

Western Oregon University

Digital Commons@WOU

Academic Excellence Showcase Proceedings

Student Scholarship

2012-05-31

Using MVPA analysis, does partner based grouping show an increase in physical activity?

Jordan Werner

Western Oregon University, jawerner@wou.edu

Follow this and additional works at: <https://digitalcommons.wou.edu/aes>



Part of the [Sports Sciences Commons](#), and the [Teacher Education and Professional Development Commons](#)

Citation

Werner, Jordan. "Using MVPA Analysis, does partner based grouping show an increase in physical activity?" Poster presented at the Academic Excellence Showcase, Western Oregon University, May 31, 2012.

This Poster is brought to you for free and open access by the Student Scholarship at Digital Commons@WOU. It has been accepted for inclusion in Academic Excellence Showcase Proceedings by an authorized administrator of Digital Commons@WOU. For more information, please contact digitalcommons@wou.edu, kundas@mail.wou.edu, bakersc@mail.wou.edu.



Using MVPA analysis, does partner based grouping show an increase in physical activity?

Jordan Werner



ABSTRACT:

A two week study done to analyze the potential change in physical activity during a given lesson through the variable of student grouping strategies. Using the moderate-to-vigorous-physical-activity guidelines as the key assessment tool data was gathered to measure student physical activity levels. The differences in grouping strategies was the control week of allowing for student selected grouping while the proceeding week included instructor based grouping with the intent of mixing class social groups. Affective assessments were given halfway through the collection period to survey student opinion and predictions of activity levels and to see their views on grouping strategies used.

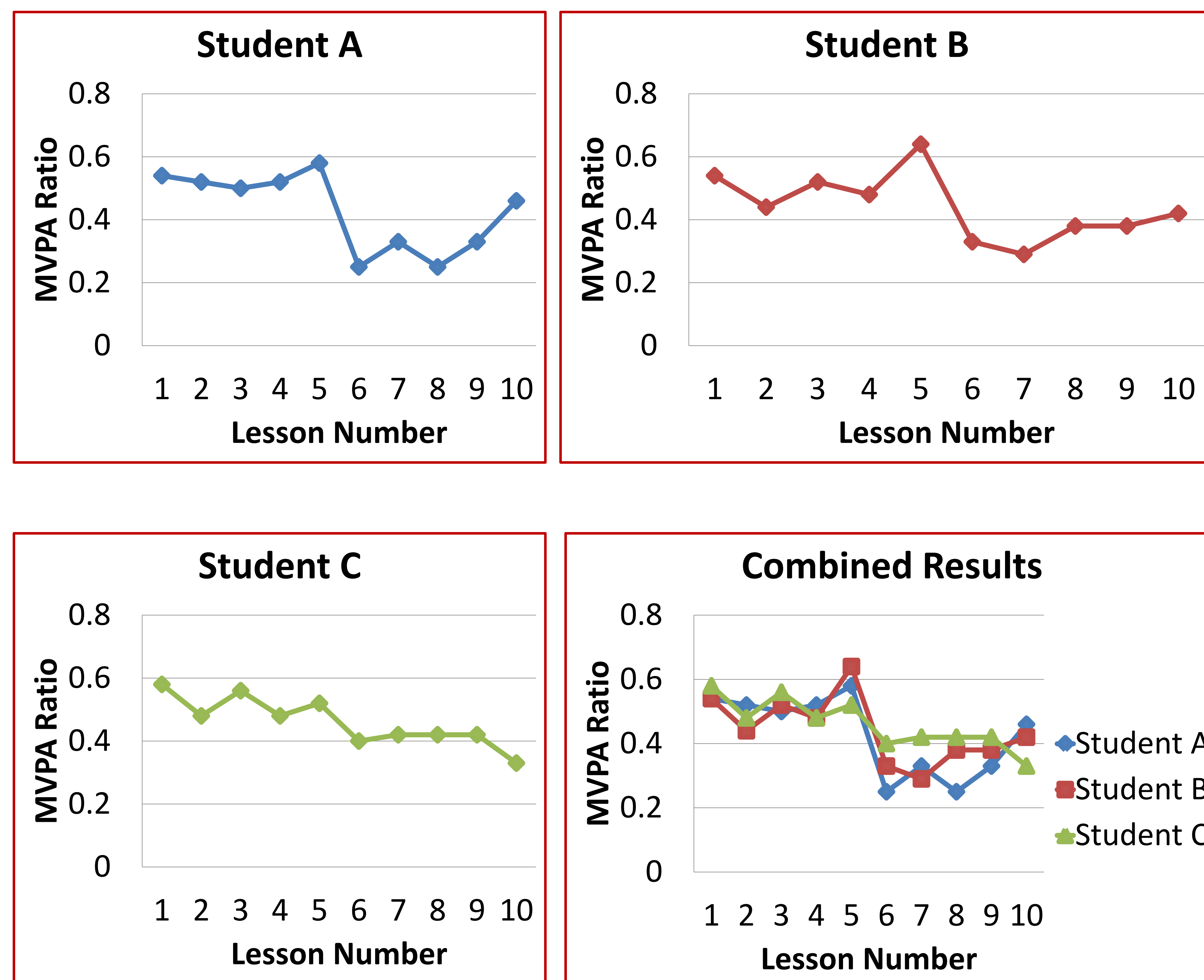
Methods:

- Students were chosen randomly each day for the ten lesson study.
- Each student was assessed at least once. No student was assessed more than three times
- The classroom consisted of identical structure throughout the testing period
- Students showing MVPA at the time of assessment received a score of one for the given interval. Students not showing MVPA at time or assessment received a zero. This data was then averaged to produce daily MVPA ratio for each student group that was assessed.

REFERENCES:

- Gutin , Yin Z, Humphries C, Barbeau B. (2011). *Relations of moderate and vigorous physical activity to fitness and fatness in adolescents*. The American Journal of Clinical Nutrition
- Pabayo R, Belsky J, Gauvin L, Curtis S. (2011) *Do area characteristics predict change in moderate-to-vigorous physical activity from ages 11 to 15 years?*. Journal of Social Science and Medicine
- Centers for Disease Control and Prevention (2011) *Aerobic Activity-What Counts?* Retrieved from <http://www.cdc.gov/physicalactivity/everyone/guidelines/adults.html>

Data



The following figures illustrate the average MVPA ratio of the student chosen to represent the data pool for the lesson for that day.

Results:

Due to the short duration of the testing period and the small sample used in the test itself the data collected in the study has shown:

- Student-selected grouping produced 16% more MVPA on average
- The period of adjustment into a new type of grouping strategy is five lessons
- Contrary to previous predictions, amount of time spent on-task was observed to be much higher during the student-selected grouping strategy

Implications for further Research:

After completing this research, the following questions remain unanswered:

- Student MVPA in a variety of different activity units
- Student MVPA in all boy/girl classes
- What causes such a dramatic drop in MVPA when students work with someone other than a friend in the class

Prior Research:

One of the largest concerns in this study will be determining what movements can be categorized as moderate to vigorously physically active(MVPA). The term MVPA is used as a blanket term to identify any action that causes the heart rate to increase above normal levels. According to the Center for Disease Control (2011) MVPA is "On a scale relative to an individual's personal capacity, moderate-intensity physical activity is usually a 5 or 6 on a scale of 0 to 10." This means that if the person feels that they are working at a moderate level for their own physical abilities they have achieved an acceptable level of moderate to vigorous physical activity.

Every individual human body is constructed in differently than the next. These differences can include a variety of things ranging from height, weight, appearance and abilities. Looking specifically at the fitness levels of the people in this study on an individual level will be a determining factor in measuring MVPA. Gutin, Yin, Humphries, Barbeau (2011) found that children with lower body fat percentages (BF%) exhibited the highest level of MVPA. However, some students with high levels of BF% that showed high levels of MVPA saw a significant increase in mood as well as an increase in BF%. This inverse relationship between obesity and MVPA has been a topic for discussion for years however the research shows that the correlation between the two does exist. The focus needs to be places on obese children and their lifestyles.

Discussion:

- Data showed that the class as a whole responded equally to each lesson and grouping strategy used
- The largest drop in MVPA occurred on the sixth lesson (first lesson of teacher-based grouping)
- The largest increase was found in lesson five (fifth lesson of student-selected grouping)
- The average MVPA ratio for student-selected grouping was .52
- The average MVPA ratio for teacher-selected grouping was .36
- In both cases (control and variable), MVPA showed an increase after four lessons of each grouping strategy

