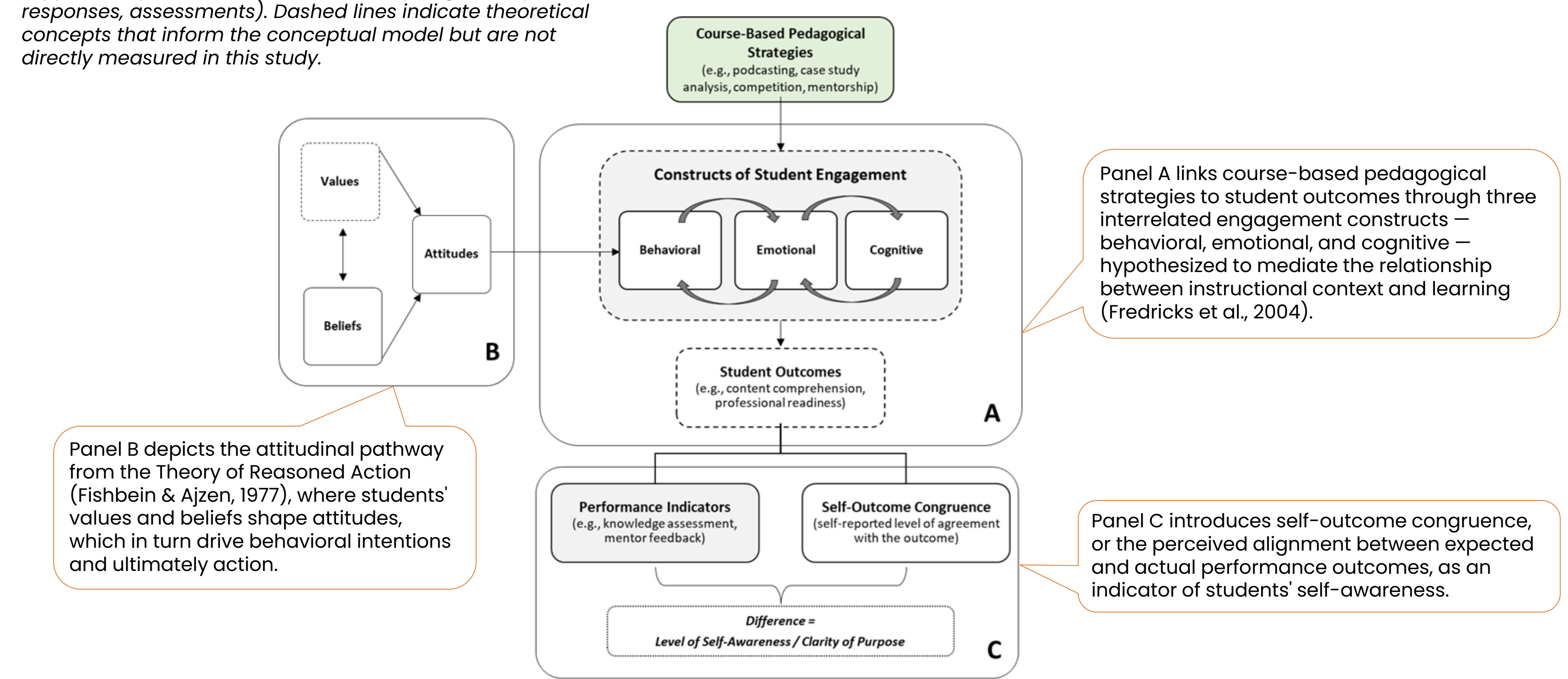
- ❖ **Student-led podcasting:** teams produced podcast episodes communicating entrepreneurial concepts through interviews with industry professionals
- ❖ **Structured mentorship:** teams were matched with an industry mentor who participated in a podcast interview, offered written developmental feedback mid-semester, and evaluated the final business case presentation
- ❖ **Case-study analysis:** weekly Harvard Business Publishing cases connecting business decisions to course themes
- ❖ **Business case presentation:** end-of-semester project where teams, with mentor guidance, identified a real-world business problem and presented a strategic solution at a live networking event

RESEARCH QUESTIONS & FRAMEWORK

- RQ1.** Which of the interventions contributed to a more engaged student experience?
- RQ2.** Which engagement dimensions (behavioral, emotional, cognitive) were most influenced by each intervention?
- RQ3.** How did students' beliefs and values relate to their intention to engage?
- RQ4.** To what extent did students perceive alignment between their outcomes and expectations?

Figure 1. Integrated conceptual framework

Figure Notes: Solid lines represent measured relationships supported by data collected in the study (e.g., survey responses, assessments). Dashed lines indicate theoretical concepts that inform the conceptual model but are not directly measured in this study.



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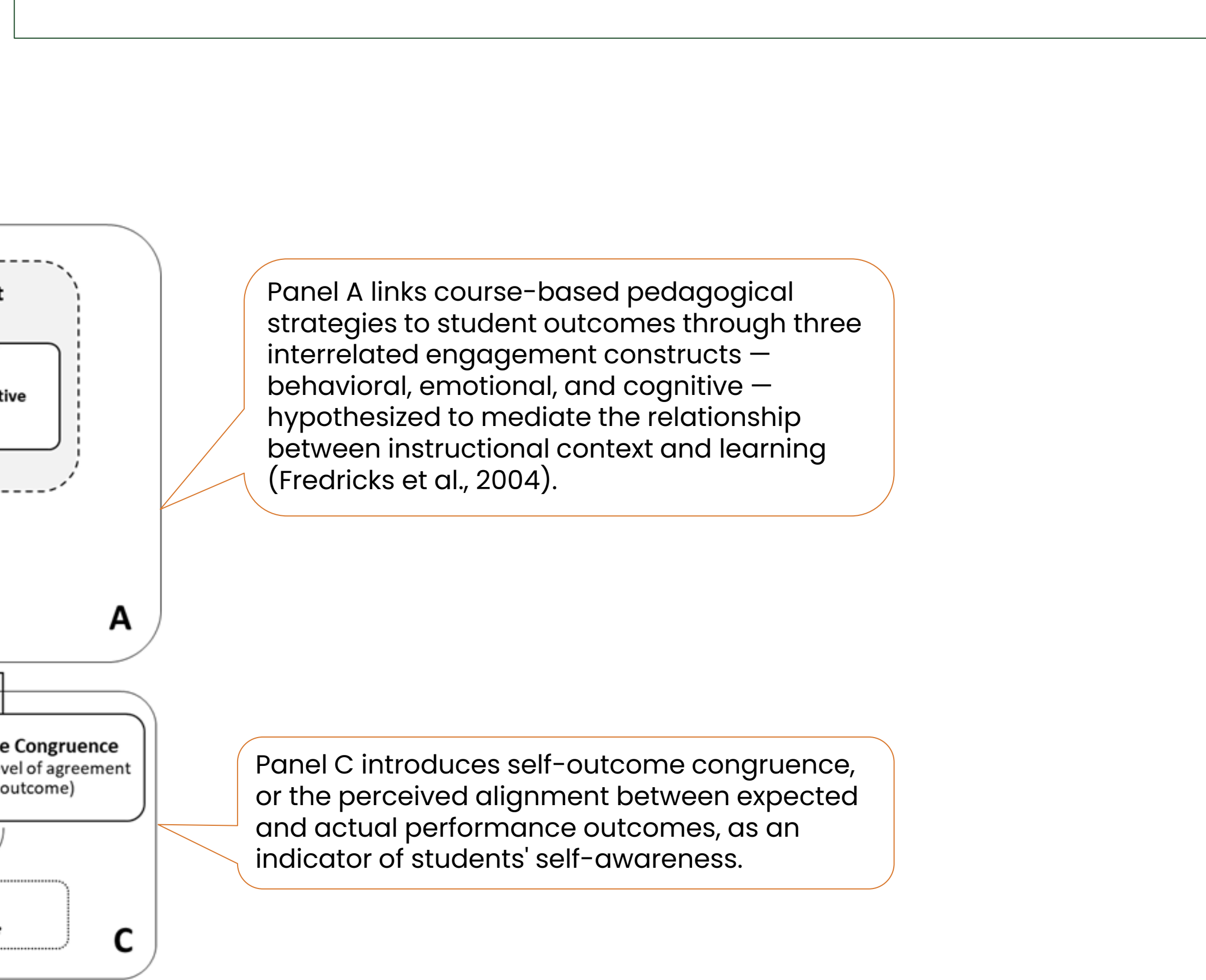
METHODS

STUDY DESIGN
Pre/post survey design. Of 48 enrolled students, 38 completed both surveys (79.2%) and 31 completed both E-IDP assessments (64.6%); 21 selected the same characteristics at both time points and are used in skill-level change analyses.

INSTRUMENTS
❖ **Pre- and post-survey** (Figure 1, Panels A and B): Survey instrument measuring behavioral, emotional, and cognitive engagement across all four activities; beliefs and values as antecedents to engagement intentions. Includes a 12-item knowledge assessment.
❖ **Entrepreneurial Individual Development Plan, E-IDP** (Figure 1, Panel C): Students selected three entrepreneurial characteristics to develop and self-rated confidence, application, strength, alignment, and motivation at pre and post.

SAMPLE
❖ 42.1% Sophomore • 26.3% Junior • 21.1% Senior
❖ 50% Female • 50% Male
❖ 73.7% Agricultural Business major
❖ Mean GPA: 3.30

ANALYSIS
Pre/post change was examined using paired comparisons (Wilcoxon signed-rank tests and paired t-tests); effect sizes reported throughout (rank-biserial r and Cohen's d). All tests two-sided, $\alpha = .05$. Results interpreted descriptively given single-cohort design.



ACKNOWLEDGEMENTS

Supported by the TILT Faculty Research Fellows program at Colorado State University. The authors thank Camille Guillen (research aide), industry mentors from across Northern Colorado, the Department of Agricultural and Resource Economics, and the CSU Online Education team for their contributions to this project.

PRELIMINARY FINDINGS

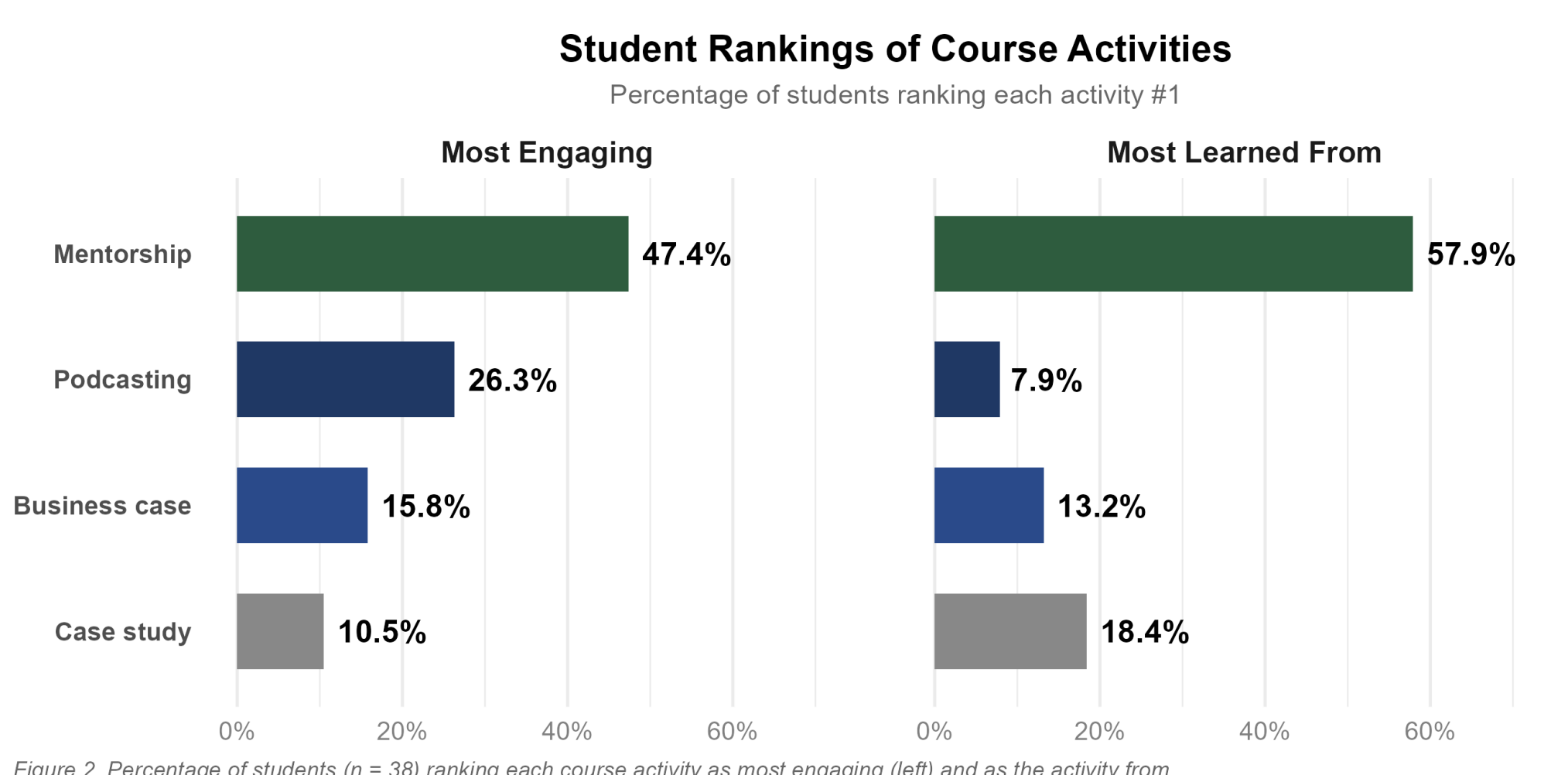


Figure 2. Percentage of students (n = 38) ranking each course activity as most engaging (left) and as the activity from which they learned the most (right). Rankings collected via post-survey; 1 = most engaging/most learned, 4 = least.

Mentorship ranked #1 with 47.4% of ranking it most engaging; 57.9% ranked it the activity from which they learned the most. (RQ1)

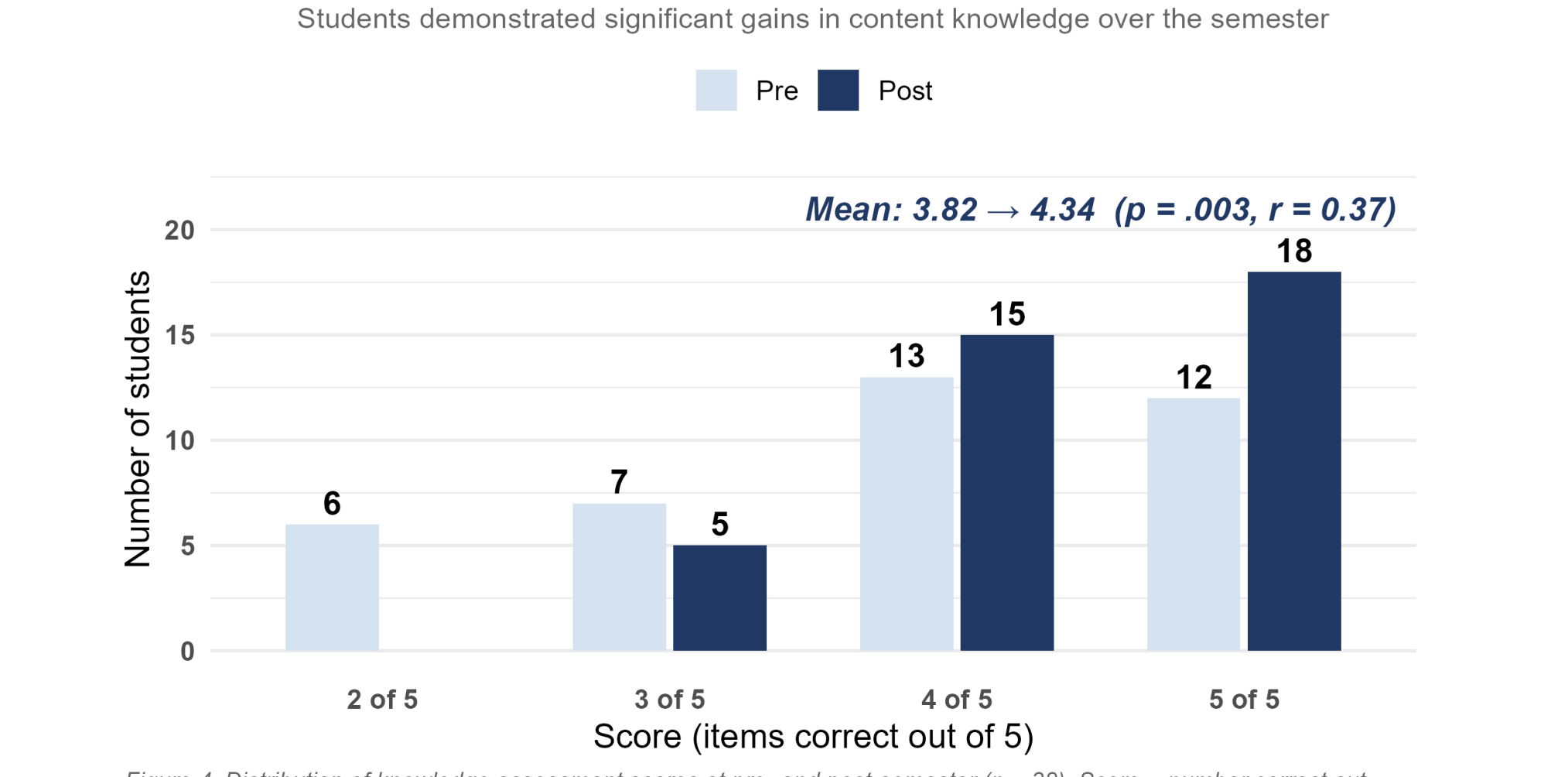


Figure 4. Distribution of knowledge assessment scores at pre- and post-semester (n = 38). Score = number correct out of 5 items retained for adequate response rates. Mean improved from 3.82 to 4.34 (W = 234, p = .003, r = 0.37, medium effect). The combination of active learning strategies precludes attribution to any single activity; the result is consistent with a course environment that supported content comprehension alongside engagement.

Knowledge scores improved significantly; the share of students scoring 5 of 5 rose from 32% to 47% over the semester. (RQ4)

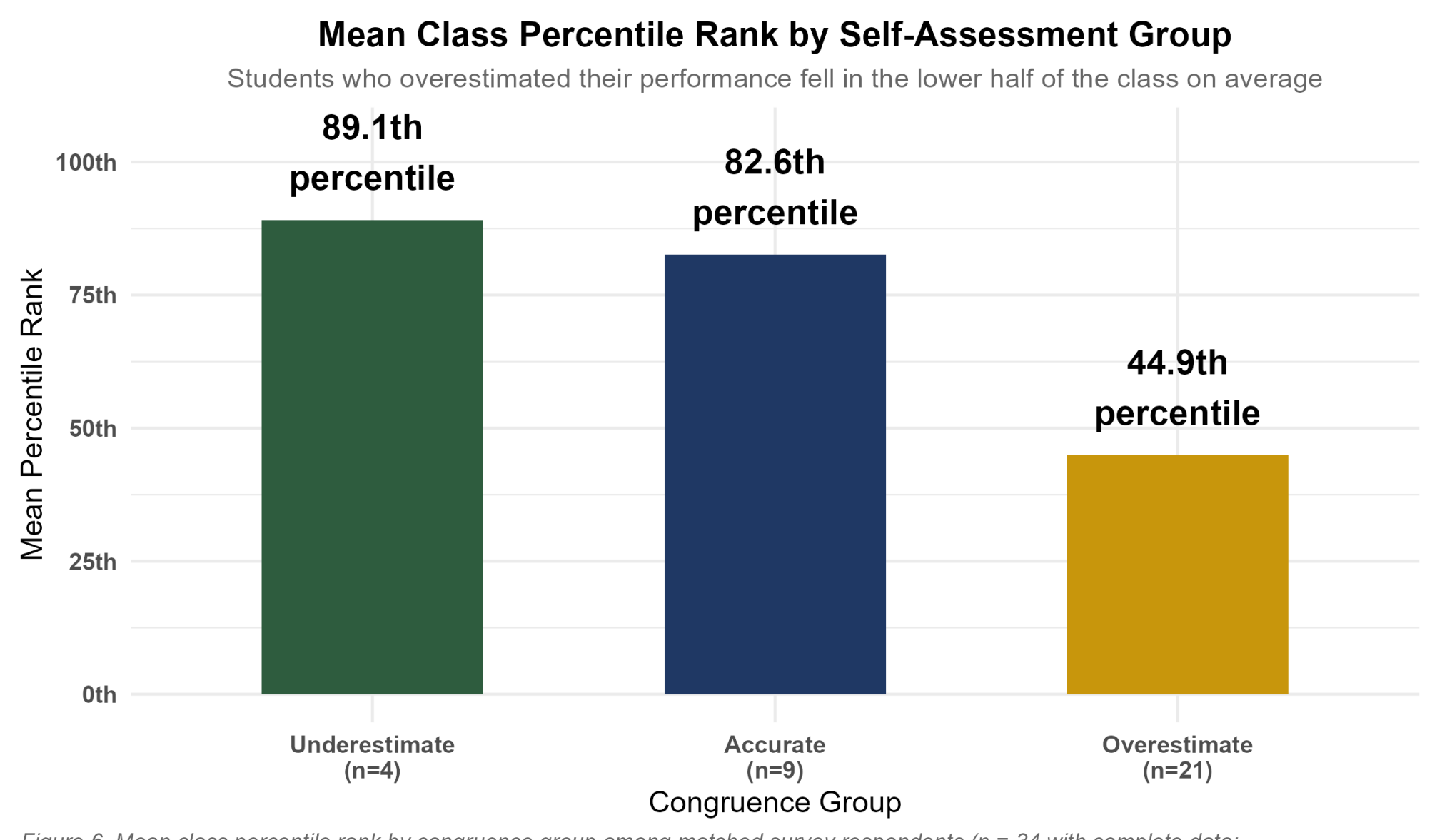


Figure 6. Mean class percentile rank by congruence group among matched survey respondents (n = 34 with complete data; 4 excluded due to missing post-survey performance item). Percentile ranks computed across all enrolled students (n = 48) using continuous final scores. Congruence defined as post-semester self-assessment minus actual percentile rank; negative = underestimate, zero = accurate, positive = overestimate. Most overestimators misplaced themselves by one tier; however, the lowest-performing overestimators showed the largest gaps between self-assessment and actual standing, consistent with the Dunning-Kruger effect (Kruger & Dunning, 1999).

Students who overestimated their standing ranged from the 9th to the 87th percentile; those furthest off were the lowest performers, consistent with the Dunning-Kruger effect. (RQ4)

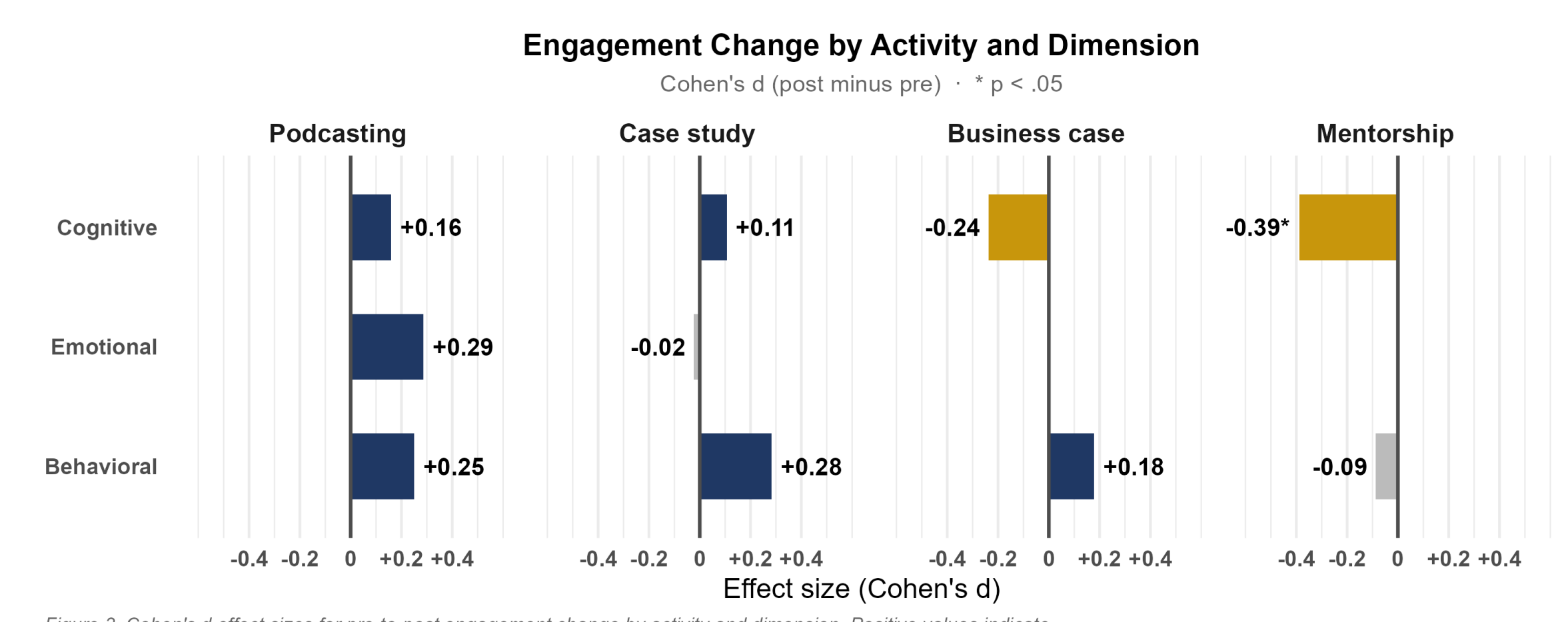


Figure 3. Cohen's d effect sizes for pre-to-post engagement change by activity and dimension. Positive values indicate improvement; negative values indicate decline relative to pre-semester expectations. Emotional engagement not available for business case or mentorship at pre-semester due to reliability constraints; omitted from those panels. * p < .05, Wilcoxon signed-rank test, two-sided.

Most engagement changes were in the expected direction but were not statistically significant; declining cognitive engagement for mentorship could indicate unmet pre-semester expectations. (RQ2)

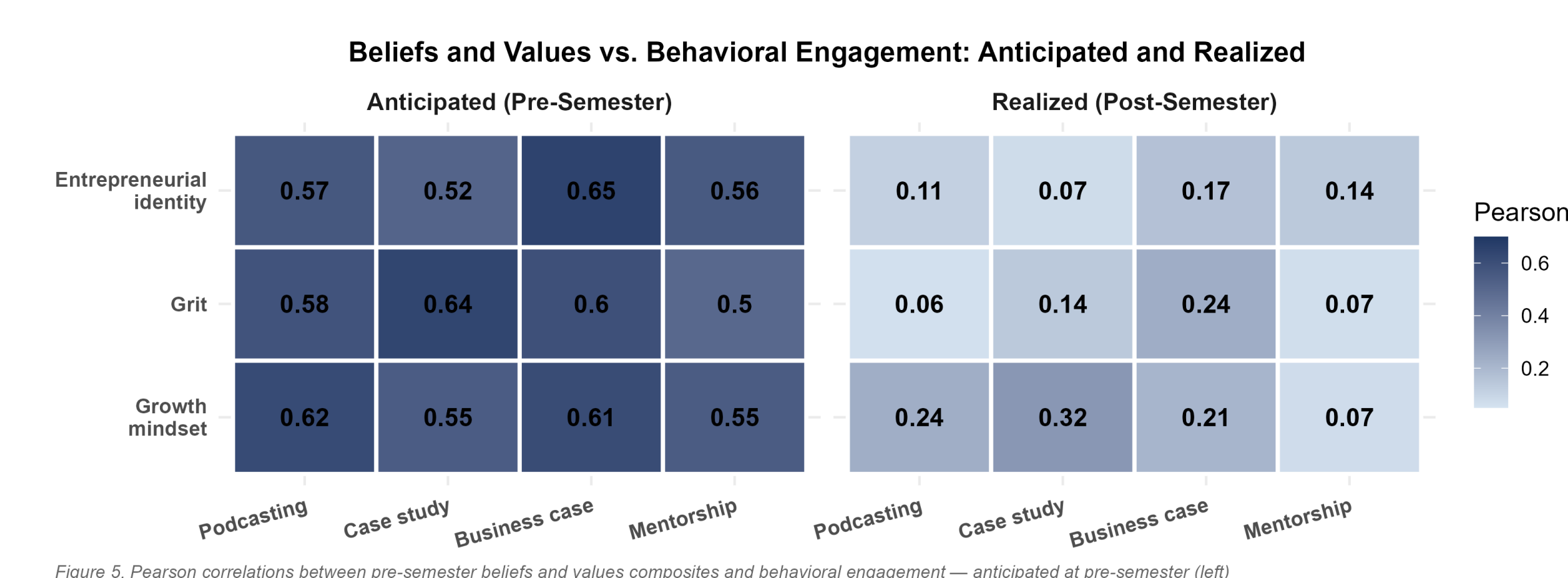


Figure 5. Pearson correlations between pre-semester beliefs and values composites and behavioral engagement — anticipated at pre-semester (left) and realized at post-semester (right) — across the four course activities (n = 38). Pre-semester correlations range from r = 0.50 to r = 0.65, all p < .001. Post-semester correlations range from r = 0.06 to r = 0.32, none significant (all p > .05). Growth mindset = belief that intelligence and ability can be developed through effort (Dweck et al., 2014). Grit = tendency to follow through on goals and overcome setbacks. Entrepreneurial identity = perceived applicability of entrepreneurship to student's own lives, interests, and futures.

Pre-semester beliefs correlated strongly with engagement intentions but not realized, suggesting that course structure drove actual participation more than mindset. (RQ3)

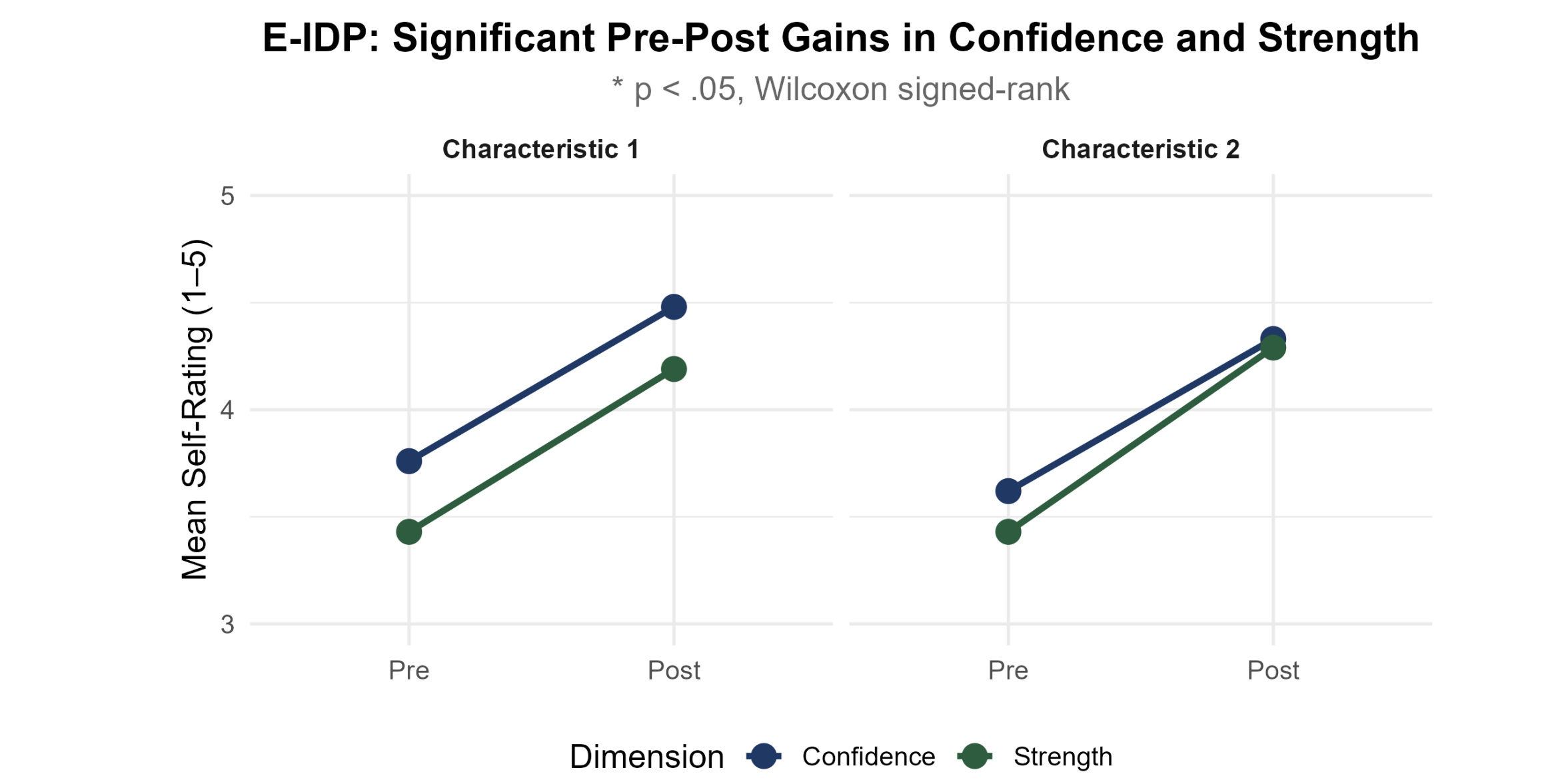


Figure 7. Pre- and post-semester self-ratings on confidence and strength for students' first and second selected entrepreneurial characteristics (n = 21 with matched selections). Alignment and motivation are not shown; both were near ceiling at pre-semester and did not change significantly. Scale: 1 = Strongly disagree, 5 = Strongly agree. * p < .05, Wilcoxon signed-rank test, two-sided.

By the end of the semester, students felt meaningfully more confident and capable in the entrepreneurial skills they set out to develop. (RQ4)

CONCLUSIONS

- RQ1.** Mentorship contributed most to a more engaged student experience. Podcasting showed the most balanced positive profile across all three engagement dimensions.
- RQ2.** Podcasting activated all three dimensions positively. Mentorship and the business case presentation showed declining cognitive engagement relative to pre-semester expectations, despite high behavioral engagement across all activities.
- RQ3.** Pre-semester beliefs and values strongly predicted anticipated behavioral engagement across all four activities, supporting the hypothesized pathway from academic tenacity to behavioral intention.
- RQ4.** Students who overestimated their class standing fell at the 45th percentile on average — consistent with the Dunning-Kruger effect. Structured reflection tools such as the E-IDP may help students develop more calibrated self-awareness.