

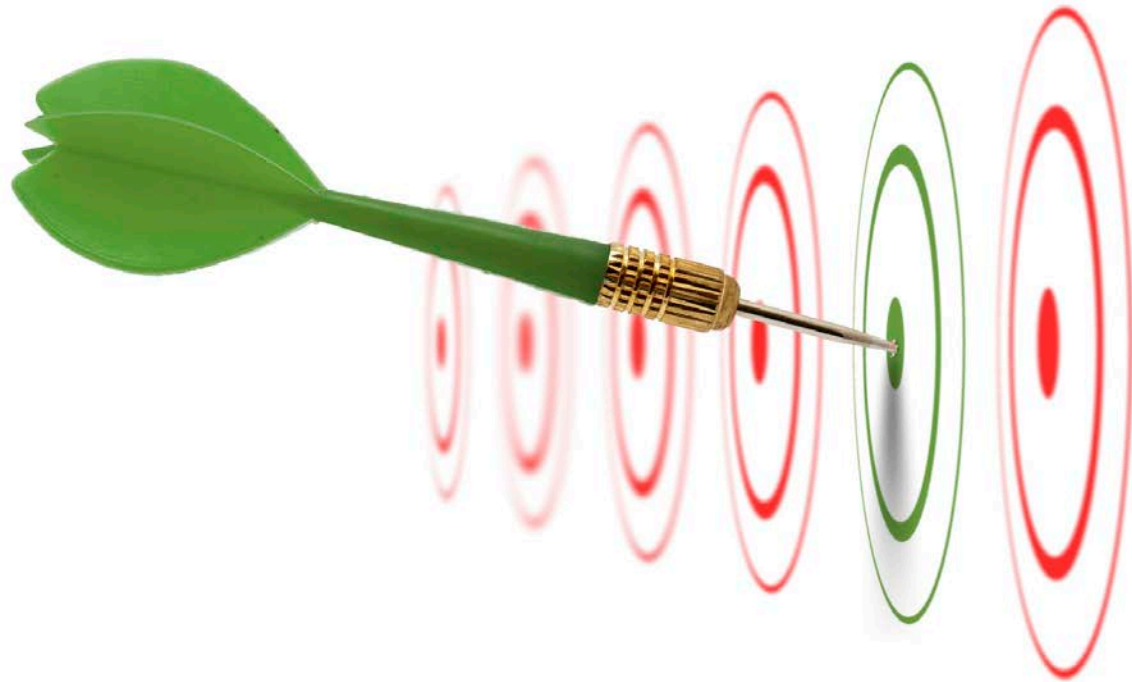
# Dual Language Immersion

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PROGRAM EVALUATION – SPRING 2017

# Program Objectives

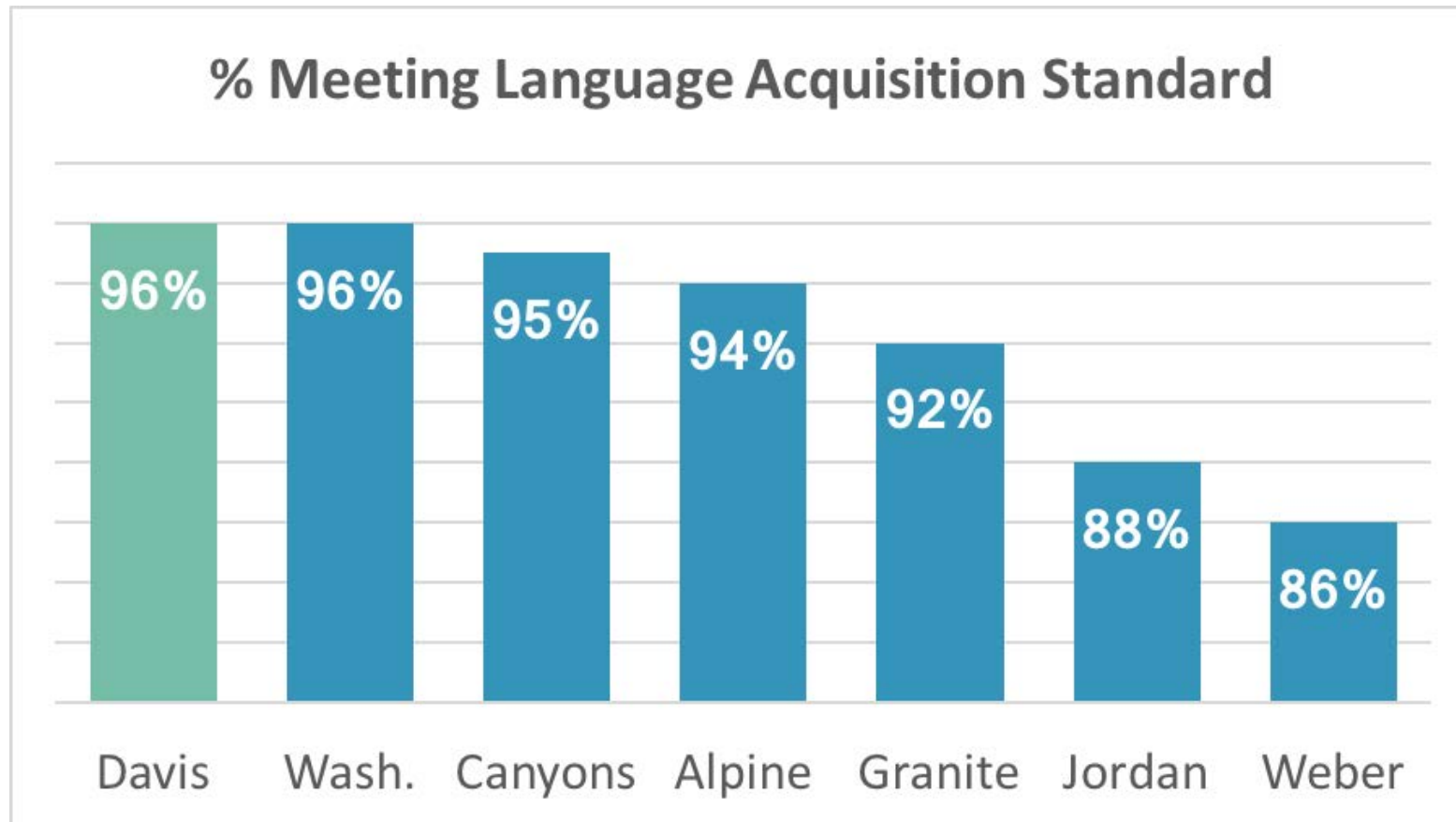
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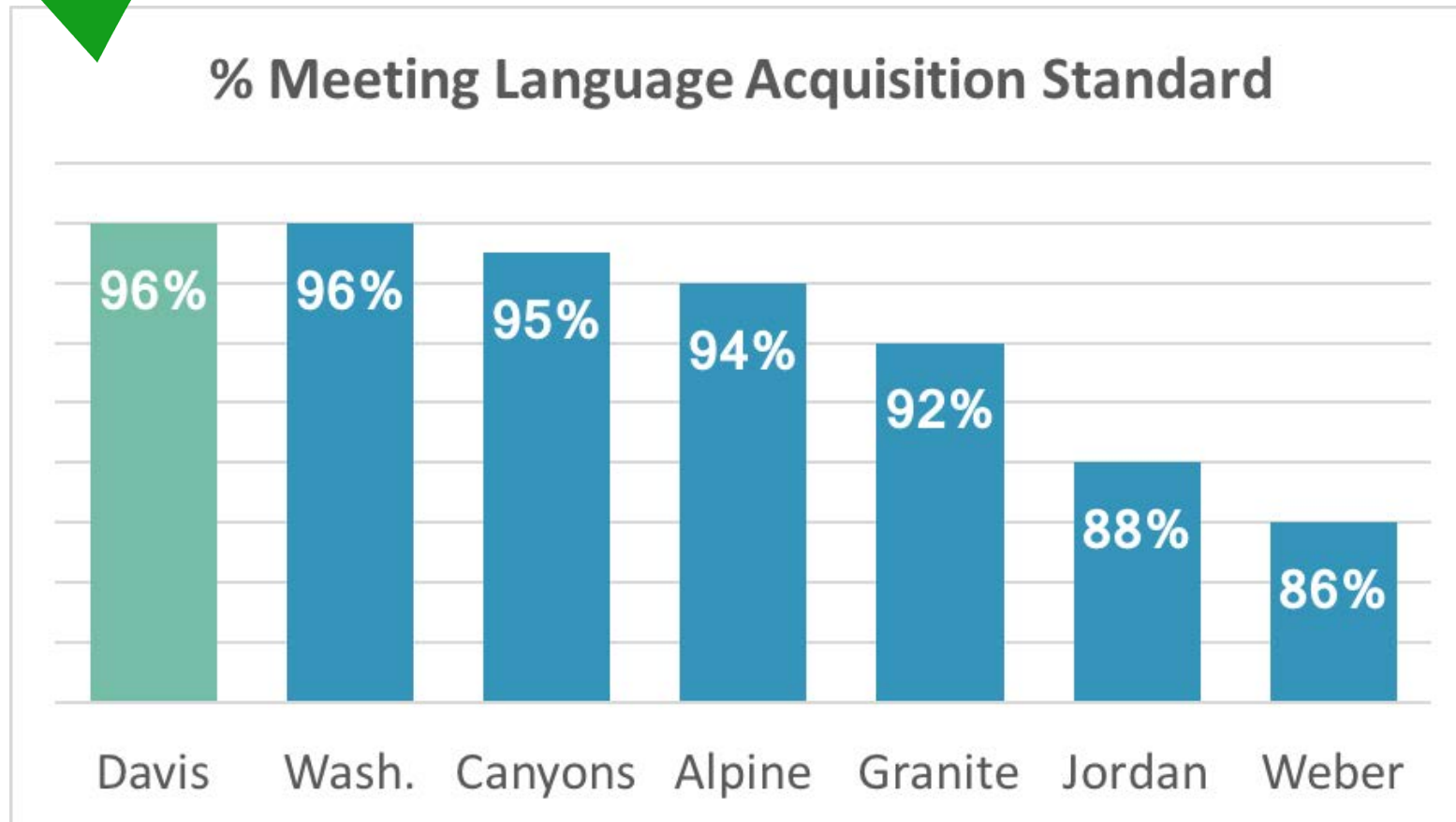
1. Language Acquisition
2. Retain academic achievement (immersion students)
3. Retain academic achievement (non-immersion students)

# Objective #1: Language Acquisition

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# Objective #1: Language Acquisition

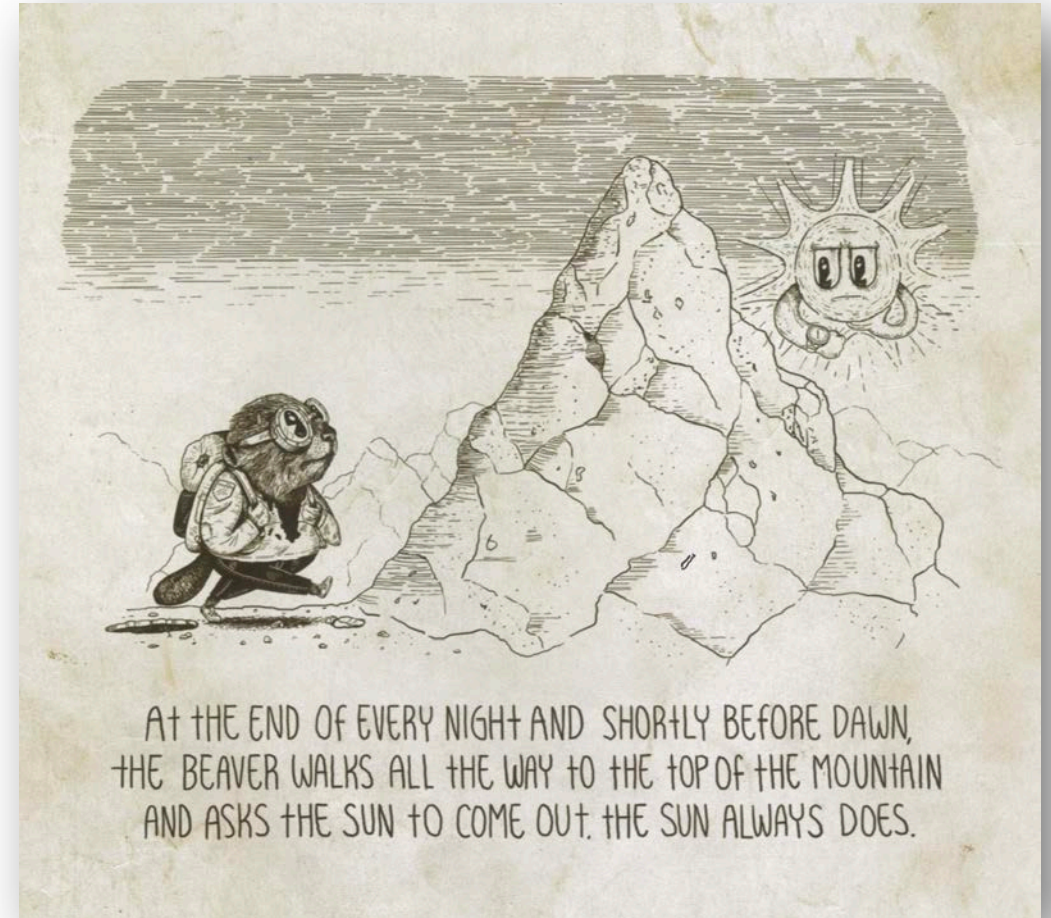


# A Fallacy in Program Evaluation

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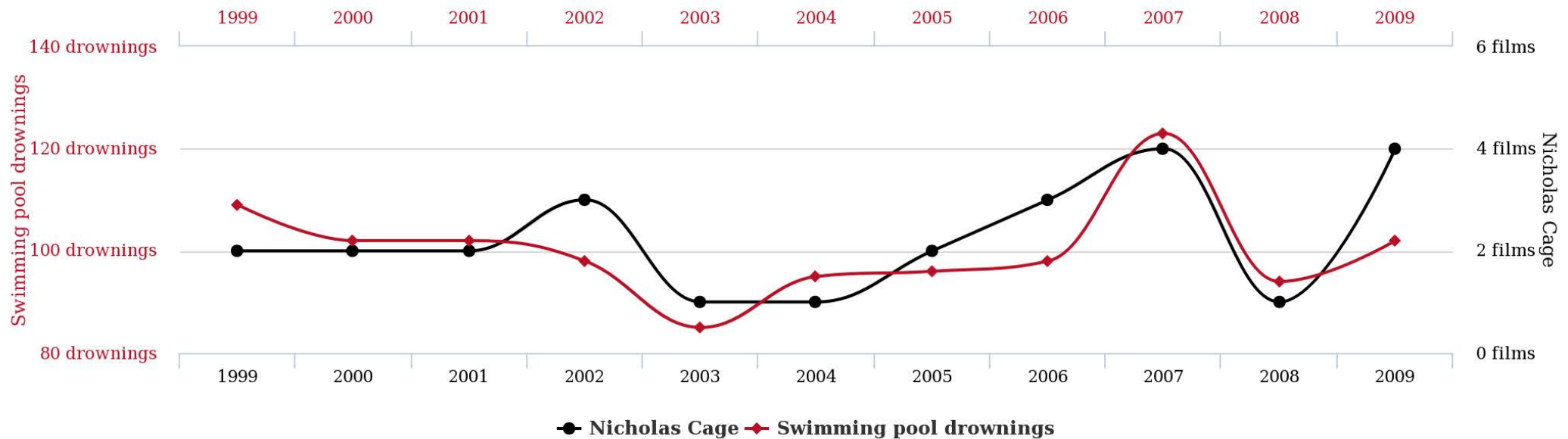
*Cum Hoc, Ergo Propter Hoc.*

*With this, therefore  
because of this.*



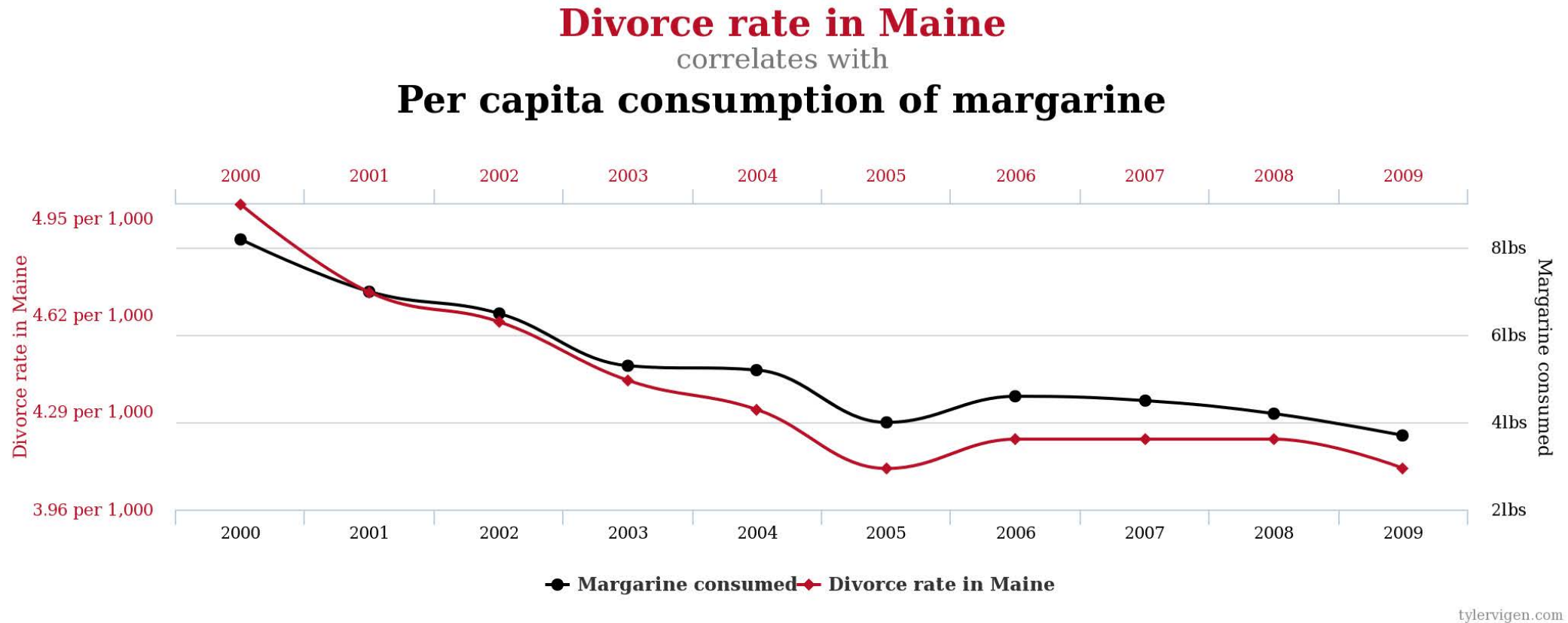
# Correlation Doesn't Imply Causation

**Number of people who drowned by falling into a pool**  
correlates with  
**Films Nicolas Cage appeared in**



tylervigen.com

# Correlation Doesn't Imply Causation



# Measuring “Immersion Effect”

## Regression

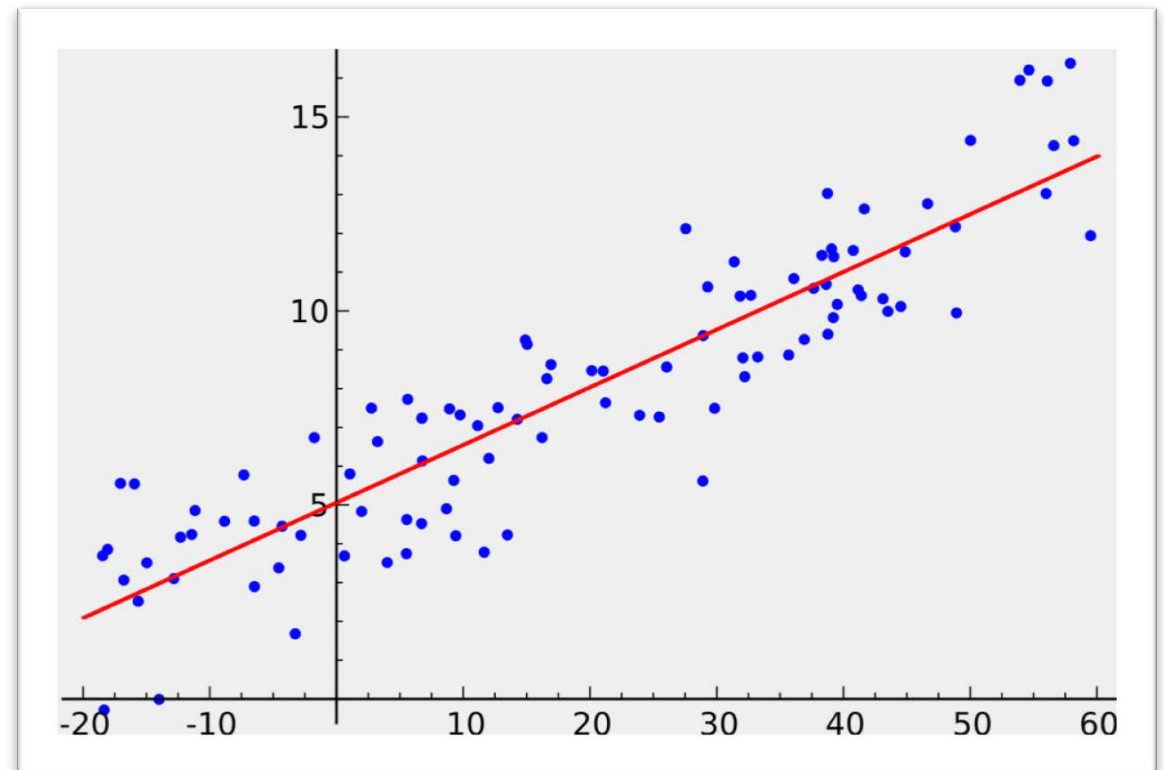
- Binary logistic regression (for predicting proficiency)
- Linear regression (for predicting growth)

## Predictors

- Student factors (gender, minority, low income, ELL, special ed., mobility, prior score)
- Enrollment factors (title I, teacher effect, immersion)

## Effect Size

- Regression coefficients (with confidence intervals) give an indication of how each of the predictors affects proficiency & growth





# Objective #2: Immersion Achievement

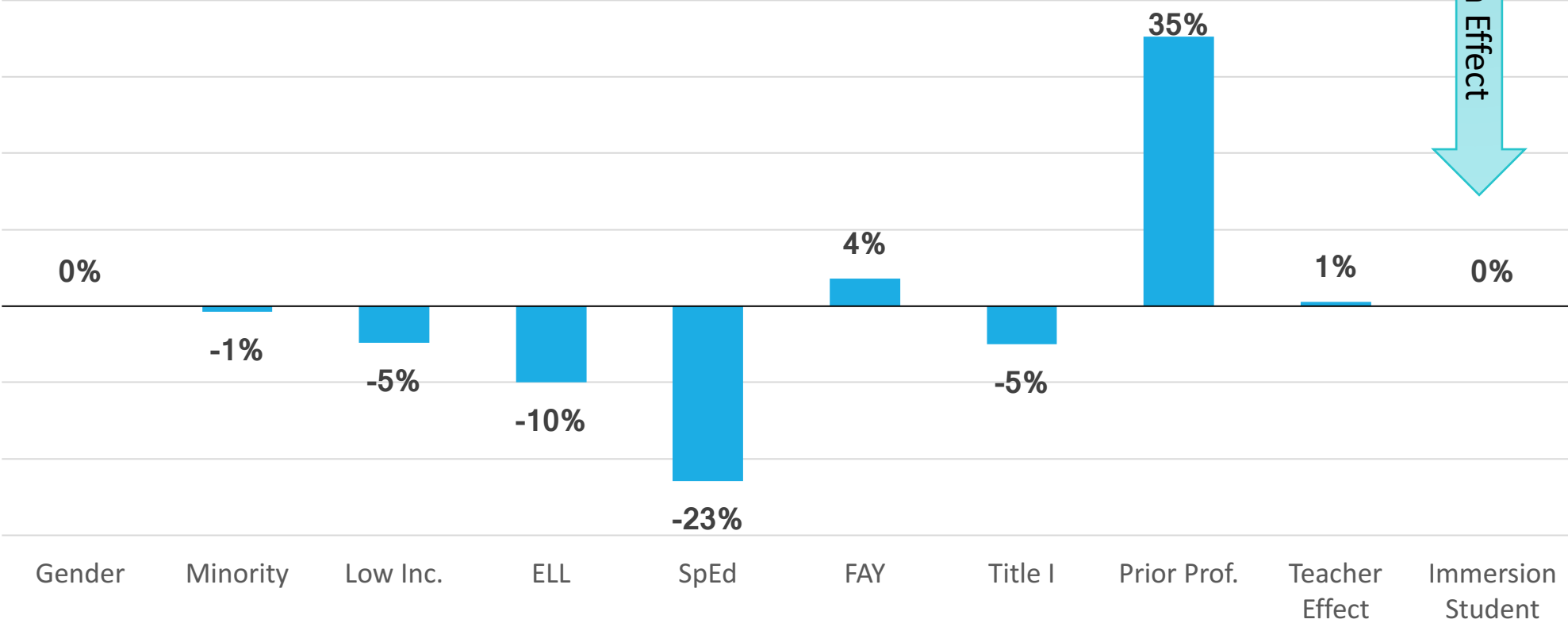
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Test	Proficiency	Growth
DIBELS	?	-
Lang. Arts CRT	?	-
Math CRT	?	-
Lang. Arts SAGE	?	?
Math SAGE	?	?
Science SAGE	?	?

Does participation in immersion have a neutral effect on a student's predicted proficiency and growth (no harm)?

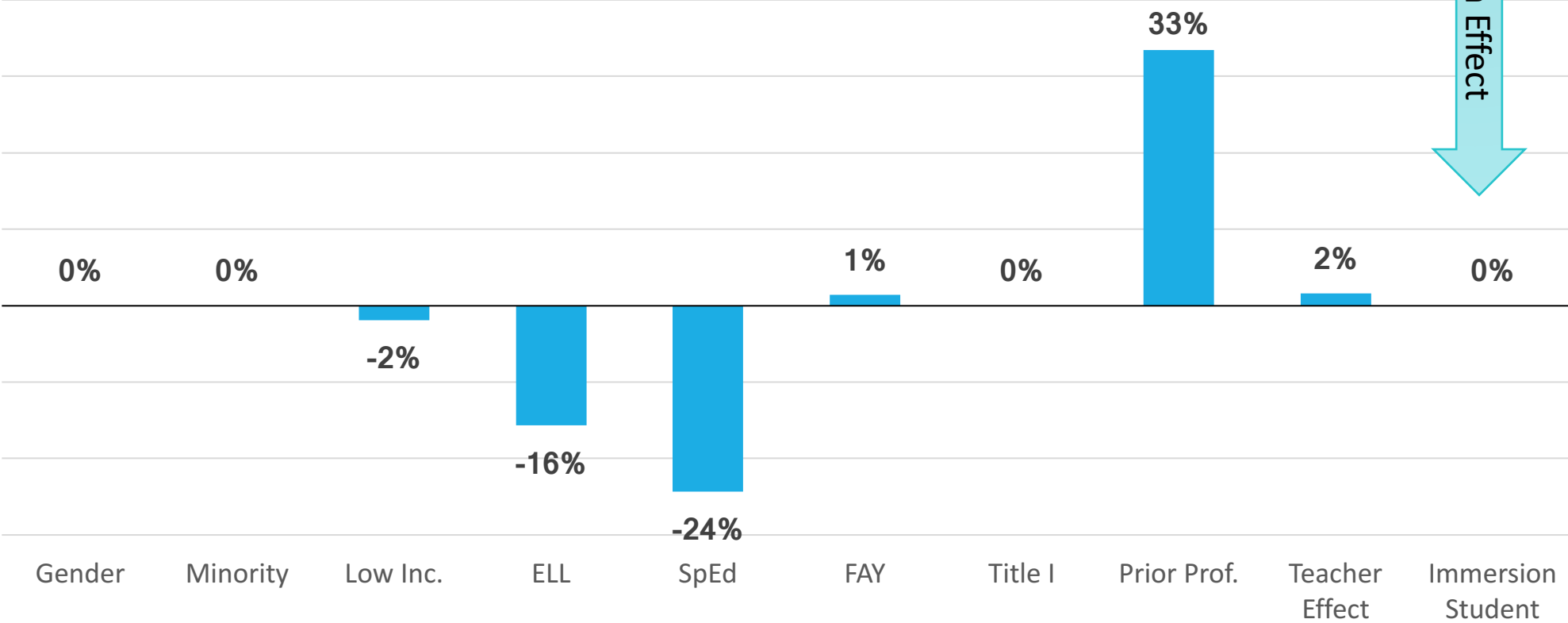
# Factors Influencing Proficiency Likelihood

DIBELS: Grades 1-3



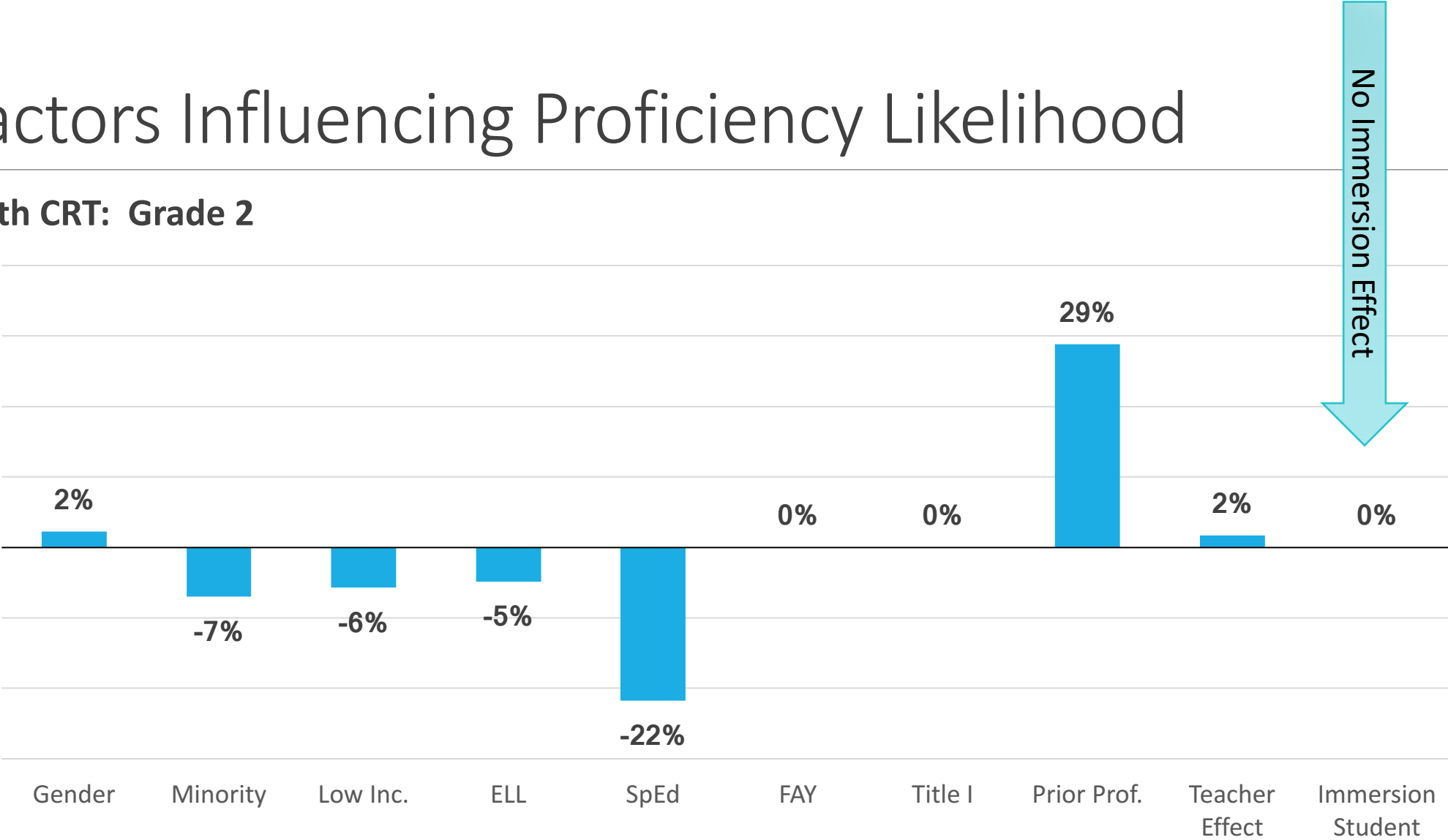
# Factors Influencing Proficiency Likelihood

## Language Arts CRT: Grade 2



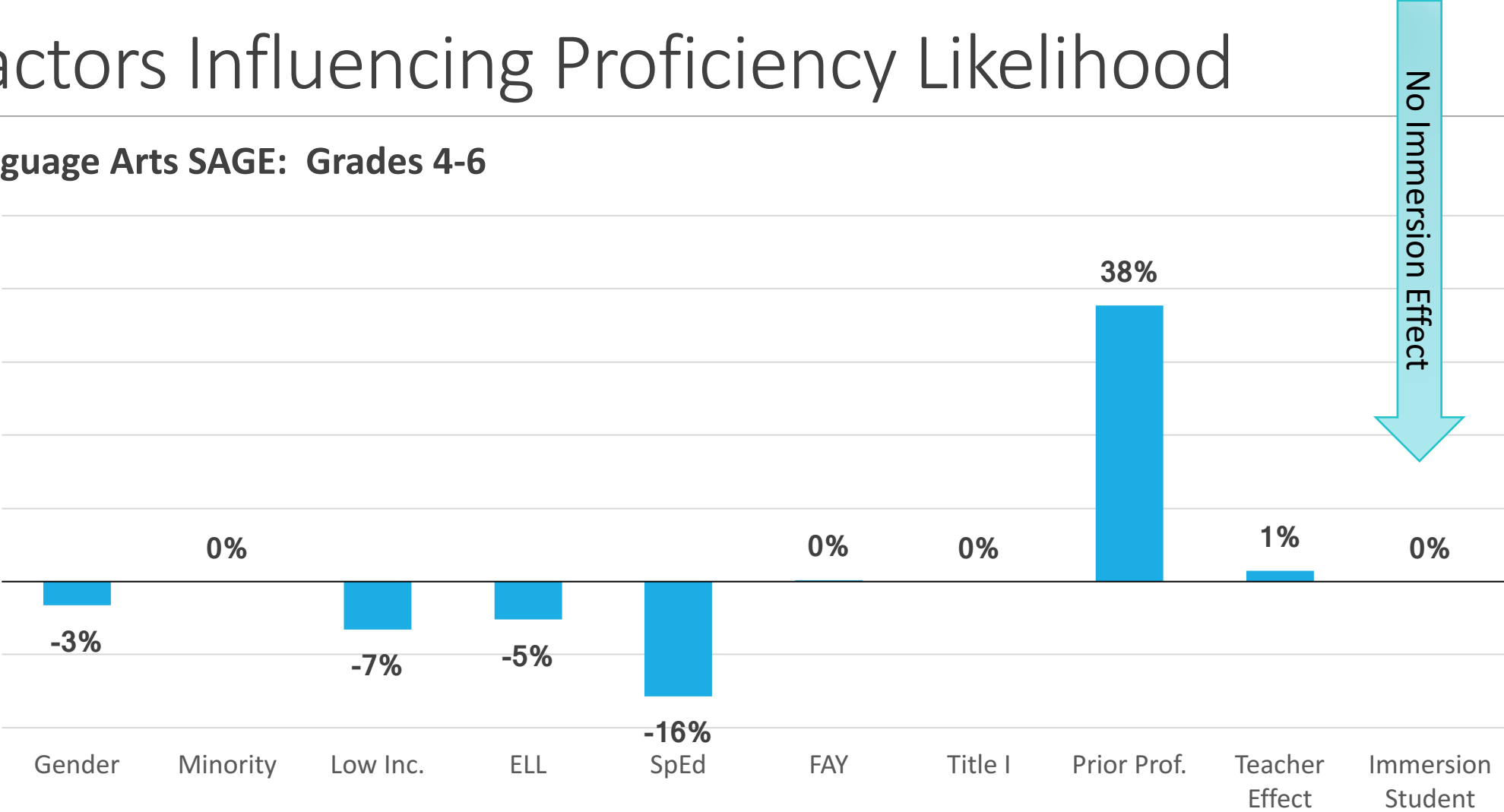
# Factors Influencing Proficiency Likelihood

## Math CRT: Grade 2



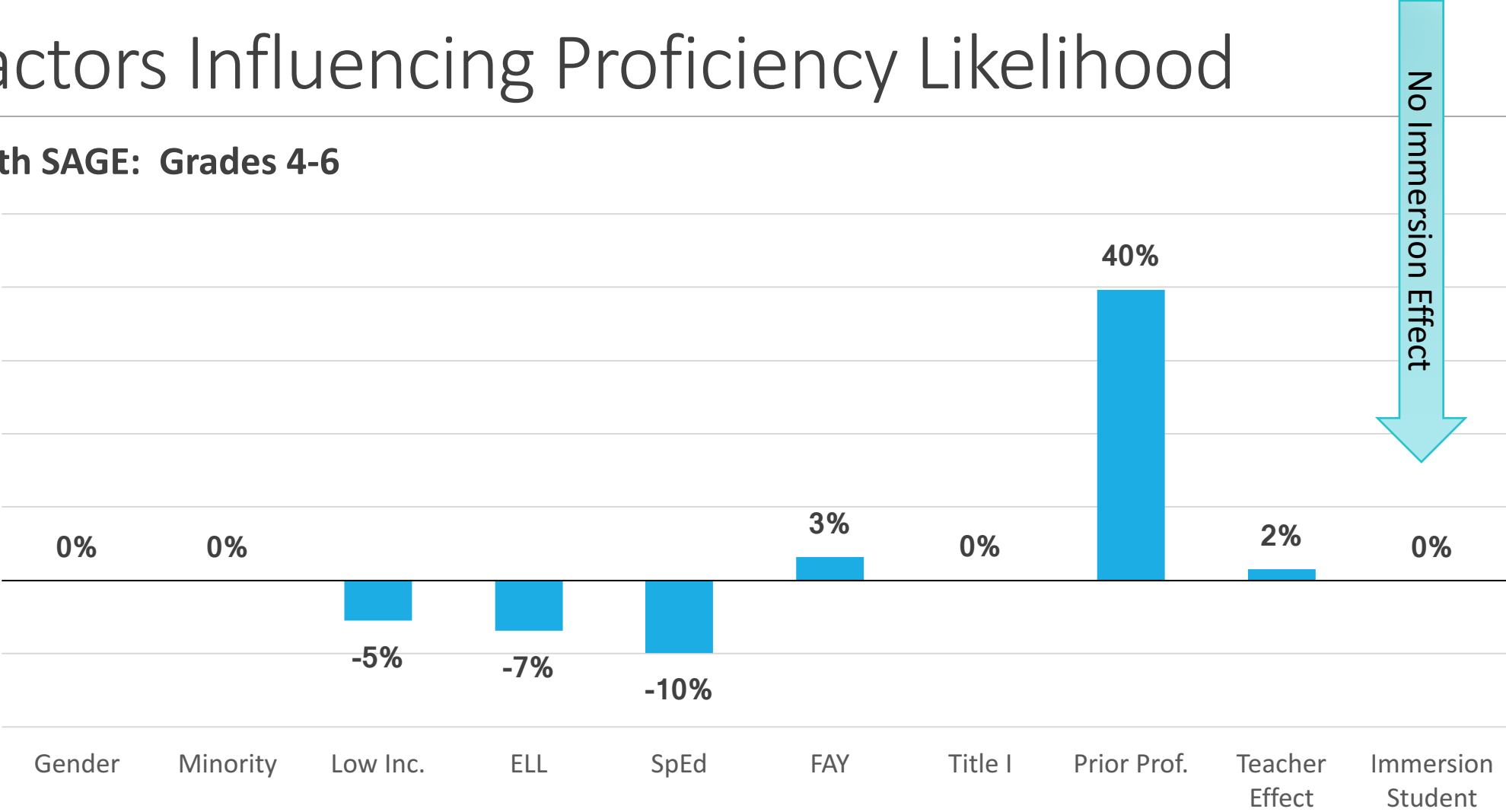
# Factors Influencing Proficiency Likelihood

Language Arts SAGE: Grades 4-6



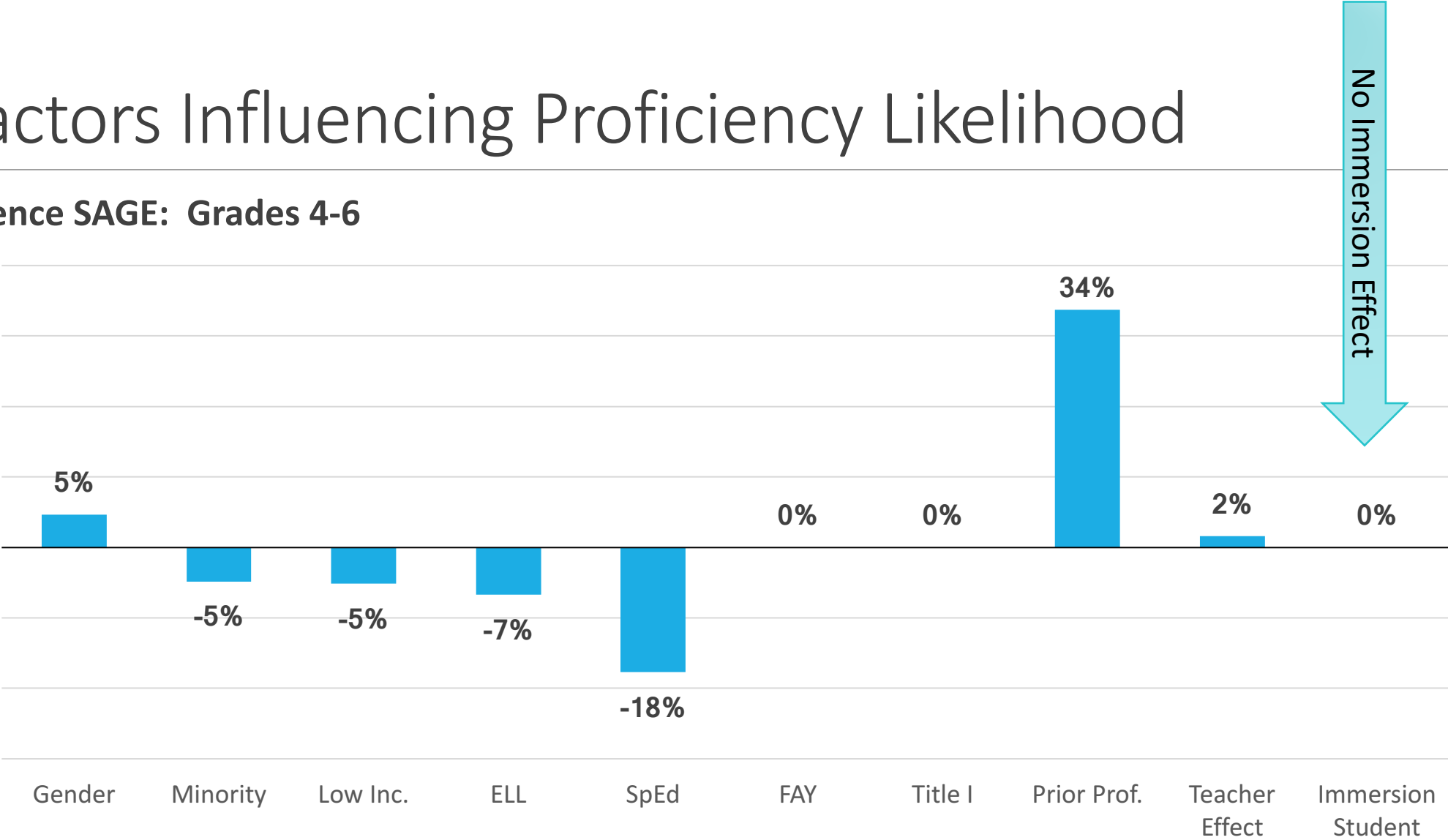
# Factors Influencing Proficiency Likelihood

Math SAGE: Grades 4-6



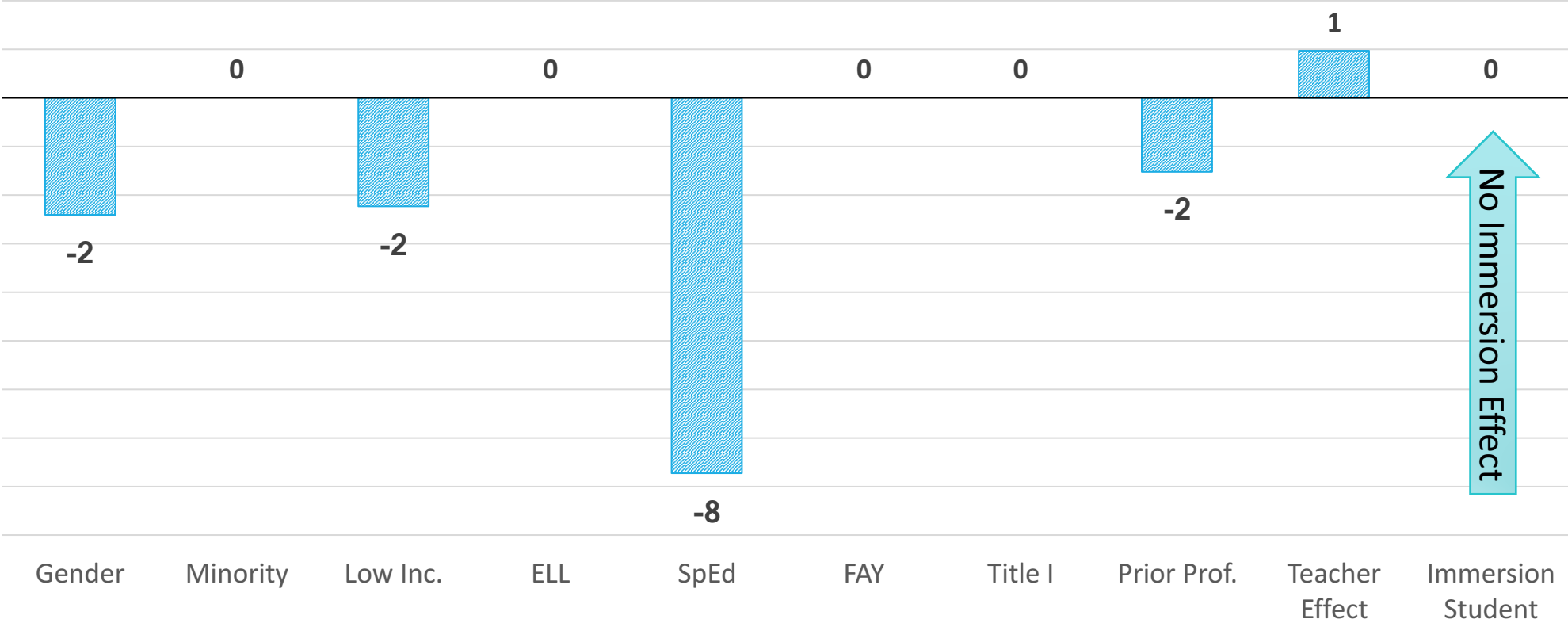
# Factors Influencing Proficiency Likelihood

Science SAGE: Grades 4-6



# Factors Influencing Academic Growth Percentile

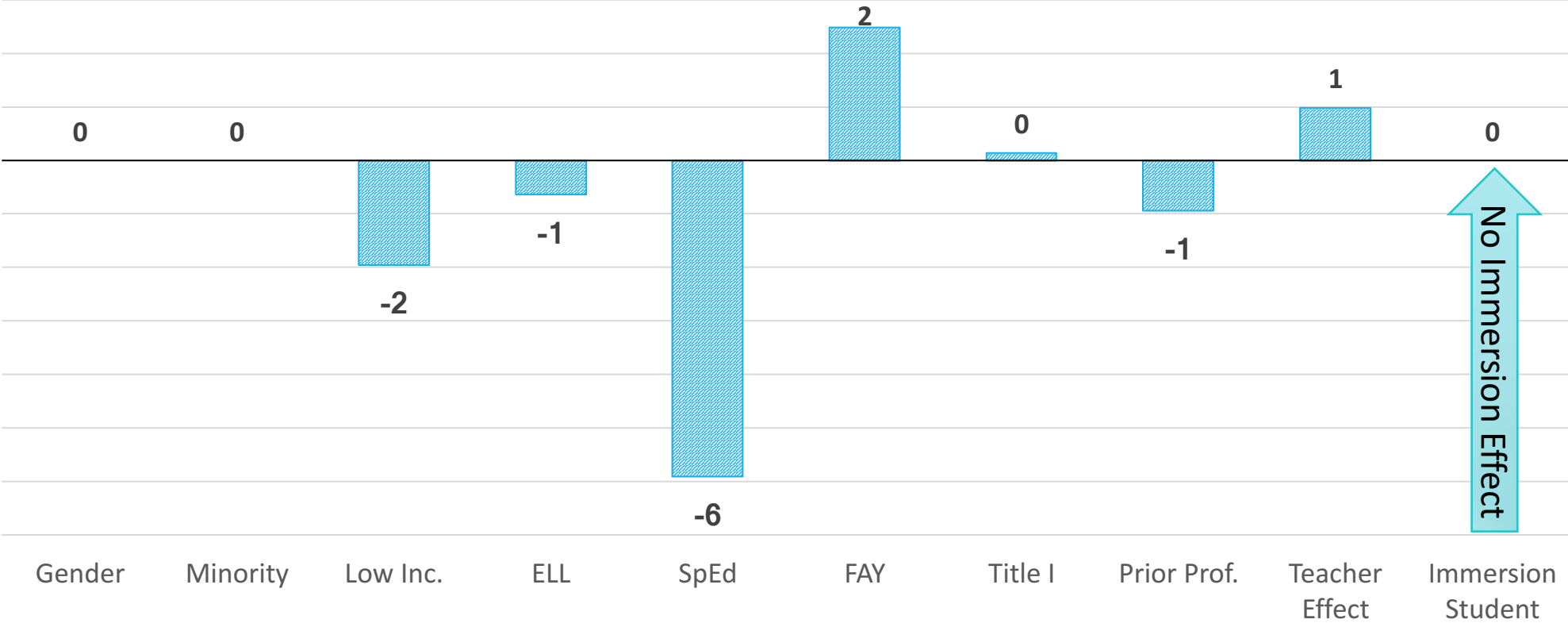
## Language Arts SAGE: Grades 4-6





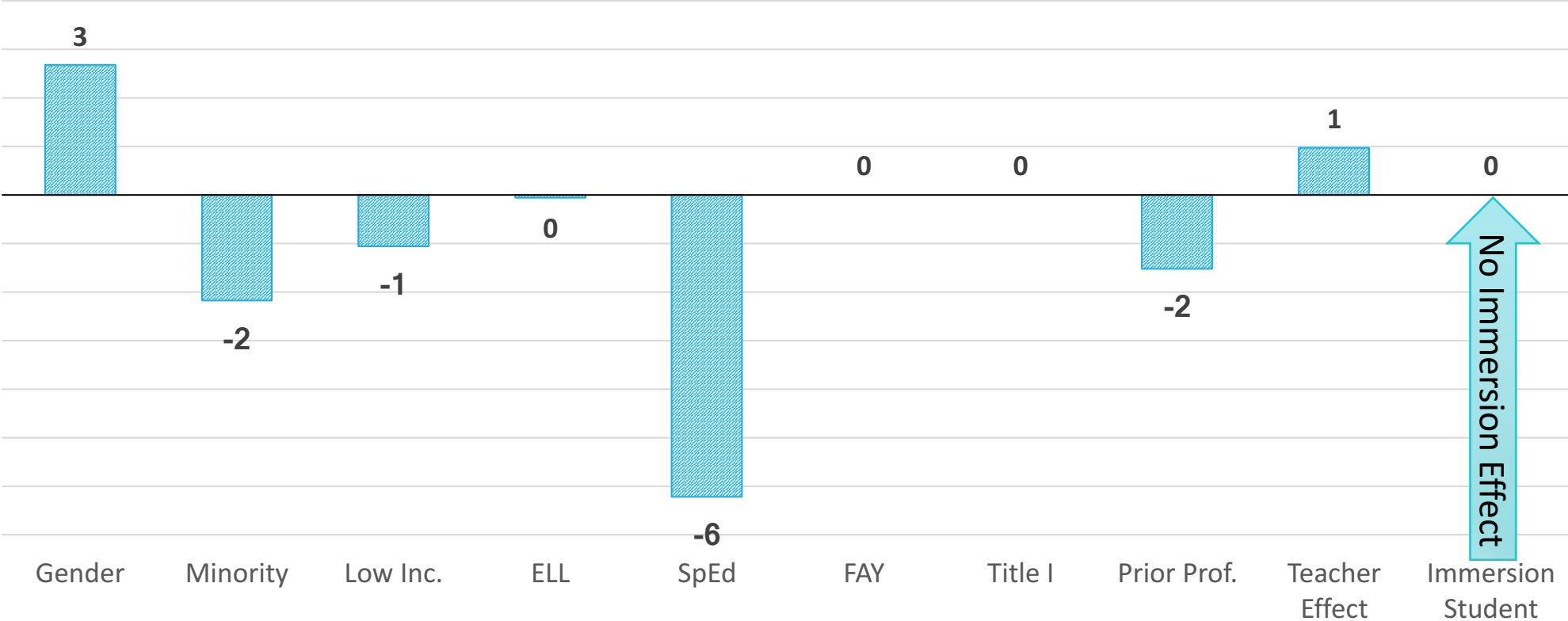
# Factors Influencing Academic Growth Percentile

## Math SAGE: Grades 4-6



# Factors Influencing Academic Growth Percentile

Science SAGE: Grades 4-6



# Objective #2: Immersion Achievement

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Test	Proficiency	Growth
DIBELS	✓	-
Lang. Arts CRT	✓	-
Math CRT	✓	-
Lang. Arts SAGE	✓	✓
Math SAGE	✓	✓
Science SAGE	✓	✓

Does participation in immersion have a neutral effect on a student's predicted proficiency and growth (no harm)?

# Objective #3: Non-Immersion Achievement

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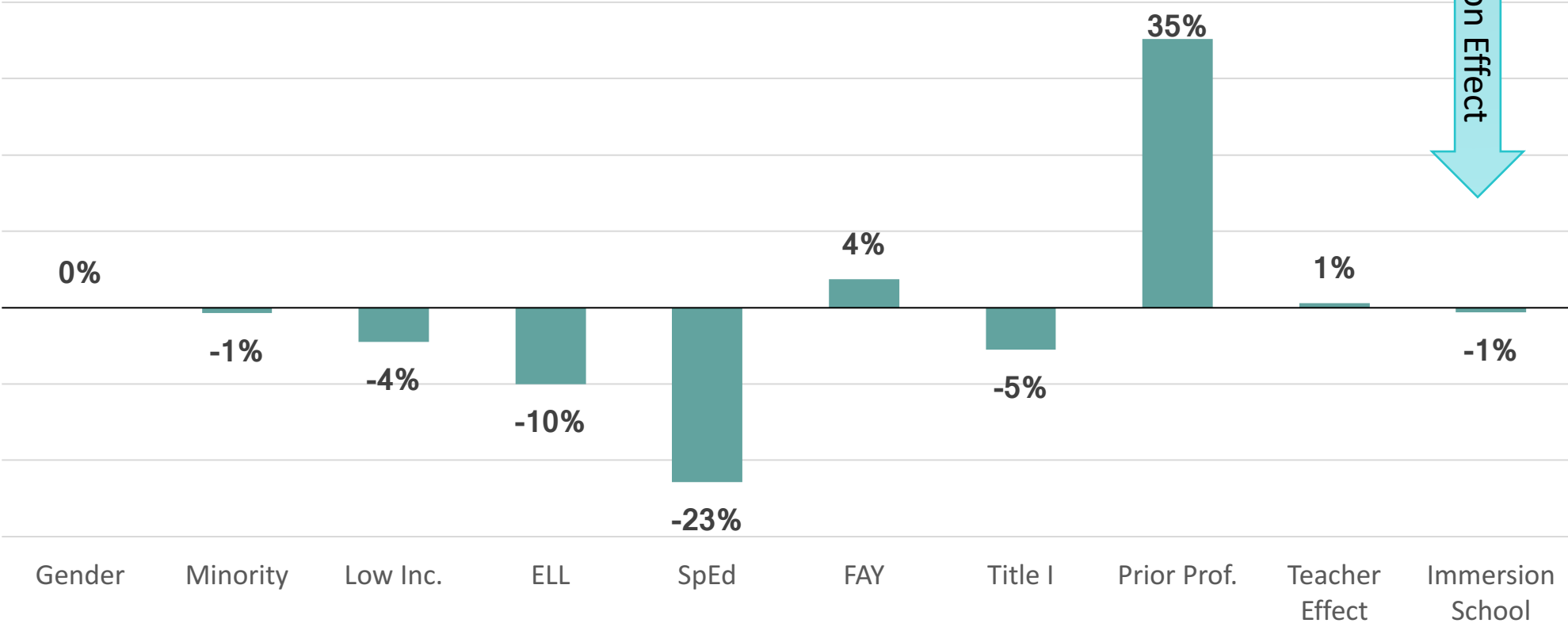
Test	Proficiency	Growth
DIBELS	?	-
Lang. Arts CRT	?	-
Math CRT	?	-
Lang. Arts SAGE	?	?
Math SAGE	?	?
Science SAGE	?	?

Does presence of an immersion program in the school have a neutral effect on a non-immersion student's predicted proficiency and growth (no harm)?

# Factors Influencing Proficiency Likelihood

Non-Immersion Students in Immersion Schools

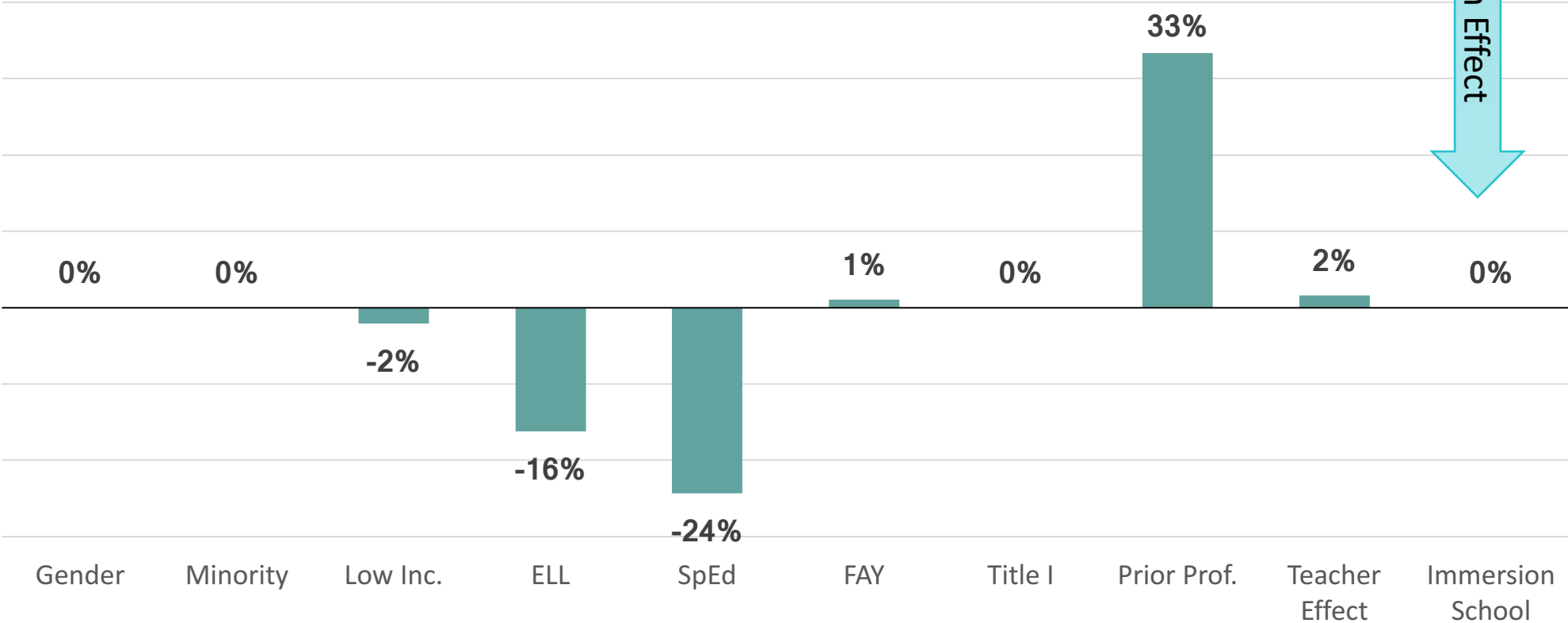
## DIBELS: Grades 1-3



# Factors Influencing Proficiency Likelihood

Non-Immersion Students in Immersion Schools

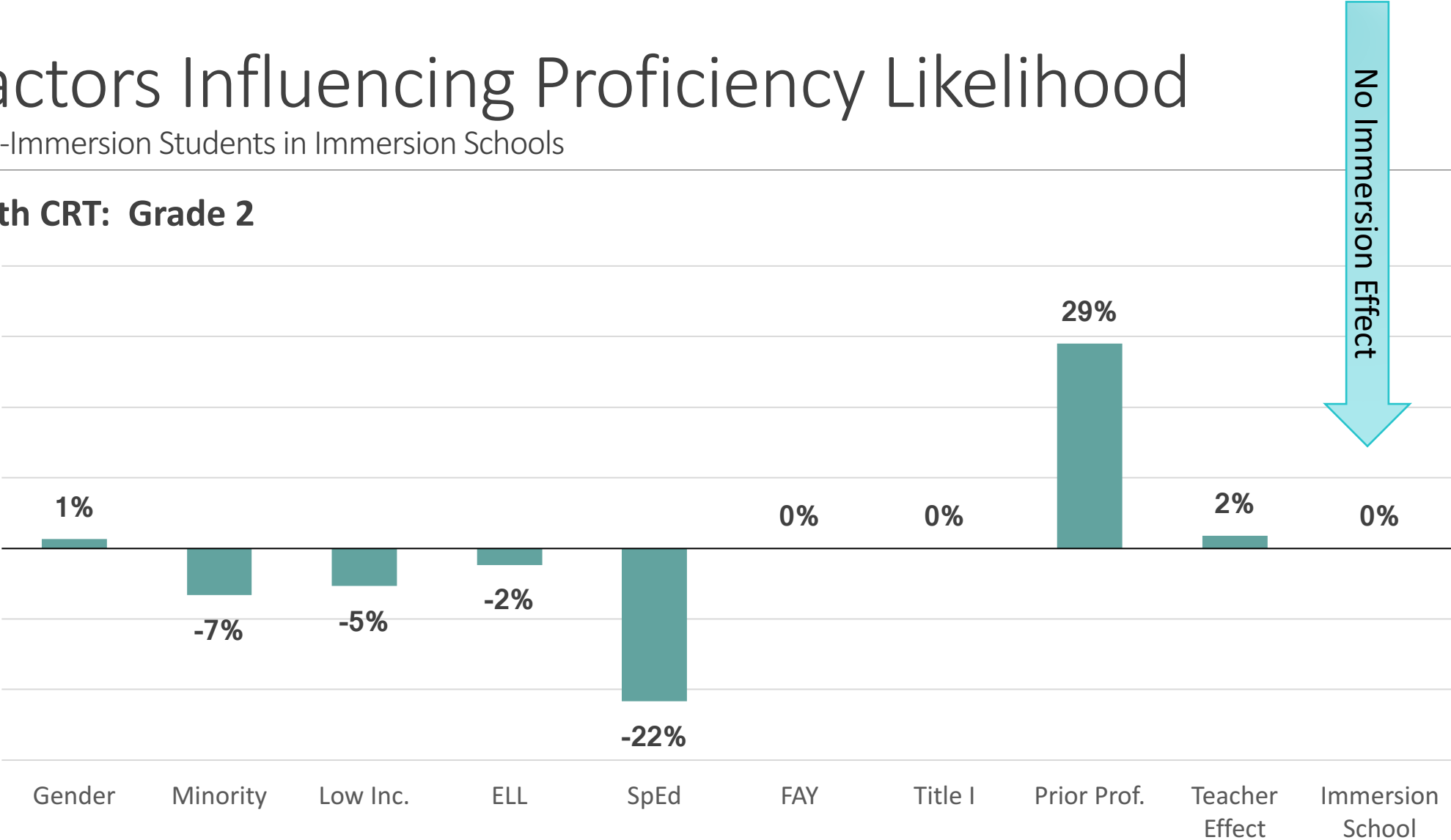
## Language Arts CRT: Grade 2



# Factors Influencing Proficiency Likelihood

Non-Immersion Students in Immersion Schools

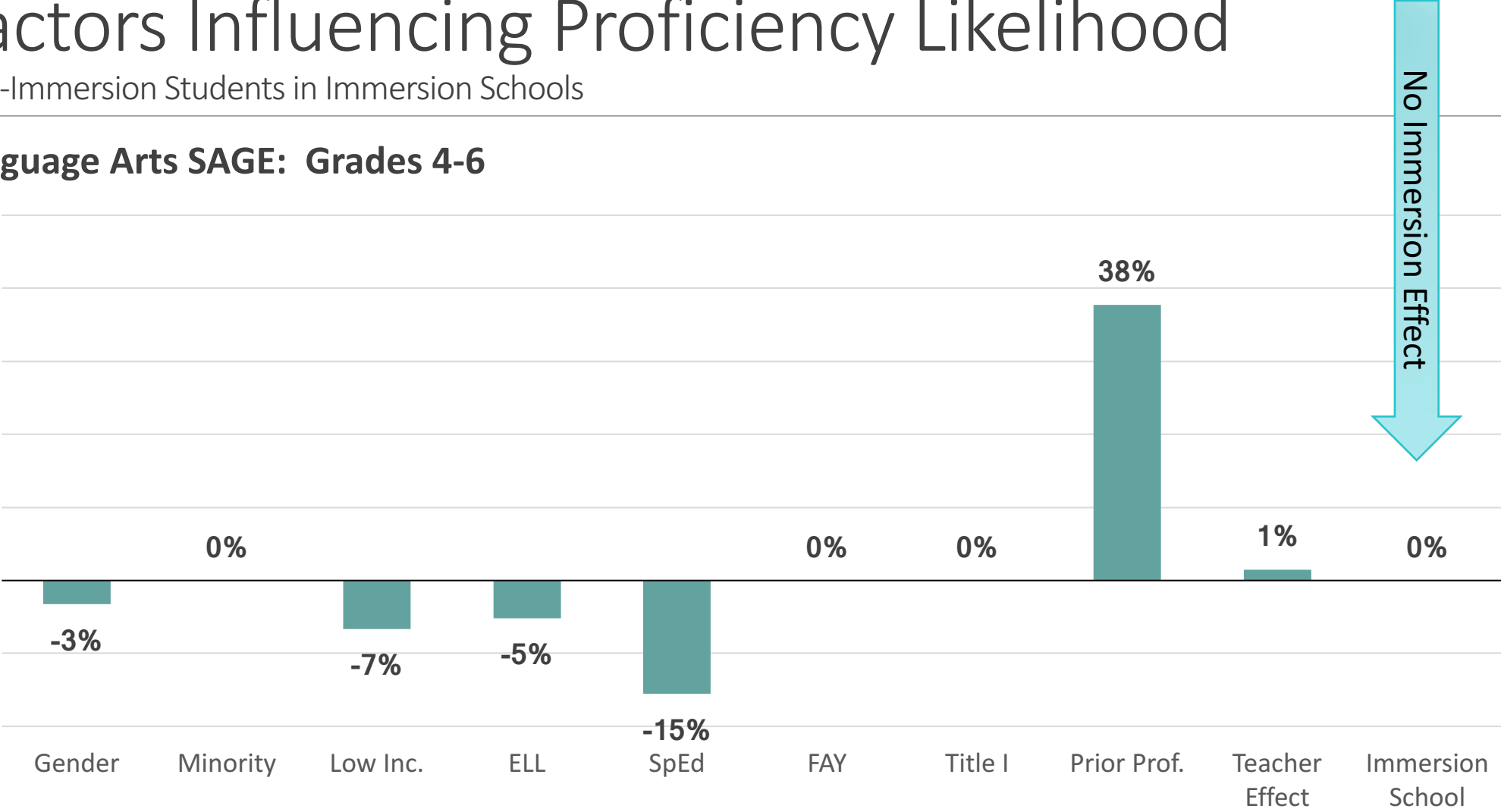
## Math CRT: Grade 2



# Factors Influencing Proficiency Likelihood

Non-Immersion Students in Immersion Schools

## Language Arts SAGE: Grades 4-6

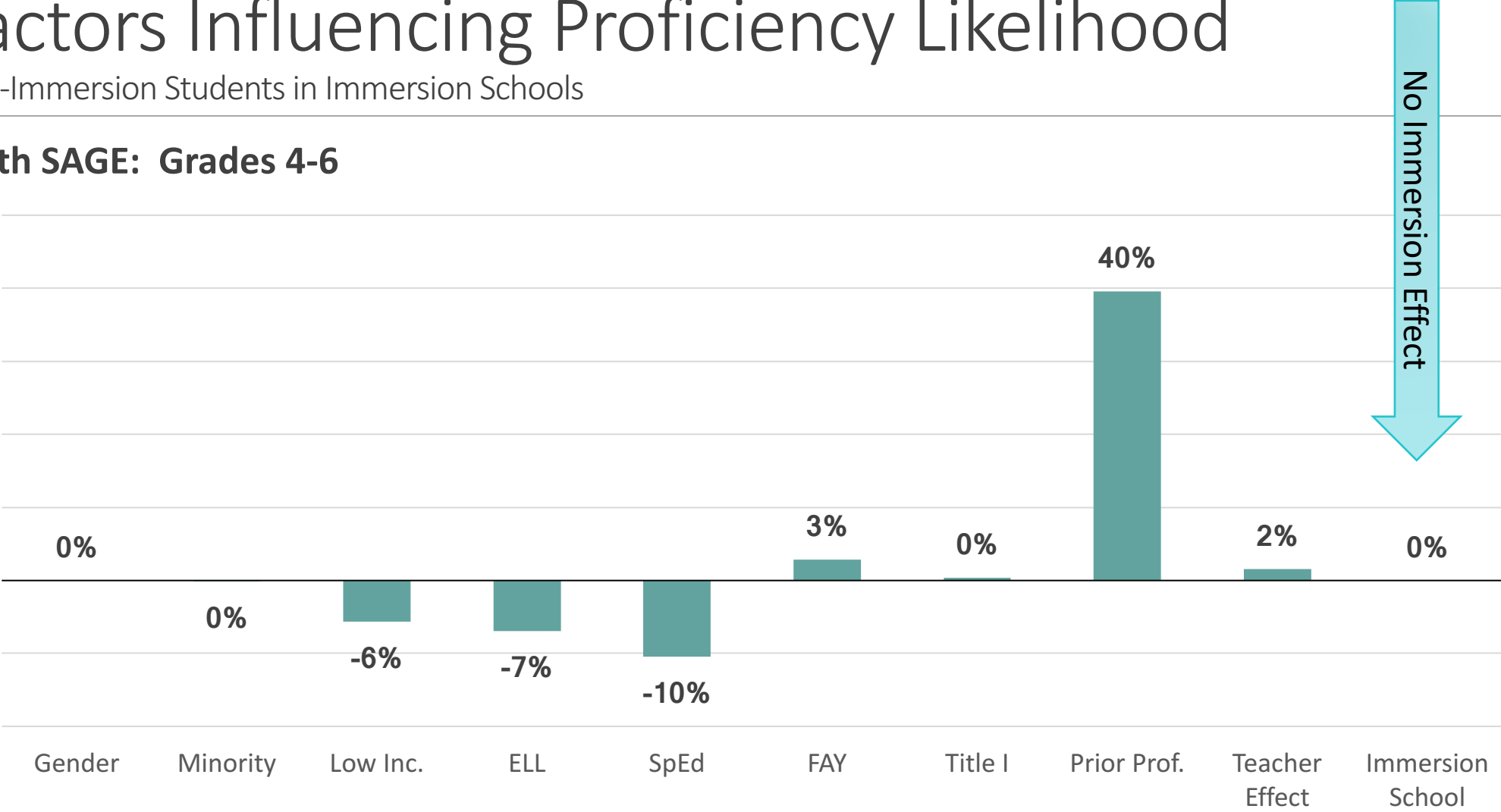




# Factors Influencing Proficiency Likelihood

Non-Immersion Students in Immersion Schools

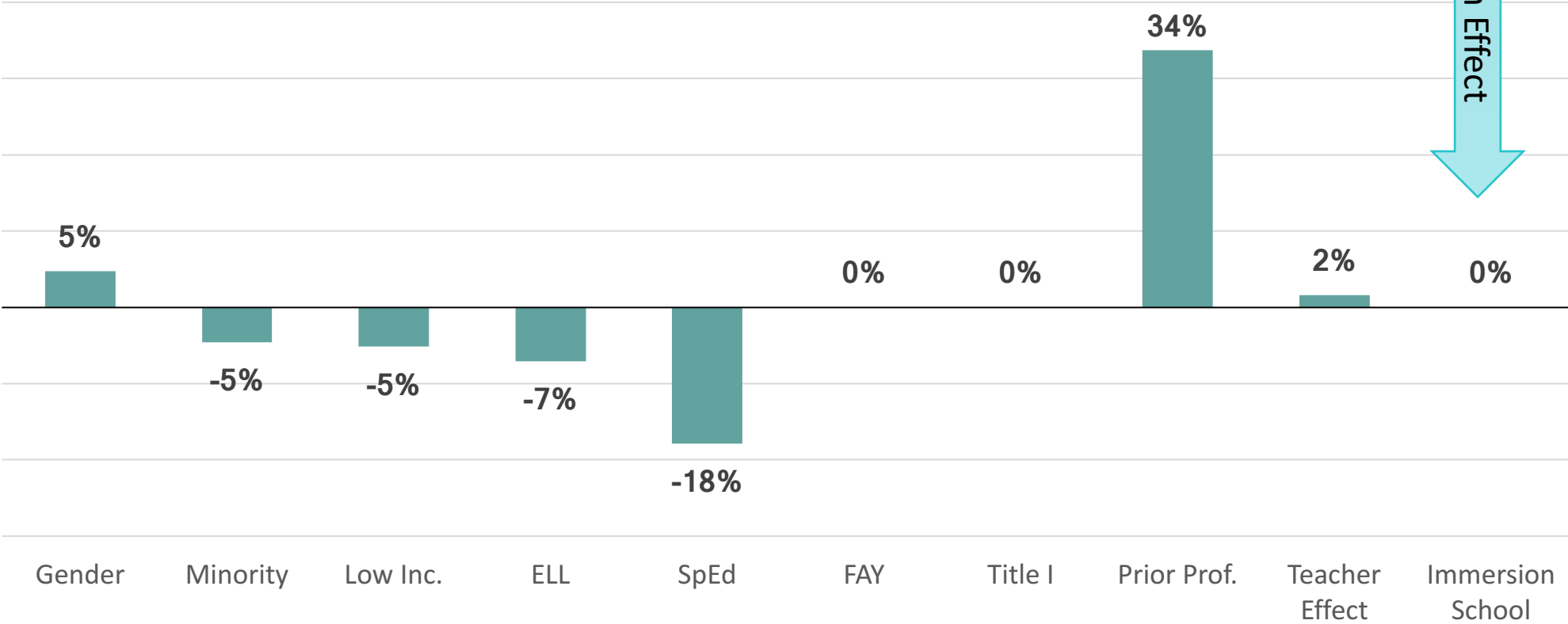
## Math SAGE: Grades 4-6



# Factors Influencing Proficiency Likelihood

Non-Immersion Students in Immersion Schools

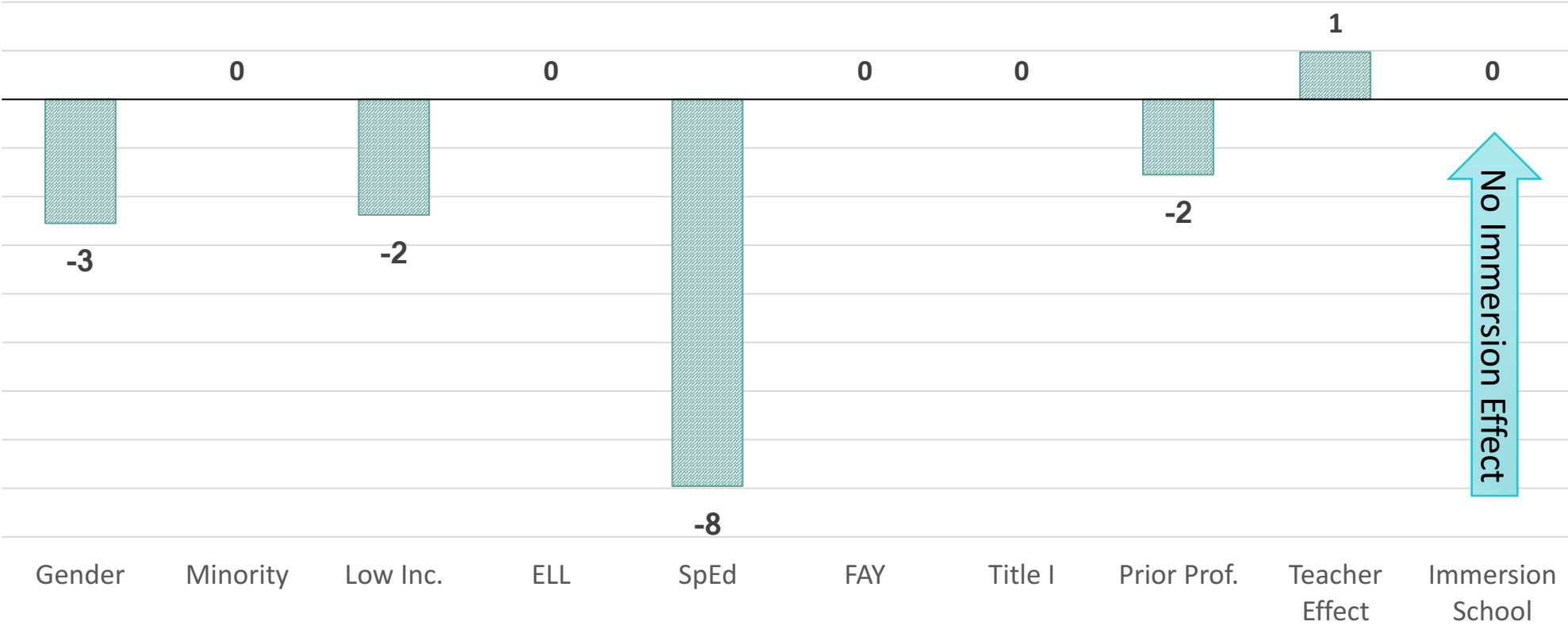
## Science SAGE: Grades 4-6



# Factors Influencing Academic Growth Percentile

Non-Immersion Students in Immersion Schools

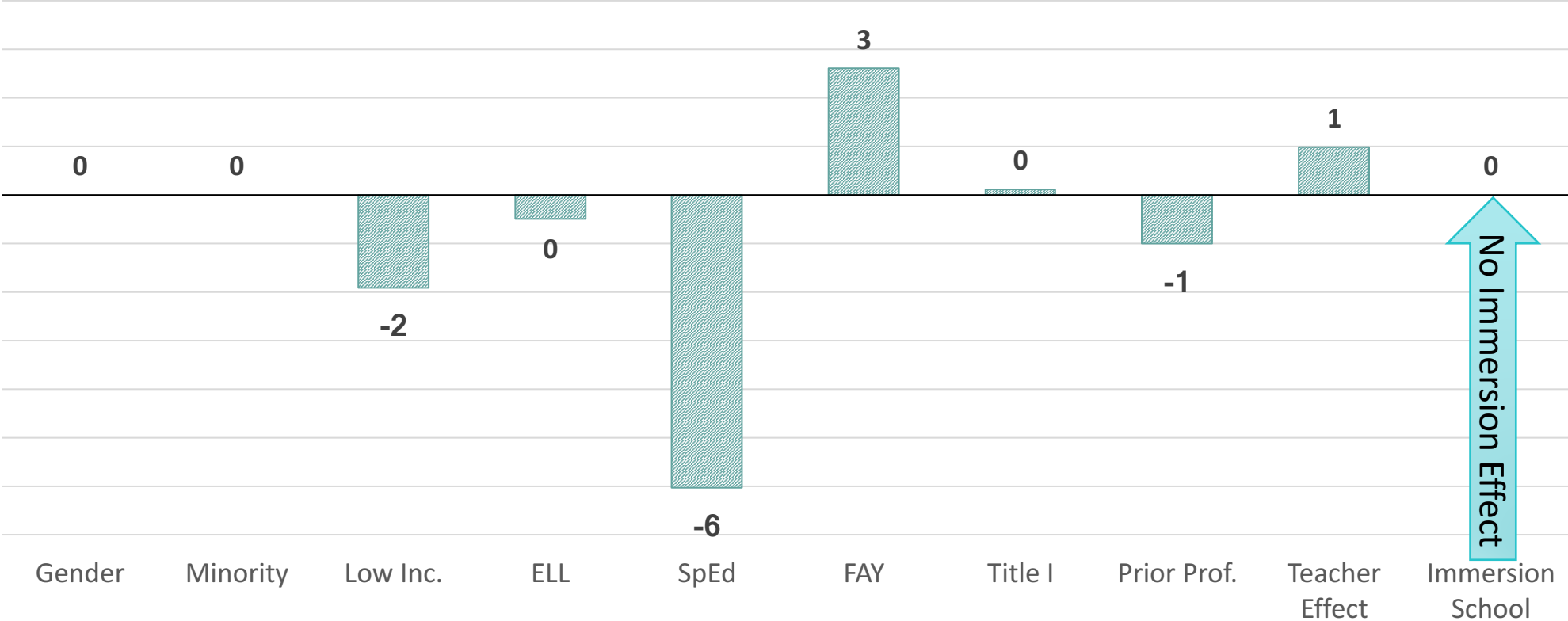
## Language Arts SAGE: Grades 4-6



# Factors Influencing Academic Growth Percentile

Non-Immersion Students in Immersion Schools

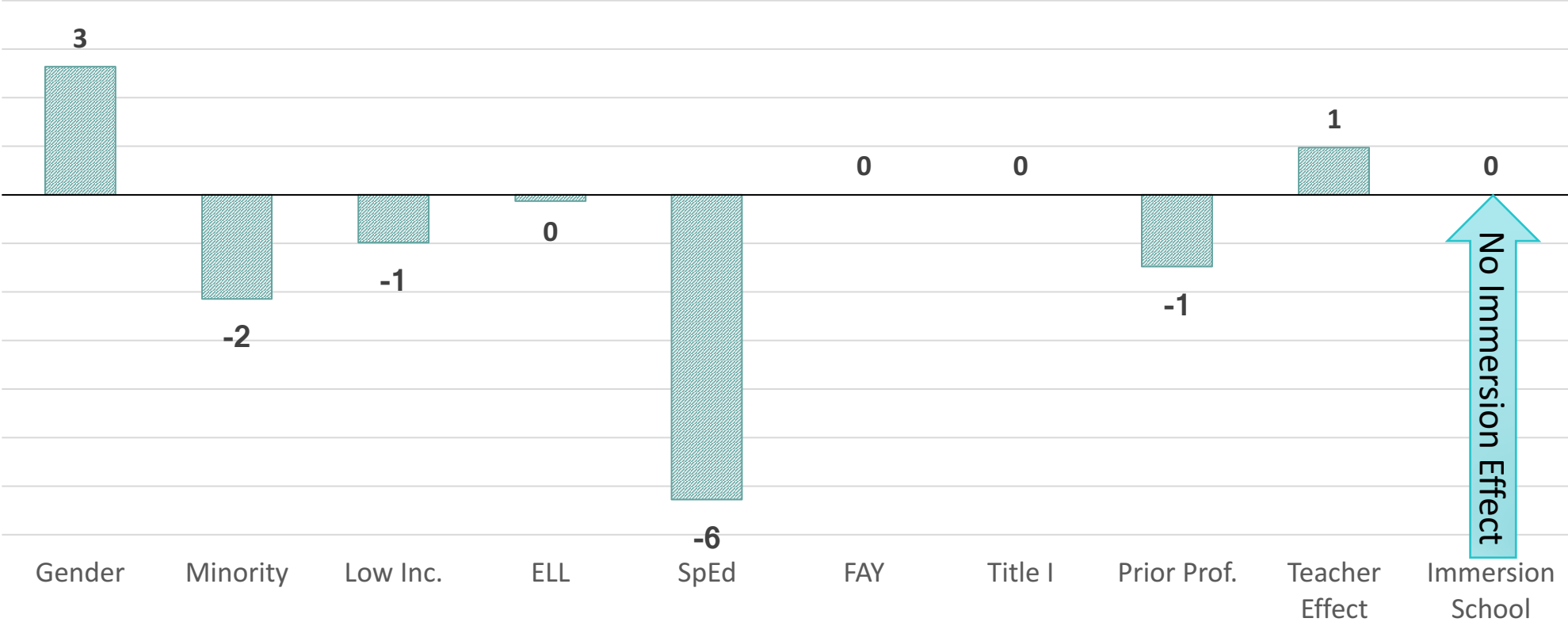
## Math SAGE: Grades 4-6



# Factors Influencing Academic Growth Percentile

Non-Immersion Students in Immersion Schools

## Science SAGE: Grades 4-6



# Objective #3: Non-Immersion Achievement

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Test	Proficiency	Growth
DIBELS	✓	-
Lang. Arts CRT	✓	-
Math CRT	✓	-
Lang. Arts SAGE	✓	✓
Math SAGE	✓	✓
Science SAGE	✓	✓

Does presence of an immersion program in the school have a neutral effect on a non-immersion student's predicted proficiency and growth (no harm)?

# Conclusion

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Davis School District's dual language immersion program is accomplishing the following three main objectives.

-  1. Language Acquisition
-  2. Retain academic achievement (immersion students)
-  3. Retain academic achievement (non-immersion students)

# Additional Information

## Executive Summary

## Appendices

**Dual Language Immersion**

**Program Evaluation – January 2017**  
Executive Summary

In Davis School District's dual immersion program, students receive core content instruction in a target language. The primary objective is to help students acquire language skills that eventually result in fluency. Schools with immersion programs continue to provide opportunities for academic achievement and growth to all students regardless of immersion participation. This evaluation seeks to determine whether objectives of the dual immersion program are being met in Davis School District.

World Languages  
Davis School District  
Assessment Department

**Language Acquisition**  
The target language

95% of Davis district immersion students met the standard for language acquisition for their grade level. This is highest among Utah's large school districts with immersion programs. Results are based on outcomes from the October 2016 AAPPL test administered statewide to students in grades 4-6. Conclusion: Students in Davis School District's immersion program successfully acquire the target language.

**Academic Achievement (Immersion)**  
Academic achievement levels while in immersion

Regression models designed to measure the effect of various predictors on academic outcomes show that participation in immersion does not affect student scores on end-of-level tests. Likewise, student growth (from year to year) is not affected by participation in immersion. These results were observed in all tested areas (reading, language arts, math, and science). Conclusion: Students enrolled in Davis School District's immersion program retain achievement levels.

**Academic Achievement (Non-Immersion)**  
Academic achievement levels with an immersion program in their school

Additional regression models show that having an immersion program in the school does not affect non-immersion student scores on end-of-level tests. Likewise, academic growth of non-immersion students (from year to year) is not affected by having an immersion program in the school. These results were observed in all tested areas (reading, language arts, math, and science). Conclusion: Non-immersion students in Davis School District's immersion schools retain achievement levels.

**Immersion Student Results: Proficiency**

Below are the results of the 2016 AAPPL test for students in the immersion program. The table below summarizes the results of the 2016 AAPPL test for students in the immersion program. The table below summarizes the results of the 2016 AAPPL test for students in the immersion program. The table below summarizes the results of the 2016 AAPPL test for students in the immersion program.

Grade	Standard Exceeded	Standard Exceeded (%)	Standard Exceeded (n)	Standard Exceeded (n)	Standard Exceeded (%)
4th Grade	1,840	1,820	1,830	1,830	99.5%
5th Grade	1,840	1,820	1,830	1,830	99.5%
6th Grade	1,840	1,820	1,830	1,830	99.5%
7th Grade	1,840	1,820	1,830	1,830	99.5%
8th Grade	1,840	1,820	1,830	1,830	99.5%
9th Grade	1,840	1,820	1,830	1,830	99.5%
10th Grade	1,840	1,820	1,830	1,830	99.5%
11th Grade	1,840	1,820	1,830	1,830	99.5%
12th Grade	1,840	1,820	1,830	1,830	99.5%

**Appendices**

This section contains detailed data tables for each grade level, including student counts, percentages, and regression analysis results. The tables provide a comprehensive overview of the program's performance across various metrics and grade levels.

Also available on Davis School District – Assessment Department Homepage under "Program Evaluations"  
<http://www.davis.k12.ut.us/Page/90859>