

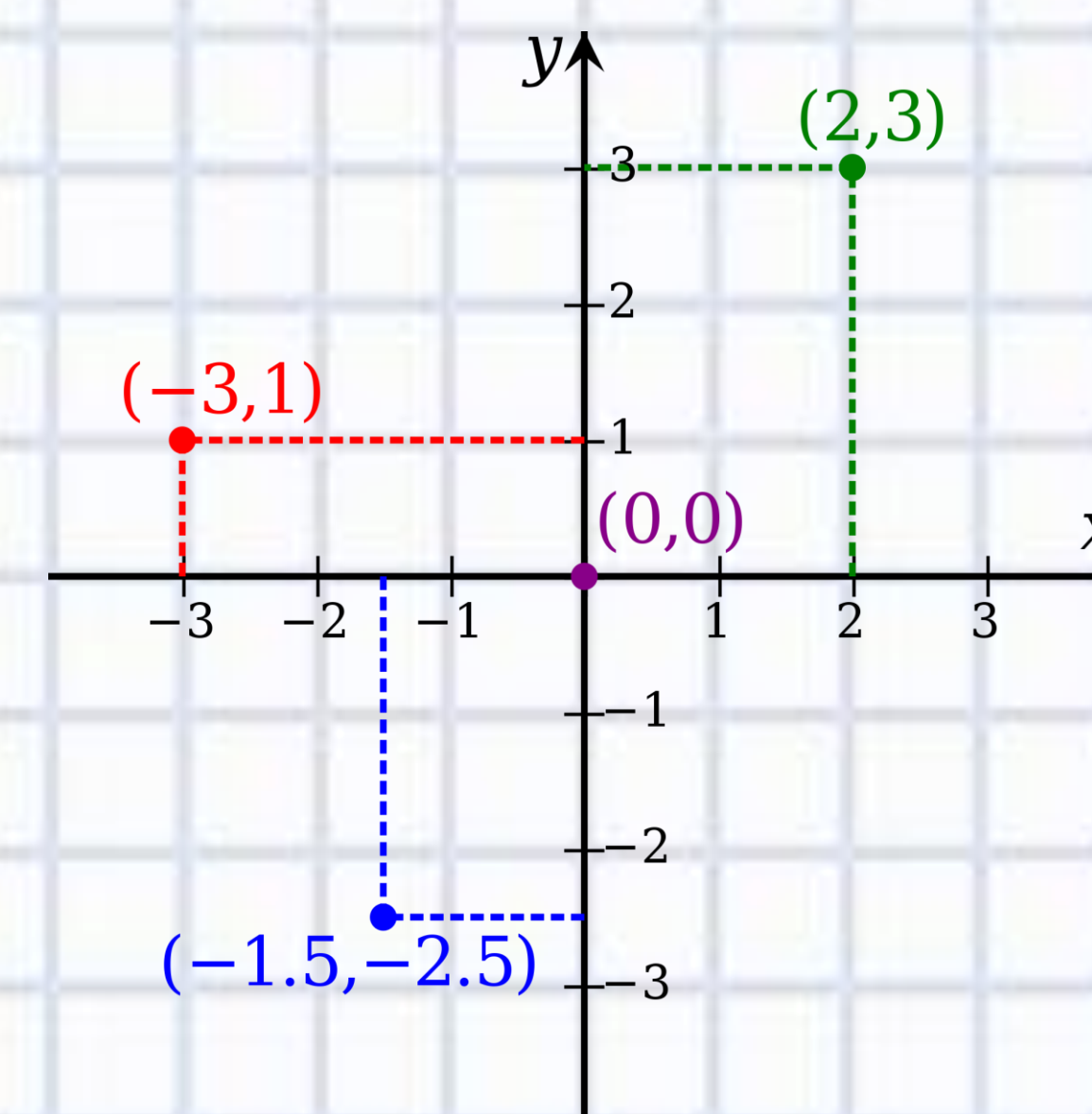


## Problem Statement

In the United States of America, a lack of engagement and interest in the classroom prohibits students from learning math. Students can become easily disengaged and potentially withdraw from the learning environment.

## Solution

A coordinate plane activity that utilized the floors tiles as a coordinate plane. The activity got students out of their seats and engaged in the lesson.



## Activity

- The students got into small groups and made a coordinate plane using the floor tiles
- The students then answered questions about the coordinate plane

Plot and label the following points on the coordinate plane to the left.

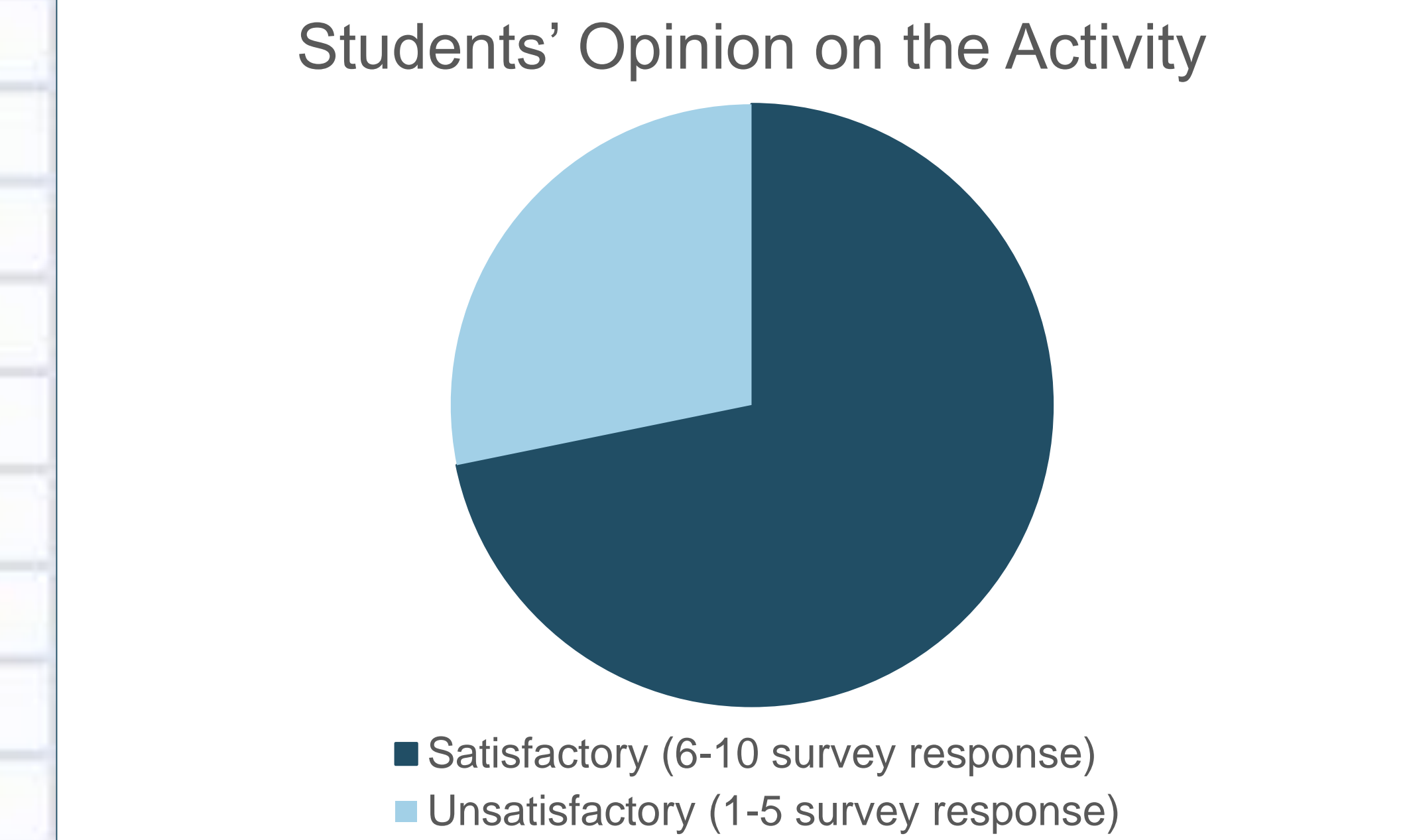
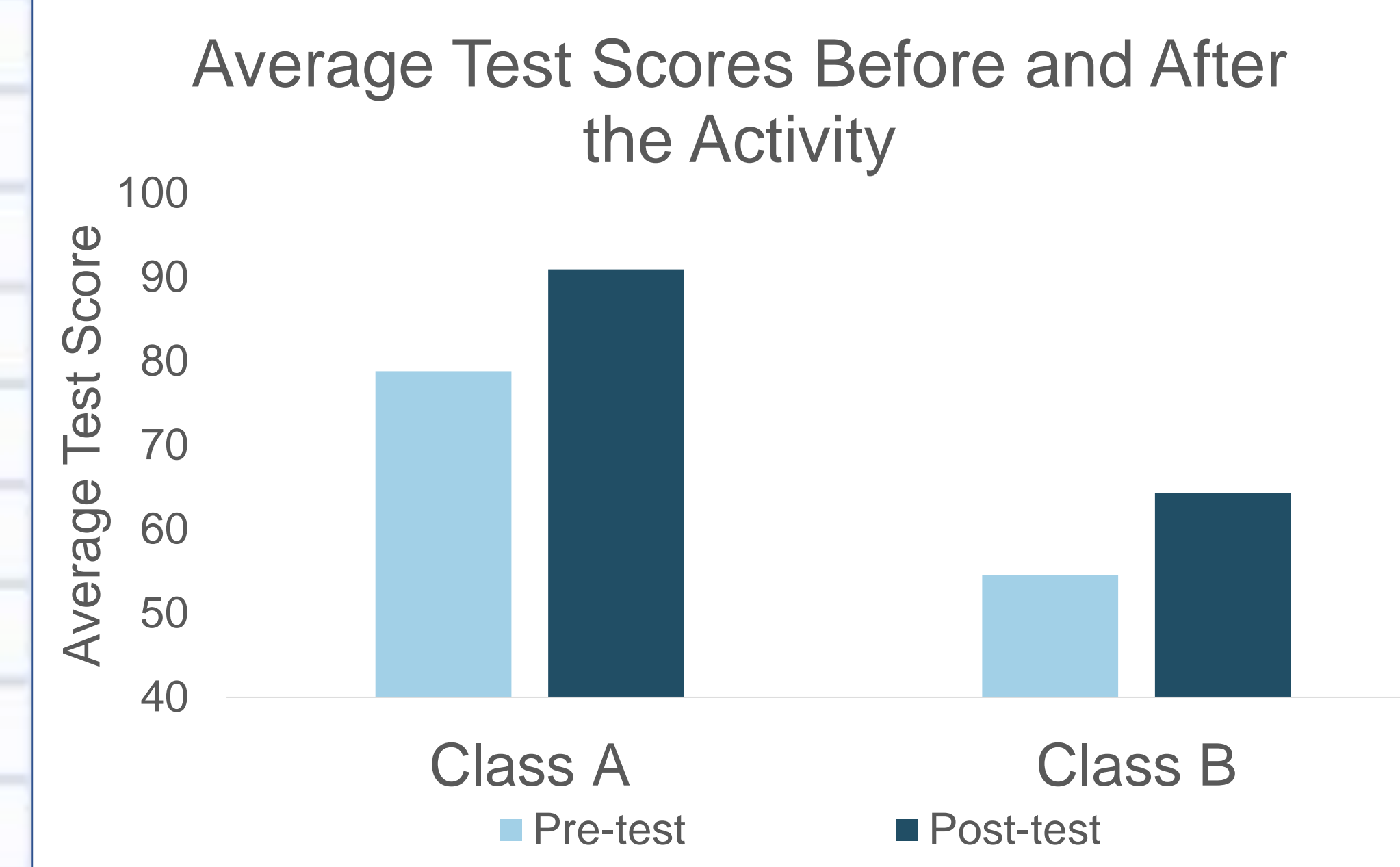
7. Label the 4 Quadrants
8. M (-1, 1)
9. A (-3, 1)
10. T (-1, -1)
11. H (-3, -1)
12. R (6, 6)
13. O (-7, 0)
14. X (-1, 5)

## Assessments

- Students took a pre test and a post test on coordinate planes
- Then the class averages was taken
- The students and teacher also completed a survey

## Results

- Most students enjoyed the activity
- Many students explained how they enjoyed moving around to complete the activity
- The activity was simple and easy to implement



## Conclusion

- Class A's scores increased by 12.12% Class B's scores increased by 9.74%
- The majority of the students enjoyed the activity
- The activity was successful in both categories investigated

## Acknowledgements

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## Sources

Cornell, C. (1999). "I hate math: I couldn't learn it, and I can't teach it". *Childhood Education*, 75(4), 225. doi:10.1080/00094056.1999.10522022

Student Engagement in Instructional Activity: Patterns in the Elementary, Middle, and High School Years. (n.d.). Retrieved October 25, 2017, from <http://journals.sagepub.com/doi/pdf/10.3102/00028312037001153>

Christenson, S. L. (2013). *Handbook of research on student engagement*. New York: Springer

Hoke, D. (2008). *Effects on student performance of using hands-on activities to teach seventh grade students measurement concepts*

RAFT (Resource Area For Teaching). (2013). Bridging the engagement gap with hands-on teaching, 1-7. Retrieved from <http://www.raft-net/public/pdfs/case-for-hands-on-learning.pdf>

Cornell, C. (1999). "I hate math: I couldn't learn it, and I can't teach it". *Childhood Education*, 75(4), 225. doi:10.1080/00094056.1999.10522022

Martyn, M. (2007). Clickers in the classroom: An active learning approach. Retrieved from <https://scr.educause.edu/articles/2007/11/clickers-in-the-classroom-an-active-learning-approach>

Mora, & Richard. (2011). "School is so boring": High-stakes testing and boredom at an urban middle school, 1-9. Retrieved from <https://enc.ed.gov/?id=EP957120>