

# THE EFFECTS OF Multiple Levels of Intelligences IN AN ALGEBRA 1 CLASSROOM

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## INTRODUCTION

The goal of the study was to see how implementing multiple levels of intelligences affect student achievement. This study was conducted in an Algebra 1 College Preparatory classroom with 22 students in a public school. The students follow a block schedule where they meet every other day.

Every class is run through station/small group work where the students are broken into two to three stations. Within these stations, there was an intelligence implemented and measured every class.

The reason of this study was to increase student test scores through differentiation. The reason I chose multiple levels of intelligences was because I was not able to find the affects of it in an algebra 1 classroom in the recent years.

## Research Question

Does implementing Multiple Levels of Intelligences into every class enhance student achievement in an Algebra 1 classroom?

## Howard Gardner's 8 Levels of Intelligences

Interpersonal Intelligence

Intrapersonal Intelligence

Bodily-Kinesthetic Intelligence

Mathematical-Logical Intelligence

Visual-Spatial Intelligence

Verbal-Linguistic Intelligence

Naturalistic Intelligence

Musical Intelligence

## Methods

### Research Periods:

The research was separated into 3 research periods: Test #1 to Test #2, Test #2 to Test #3 and Test #3 to Test #4.

### Implementation:

One of Howard Gardner's 8 levels of Multiple Intelligences was implemented into every class. The total amount of implementations per research period are shown below. Interpersonal and intrapersonal were utilized 3 types in total. Bodily-kinesthetic was incorporated 6 times and visual-spatial was 11. Mathematical-logical and verbal-linguistic totaled to 2 times. Naturalistic and Musical were incorporated 0 times.

### Data Collection:

Data was collected and analyzed throughout 14 weeks. Types of collected data include:

- Daily logs
- Video recordings
- Formative Assessments
- Checklists
- Assessment scores



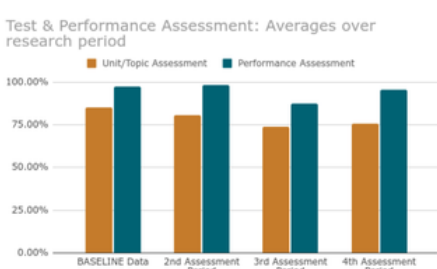
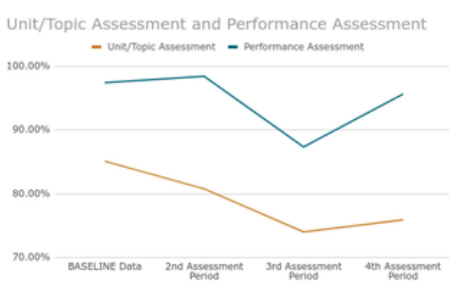
## RESULTS

THROUGHOUT THE STUDY, SIX OUT OF THE EIGHT LEVELS OF INTELLIGENCE AS PER HOWARD GARDNER, WERE IMPLEMENTED INTO EVERY CLASS. THE RESULTS WERE CONSISTENT WITH THE LITERATURE AND THREE MAJOR THEMES EMERGED FROM THESE RESULTS. THESE THEMES INCLUDED:

1) THERE IS NO CORRELATION TO MULTIPLE LEVELS OF INTELLIGENCE ENHANCING STUDENT ACHIEVEMENT

2) BODILY-KINESTHETIC INTELLIGENCE SHOWED TO BE THE INTELLIGENCE THAT HAD THE MOST IMPROVEMENT ON TEST QUESTIONS

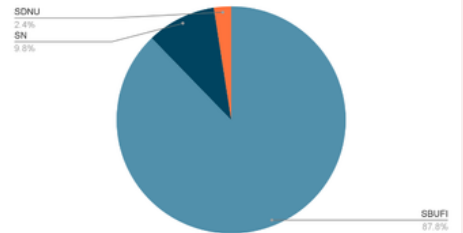
3) OUT OF ALL OF THE INTELLIGENCES, INTERPERSONAL INTELLIGENCE ENHANCED STUDENT UNDERSTANDING IN-CLASS.



### Bodily-Kinesthetic Test Question Accuracy

Test #	Question #	Points	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Test #1	Question 2	Points	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Overall	6.64	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Test #2	Question 5	Points	0	1	2	3	4	5	6	7	8						
	Overall	5.19	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Test #3	Question 9	Points	0	1	2	3	4	5	6	7	8						
	Overall	6.67	0%	0%	0%	0%	0%	0%	24%	0%	0%	0%	0%	0%	0%	0%	71%

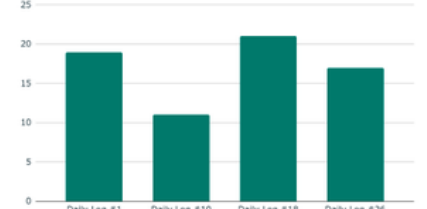
### Interpersonal Intelligence: In-Class understandings



### Bodily-kinesthetic Intelligence: Test breakdown according to accuracy



### Student Understandings: SBUI from daily logs



## Conclusions

1. Implementing multiple levels of intelligences into the classroom calls for differentiation but should be utilized as an aid.
2. Multiple levels of intelligences does not enhance test scores and has no direct correlation to student achievement.
3. Bodily-kinesthetic intelligence will call for the most student improvement out of all 8 intelligences.
4. Interpersonal intelligence will provide great in-class understanding out of all 8 levels of intelligences and improve student engagement.

## Bibliography

Belavsky, N. (2006). Revisiting Vygotsky and Gardner: Realizing human potential. *Journal of Aesthetic Education*, 40(2), 1-11.

Al-Hosni, A. A., & Al-Manthari, R. S. (2021). Multiple Intelligences among Ninth-Grade Students in the Sultanate of Oman. *World Journal of Education*, 11(2), 15-23.