

Role of Engagement in Collaborative Learning: What does Active Learning Look Like and What Does it Predict?

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Despite the importance of engagement for learning and occupational success, researchers fail to agree on how to identify or measure it. Studies have attempted to operationally define engagement using multiple behavioral indices, but rarely all in one study. The current study represents our efforts to create an operational definition for engagement by correlating a combination of verbal and behavioral factors, including intensity, active listening, energy level, and subjective measures of engagement. To validate our operational definition, we examined whether our engagement measure predicted classroom performance. In total, five separate hypotheses were tested: Individuals who are engaged in an activity will exhibit behavioral cues indicating their focus to the task and will have more confirming and disconfirming utterances when speaking to their group, while unengaged individuals will not express these behaviors; higher levels of engagement will result in higher levels of (1) co-speech and (2) gestures; and higher levels of engagement will lead to a higher overall grade for the class at the end of the semester. Finally, the relationship of mirroring will be tested.

Procedure

Data were collected from archival videos of 28 introductory psychology students and 29 statistics and research methods students working in groups. Group sessions were videotaped and three coders analyzed the videos for engagement and mirroring. Interrater reliability among the coders was at 85%.

Results

Pearson correlations and chi-square tests established the interrelation among the indices of engagement. A composite engagement score was generated by combining scores for the subjective measure of engagement, active listening, and energy. This variable was entered into the following correlation analyses.

H₁: Engagement was positively correlated with total utterances; $r = 0.61$ (26), $p = .001$.

H₂: Engagement was positively correlated with co-speech

H₃: Engagement was positively correlated with total number of gestures

H₄: Engagement was positively correlated with expressiveness

H₅: Mirroring was positively correlated with engagement behaviors (talking, gesturing and eye contact) and with a greater change from the pre-to posttest gains

Conclusions and Implications

This study's theoretical significance is in furthering the understanding of what exactly engagement is, and provide another viewpoint on what makes up social and cognitive engagement. This study's practical significance is in creating a code with which teachers can objectively measure student engagement, and thus create tasks to increase a student's level of engagement in order to improve their performance. Finally, presence of mirroring is correlated with learning.