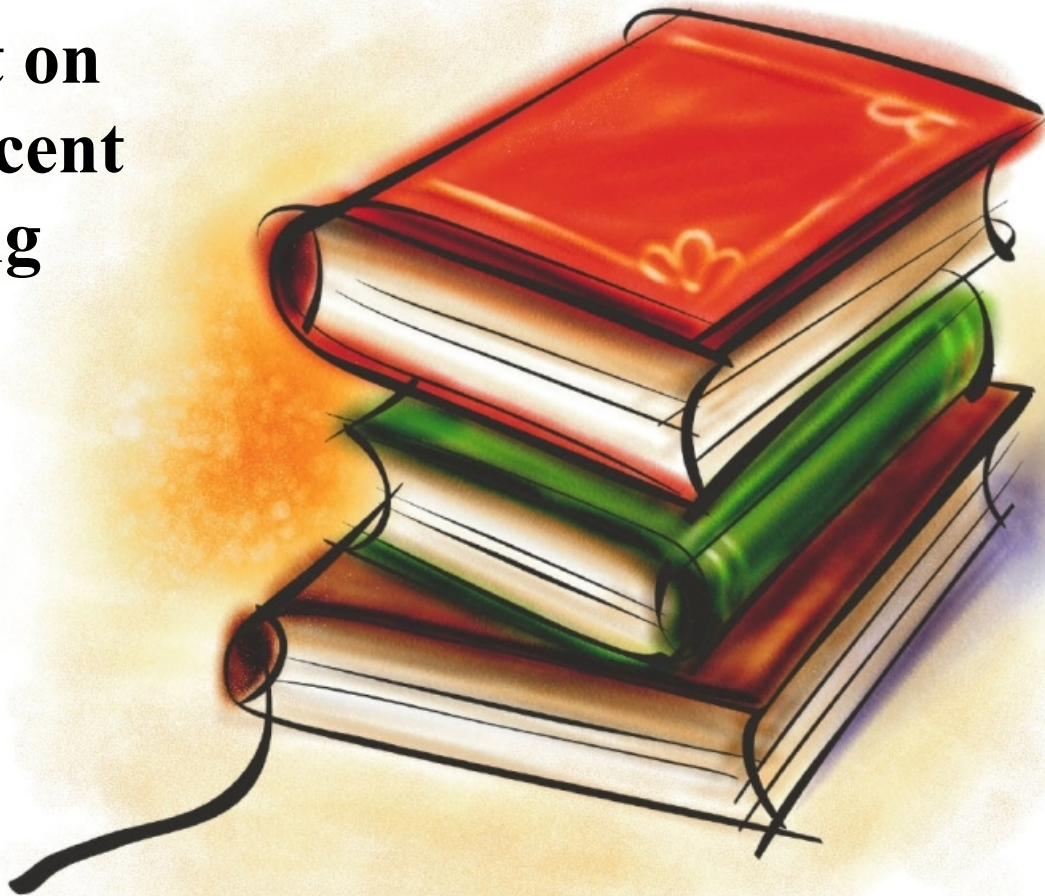


# **Grand Canyon University**

**2008 Research Colloquium**

# **Dual Language Bilingual Immersion Program:**

## **Impact on Adolescent Reading Skills**



**By:**

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# Background

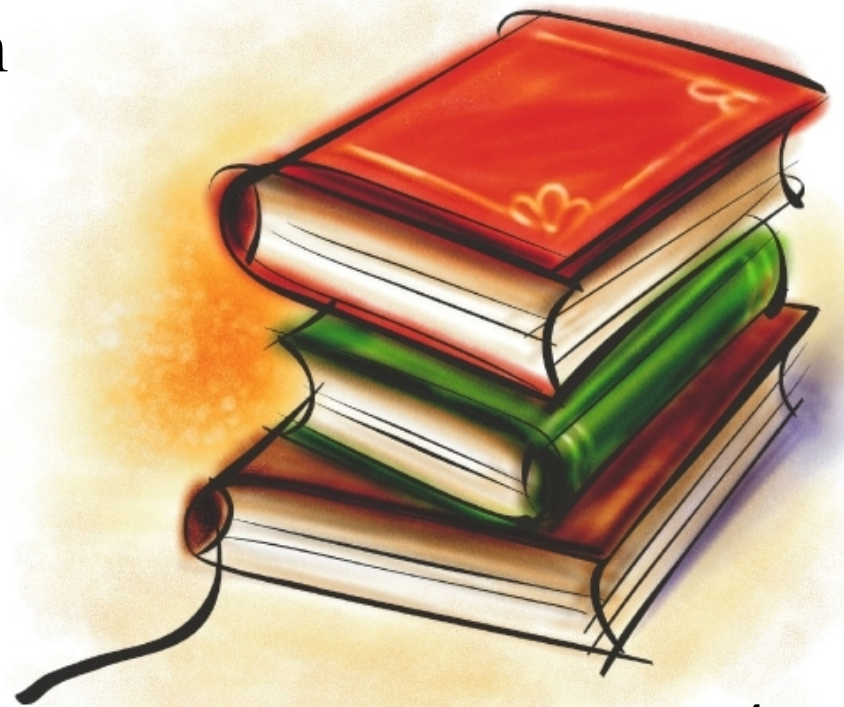
- Dual-language immersion
- Addressing the ELL needs in AZ
- Passage of Proposition 203 in 2000 in AZ
- No Child Left Behind
  - Annual test-AIMS
  - Adequate Yearly Progress (AYP)





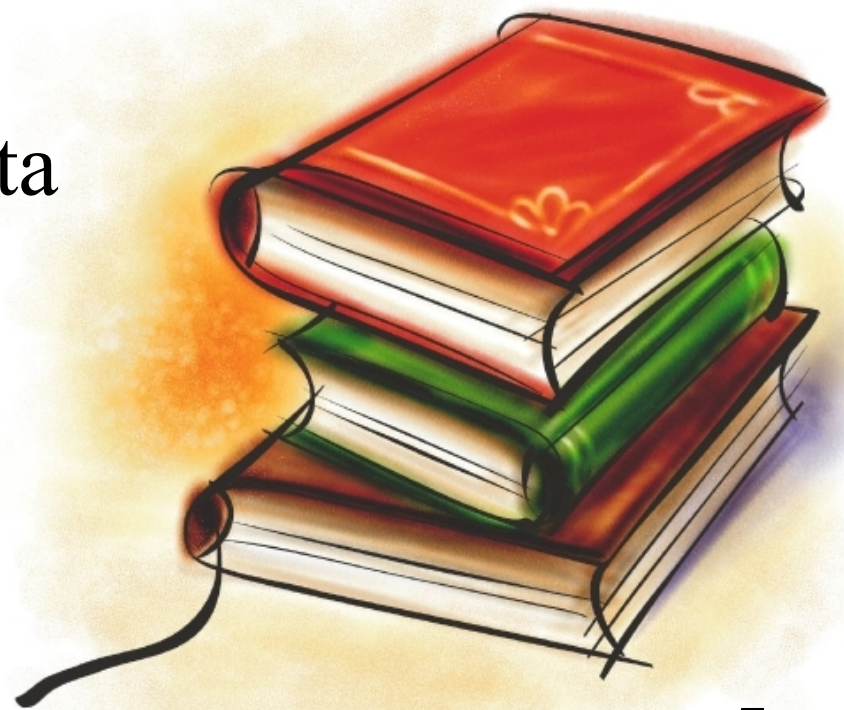
# Research Question

- Did the dual language bilingual immersion program have a significant effect on the English reading skills of Spanish and English speaking seventh and eighth graders compared with those students who were in a sheltered English instruction classrooms?



# Research Design

- Quantitative
- Quasi-experimental
- Nonrandom
- Using ex-post facto data
  - AIMS Data from
    - 2004
    - 2005
    - 2006



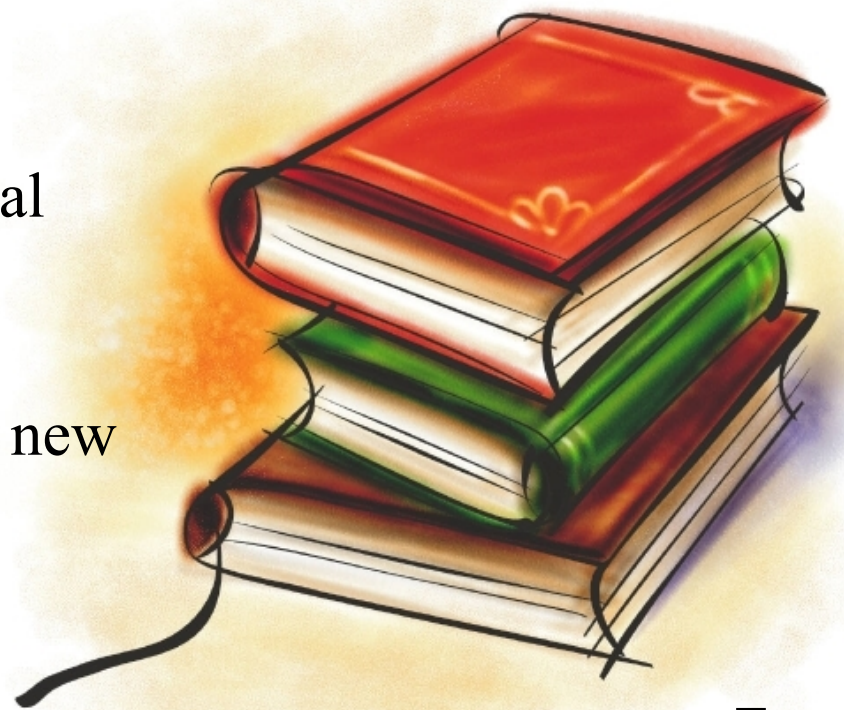
# Limitations

- The small number of students who were in the program for 3-5 years;
- The location of the school – high mobility rate;
- Teacher quality and expertise.



# Delimitations

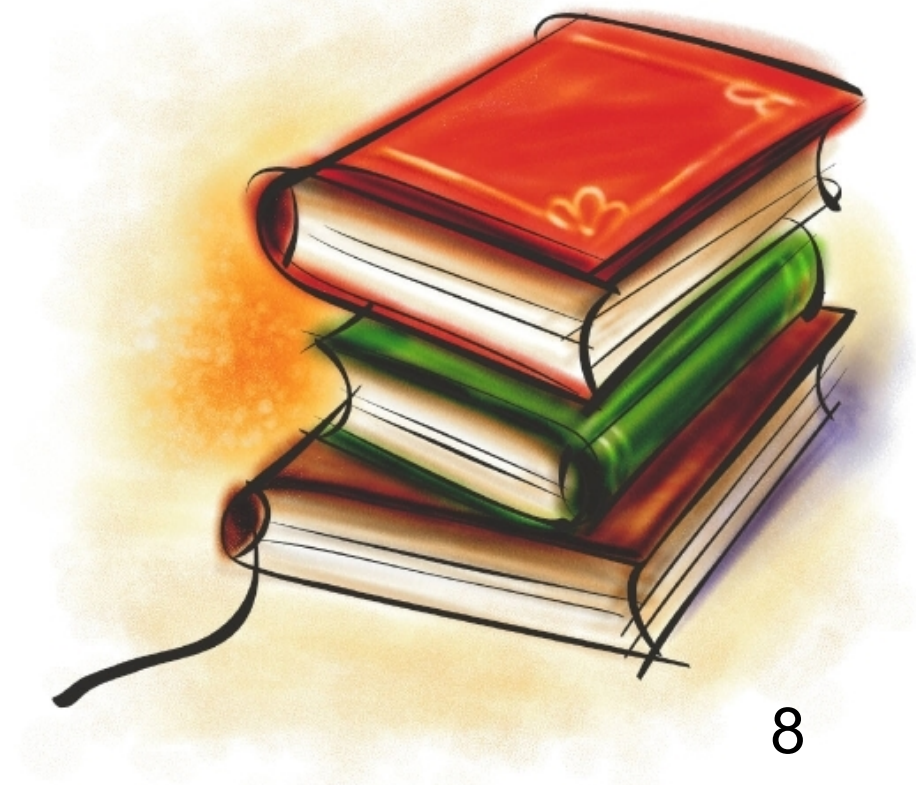
- Impact of dual-language immersion program on the reading literacy levels of 7<sup>th</sup> and 8<sup>th</sup> grade ELL and NES at 2 similar schools;
- It did not focus on other types of bilingual education programs;
- It did not focus on suburban or rural schools;
- Program had been in existence;
- The researcher did not introduce a new experimental program.





# Population

- 7<sup>th</sup> and 8<sup>th</sup> grade public school students who are English language learners; (ELL)
- 7<sup>th</sup> and 8<sup>th</sup> grade public school students who are native English speakers. (NES)





# Sampling Procedure

- Experimental Group:

Class of 30, 7<sup>th</sup> and 8<sup>th</sup> grade ELL and NES students from a school that employs the dual-language bilingual immersion approach to education;

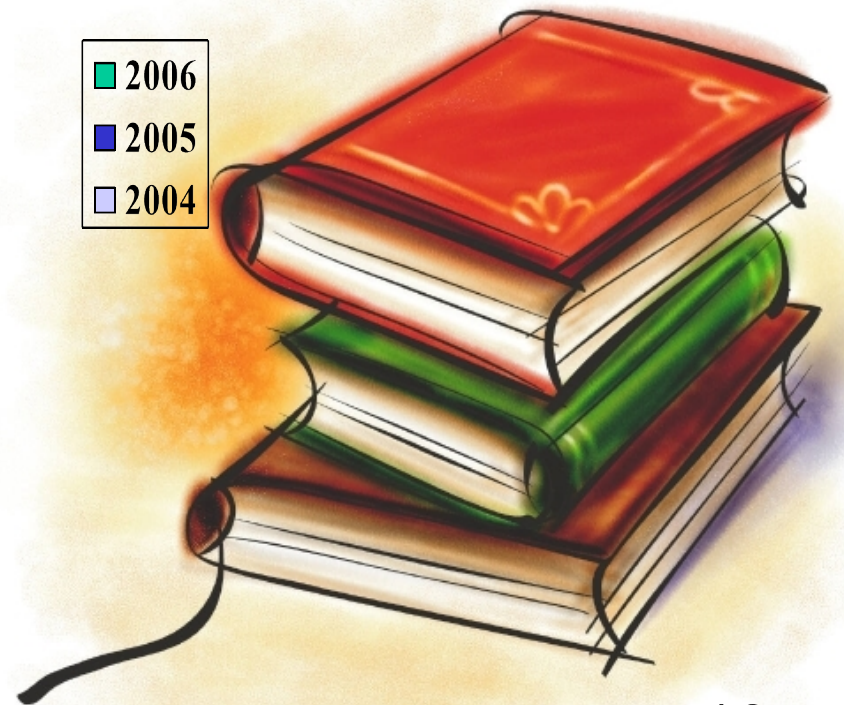
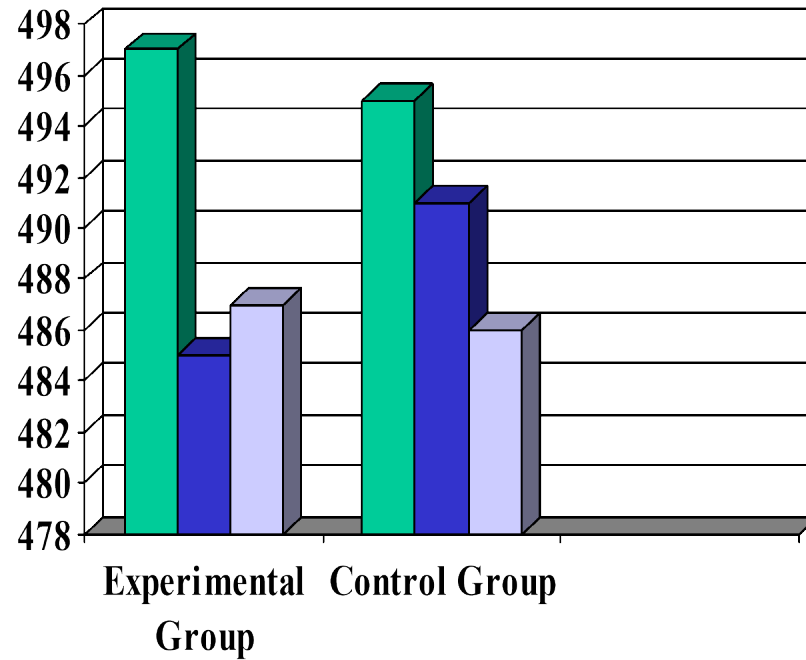
- Control Group:

Class of 30, 7<sup>th</sup> and 8<sup>th</sup> grade ELL and NES students from a similar school where there is only sheltered English instruction program.



# Results

Composite Scores, AIMS Reading Test



# Results

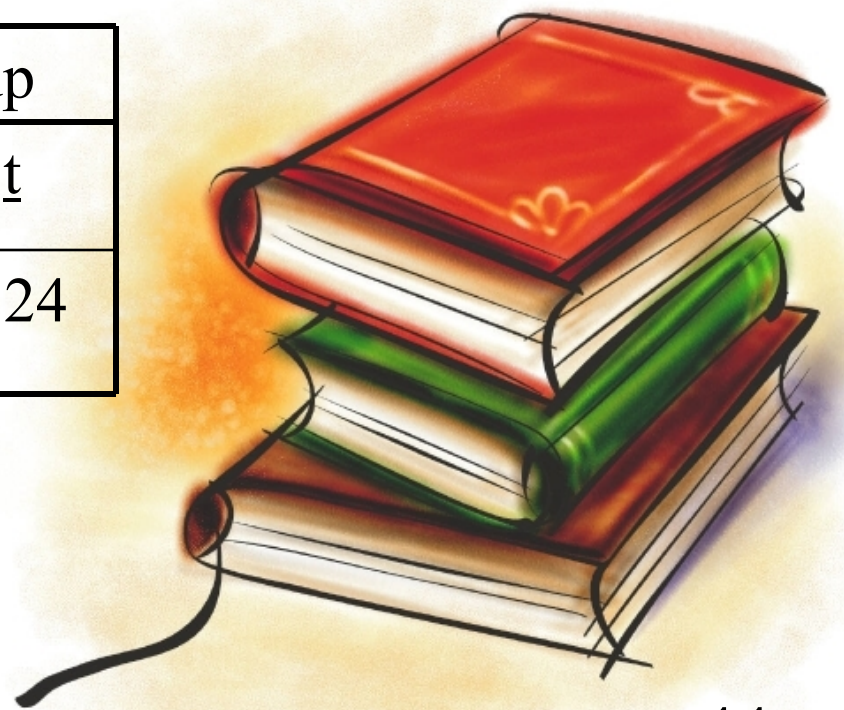
*t*-Test – Reading Scores from AIMS

Assuming equal variances;  $n=60$ , 30 in each group

Control Group		Experimental Group		
<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>t</u>
495.3	28.9	506.1	37.4	1.24

$p < .05$

$t$  critical score = 1.67





# Results

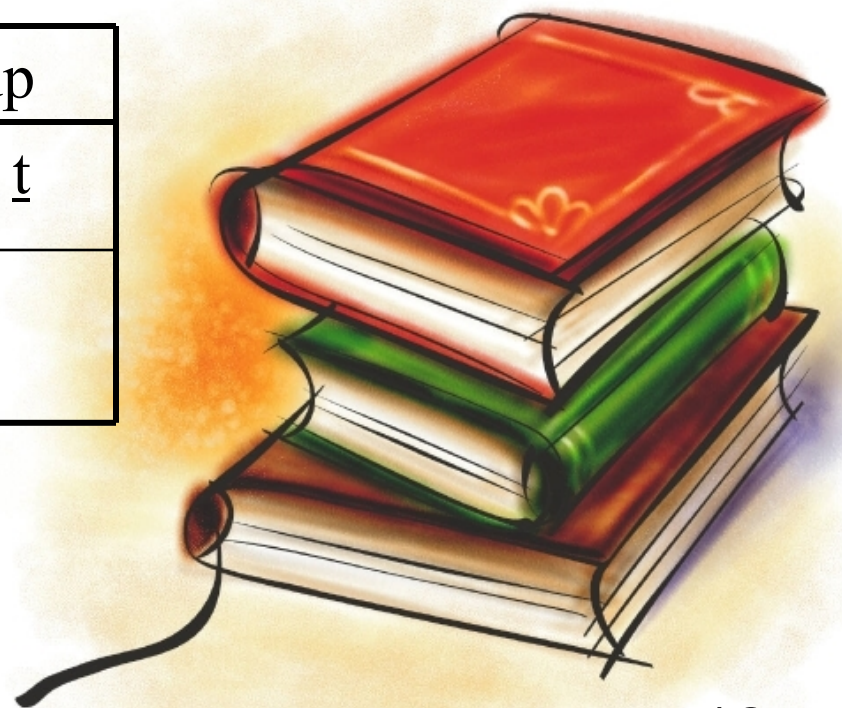
*t*-Test – ELL Reading Scores from AIMS

Assuming unequal variances

Control Group		Experimental Group			
<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>df</u>	<u>t</u>
509.1	37.9	501.4	22.4	44	-0.87

$p < .05$

*t* critical score = 2.01



# Results

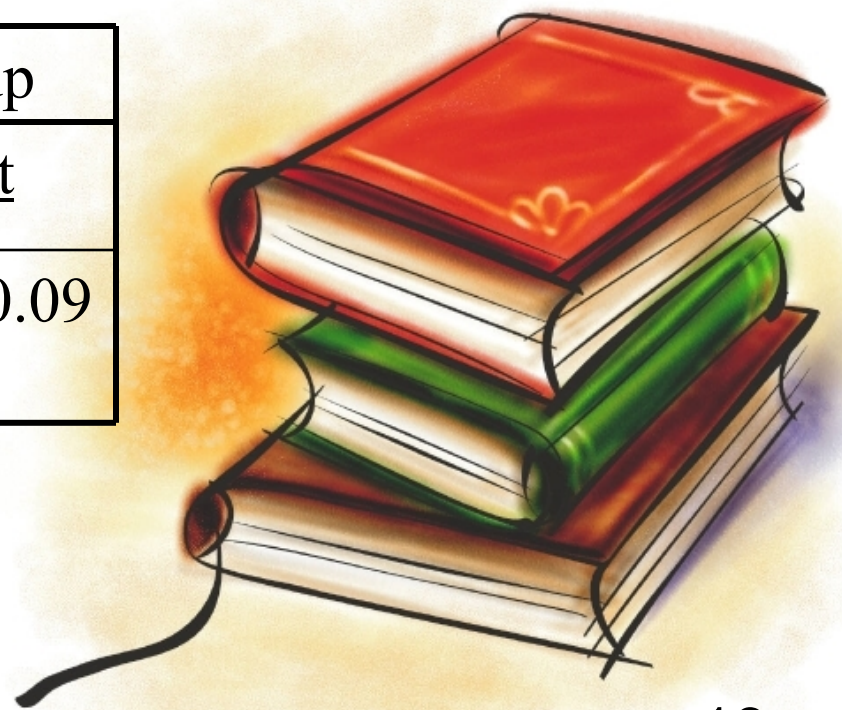
*t*-Test – NES Reading Scores from AIMS

Assuming unequal variances

Control Group		Experimental Group			
<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>df</u>	<u>t</u>
531.2	35.1	529. 8	30. 4	6	-0.09

$p < .05$

*t* critical score = 2.44



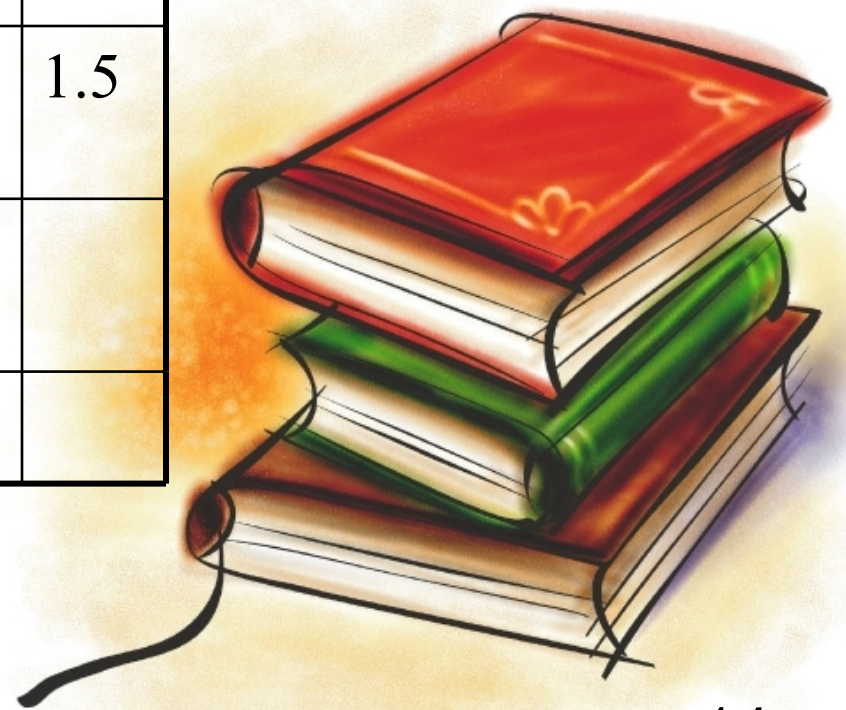
# Results

One-Way ANOVA: Effect of Dual-language immersion on the reading skills of adolescents

<u>Source</u>	<u>df</u>	<u>Ss</u>	<u>MS</u>	<u>F</u>
Between Groups	1	1728.1	1728.1	1.5
Within Groups	58	614817.7	1117.5	
Total	59	66545.7		

F-critical score of 4.01

$p < .05$ .





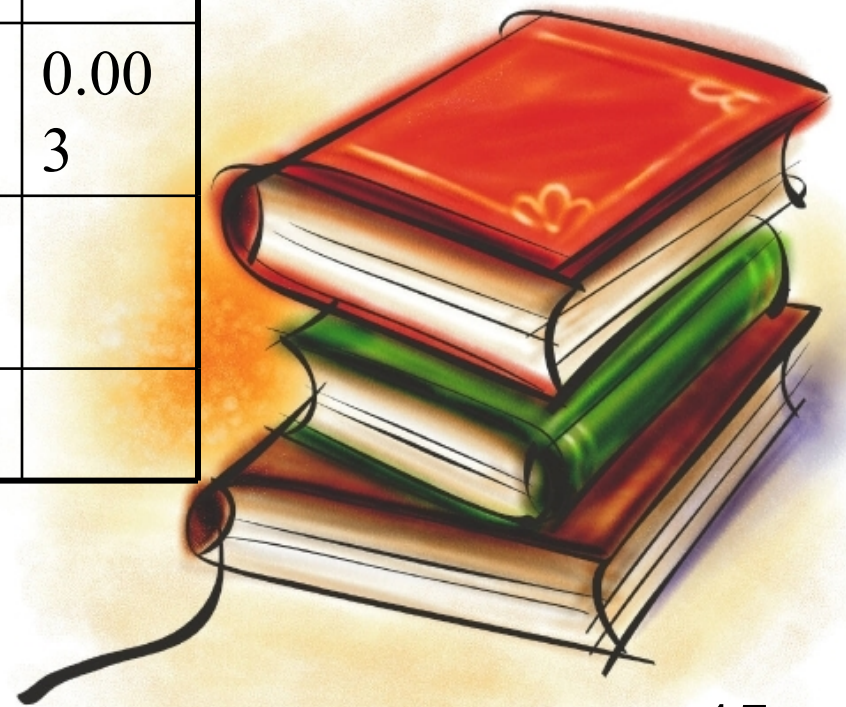
# Results

One-Way ANOVA: Effect of Dual-language immersion on the reading skills of NES adolescents

<u>Source</u>	<u>df</u>	<u>Ss</u>	<u>MS</u>	<u>F</u>
Between Groups	2	8.5	4.30	0.003
Within Groups	28	34431.04	1229.7	
Total	30	34440		

F-critical score of 3.340

$p < .05$ .



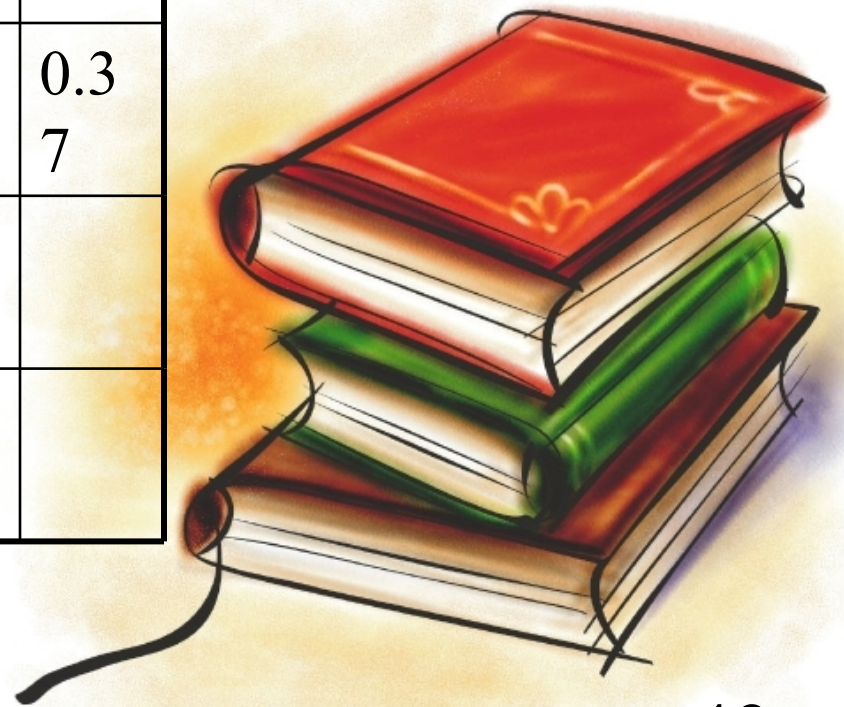
# Results

One-Way ANOVA: Effect of Dual-language immersion on the reading skills of ELL adolescents

<u>Source</u>	<u>df</u>	<u>Ss</u>	<u>MS</u>	<u>F</u>
Between Groups	2	1075.2	537.6	0.37
Within Groups	86	123973.2	1441.5	
Total	88	125048.4		

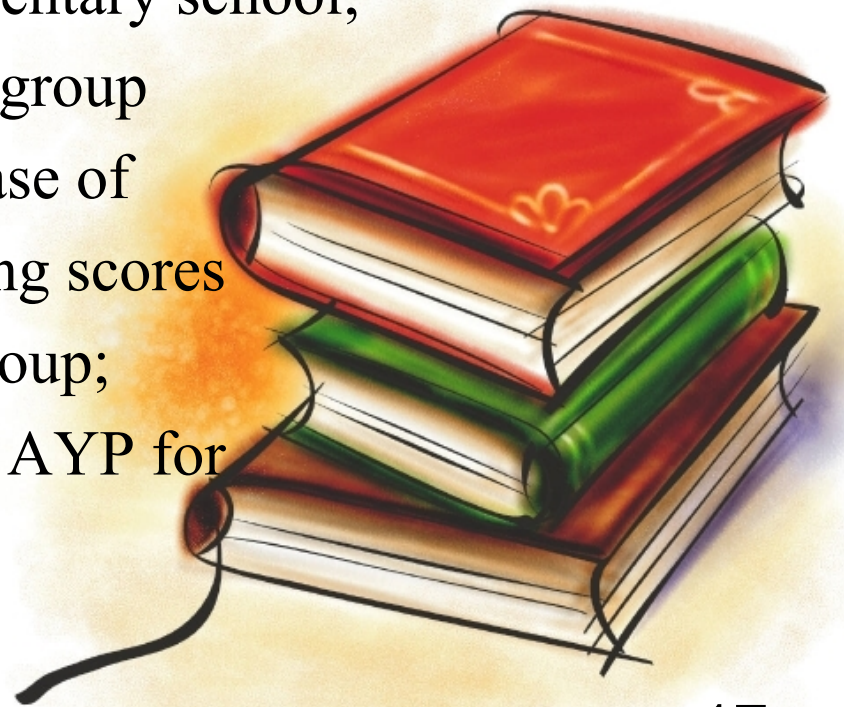
F critical score of 3.10

$p < .05$ .



# Summary of Results

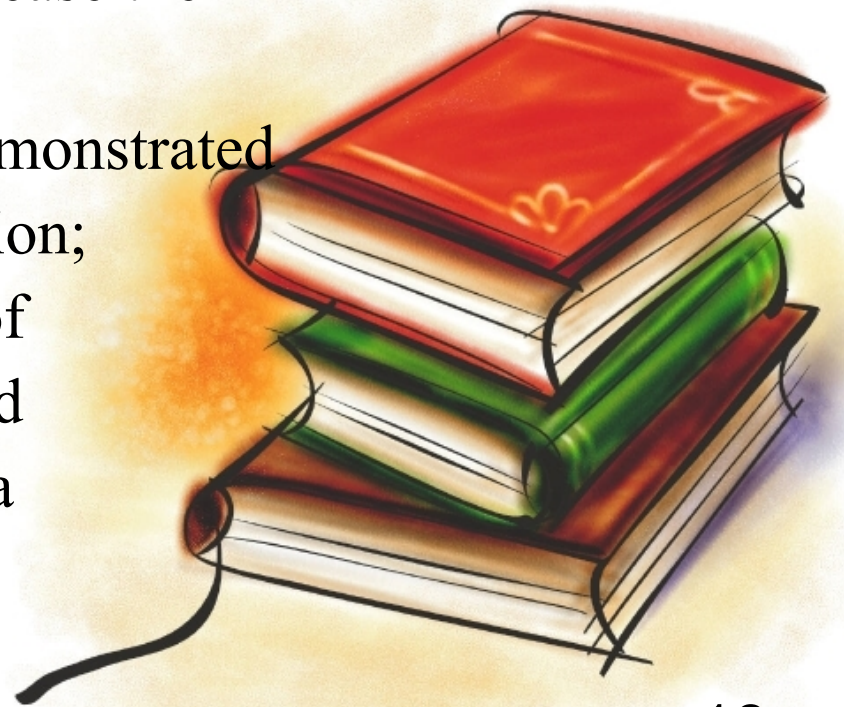
- Even though dual-language immersion bilingual program did not have a significant impact on the reading achievement scores between adolescent ELLs and NES, there were some indications of success.
- Positive growth in those students who had participated for the minimum of 3 years while in elementary school;
- 80% of the students in the sample group demonstrated on average an increase of 28 points in their AIMS raw reading scores compared to 50% in the control group;
- Both schools were able to achieve AYP for the 2005/2006 school year;





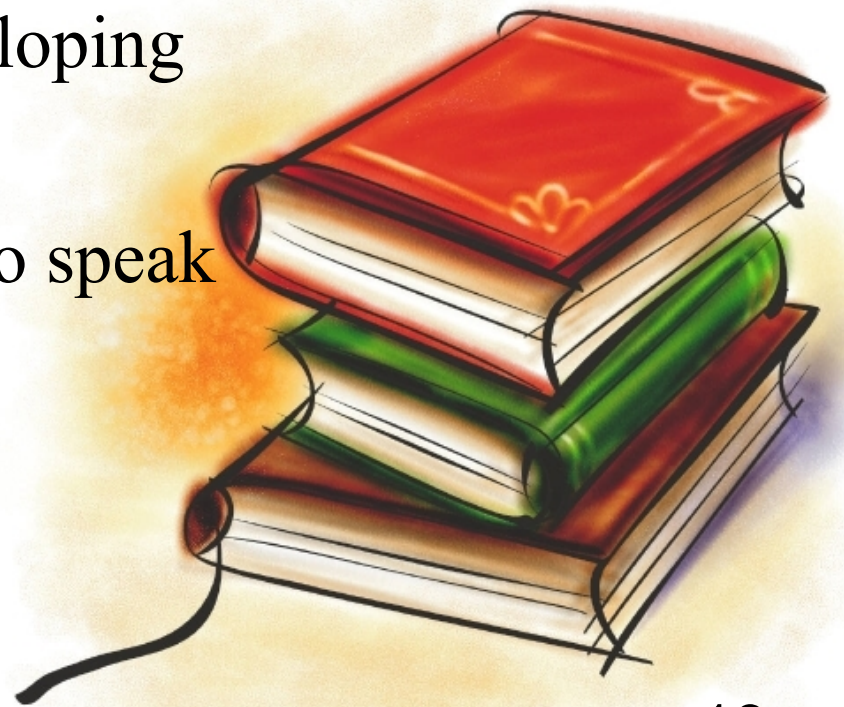
# Summary of Results

- Dual-language immersion bilingual program did not negatively impact the students who had participated in the program;
- Dual-language immersion bilingual program did have an effect on improving students' reading scores, affirming the findings of earlier research studies that the practice of providing instruction in a dual-language setting can increase the reading achievement of students;
- 60% of the experimental group demonstrated 'meets' on the AIMS reading portion;
- The dual-language students' rate of growth is, at the very least, as good as their contemporaries attending a traditional program.



# Implications for Practice

- 4-6 years of Dual-language
- Use of target language for a minimum of 50% to a maximum of 90% in the early years
- Additive bilingual environment for all students to learn a second language while developing their first language
- Balanced ratio of students who speak each language



# Implications (cont.)

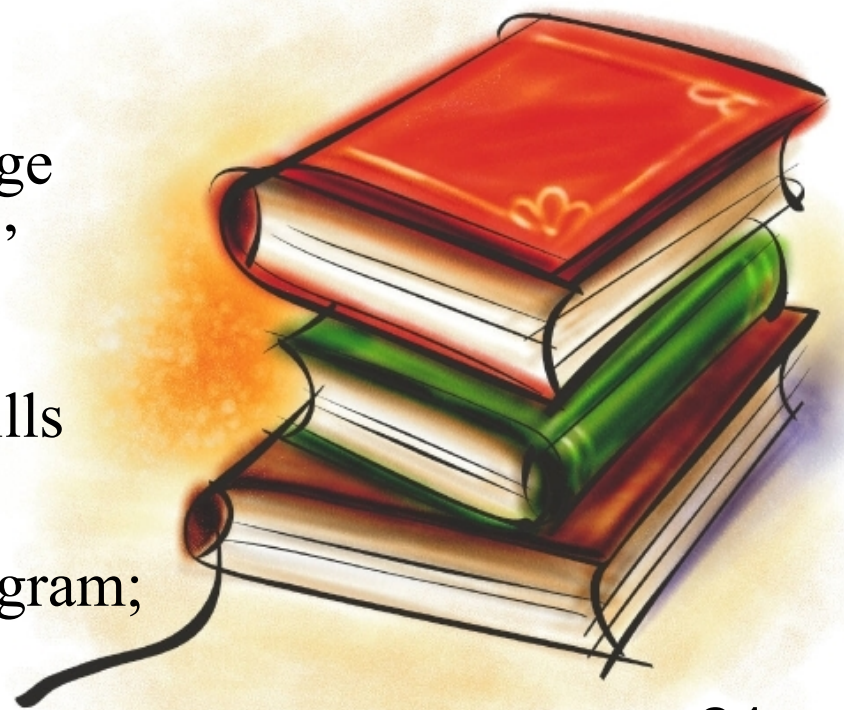
- Successful dual language programs exhibit no evidence of instructional, resource or student asymmetry
- All teachers are bilingual and highly qualified
- Materials
- Being a bilingual and literate individual is an advantage in a society that is culturally and linguistically diverse.





# Recommendations for Future Research

- Impact of dual-language programs on students who were in the program for a minimum of 4-6 years;
- Preparation and training in place for the dual-language teachers, parents, and the support staff at dual-language schools;
- Grants by the legislature to further study the merits of the dual-language program and its impact on students' reading skills;
- Listening, speaking and writing skills of NES and ELL adolescents who participated in a dual-language program;



# Recommendations for Future Research (Cont.)

- Instructional techniques and strategies utilized by the teachers at dual-language schools
- Other assessment tools particularly formative tests such as GRO;
- Qualitative studies to examine the perception of adolescents regarding the impact of the dual-language program on their own literacy skills.

