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Brain Breaks in the Elementary Classroom

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Research Question

- How do brain breaks affect students' **behavioral, cognitive, and emotional engagement**?

Literature Review

- Students need movement as a critical part of their development (Wood, 2017).
- As time allotted for physical activity decreases, student engagement also decreases (Perera, Frei S., Frei B., & Bobe, 2015).
- Physical activity positively influences mental health and cognition (US. Department of Human Services, 2018; Parsad & Lewis, 2006).
- Brain Breaks are short pauses in instruction that engage a student in either an active or focused-attention exercise (Perera, Frei S., Frei B., & Bobe, 2015).
- Offering brain breaks during standard classroom instruction may have favorable associations with some indicators of behavioral, cognitive, or emotional engagement (Rasberry, Lee, Robin, Laris, Russel, Coyle & Nihisler, 2011).
- In a survey involving 116 teachers that implemented brain breaks, 86% noticed greater behavioral and cognitive engagement and 85% reported improvement in emotional engagement (Perera, Frei S., Frei B., & Bobe, 2015).

Methodology

- The 24 participants are from a 3rd grade classroom in a suburban school.
- For 10 days, students participated in one of two types of brain breaks after sustained work time.
- Students either participated in active brain breaks, which are designed to energize students, or focused-attention brain breaks which are implemented to calm students.
- Video and anecdotal data were collected and analyzed based on the definitions of behavioral, cognitive, and emotional engagement (Fredricks, Blumenfeld, and Paris, 2004).

Results and Data Analysis

- Students that engaged in brain break activities showed heightened engagement in three areas according to Fredricks, Blumenfeld, & Paris, 2004:
 - **Behavioral Engagement:** Students showed more enthusiasm, persistence, and attentiveness.
 - **Cognitive Engagement:** Students showed more investment and willingness in learning new skills and content.
 - **Emotional Engagement:** Students showed a heightened attitude towards learning.
- Differentiating the type of brain break (active or focused-attention) based on student behavior may have positively influenced student engagement.
- Analysis of data supports the finding that brain breaks may have a positive effect on behavioral, cognitive, or emotional engagement (Rasberry, Lee, Robin, Laris, Russel, Coyle & Nihisler, 2011).

Responses to Sustained Work Time

"I feel like my brain is full and I can't take any more."	"I feel like I want to go outside and run and stuff. I'm always paying attention to the clock. I'm just so focused on everything. "
"My brain feels like there's a lot of math in there."	"I start to feel sleepy and my head starts to hurt."
"I just feel like I want to go to sleep."	"I feel annoyed."
"I feel like I don't want to raise my hand."	"My eyes get tired looking at the screen and I always want to know what time it is."

Figure 1: Provides student responses to the question, "What are your bodies feeling like right now?" after sustained work time. Responses show repetitions of feeling tired or hyperactive (behavioral and cognitive disengagement) and feeling annoyed (emotional disengagement).

Conclusion

- Teachers can utilize this research to incorporate movement breaks into their curriculum.
- Limitations of this study include sample size and environmental factors.
- Further research should include a qualitative study outlining the academic performance of students as a result to brain breaks.