The Impact of Bilingual Education on English Language Acquisition Rates for English Language Learners, Including Exceptionalities

Dr. Jennifer Dixon
Statement on Labels and Acronyms

1. I believe that each student is a complex, unique individual who deserves an identity outside of labels placed upon him/her by the educational system.

2. In general, terms used in NCLB reporting are utilized (e.g. Hispanic vs. Latino), although the term English Language Learner is used in place of Limited English Proficient throughout.

3. For the purposes of this presentation, acronyms are used to provide a concise reference to a sub-group for the purposes of brevity.
Frequently-used Labels and Acronyms

**ELL** = English Language Learner
Refers to a student who does not speak English as his/her first language and has not yet acquired English proficiency

**ELL-D** = English Language Learner with Disabilities
Refers to an ELL who qualifies for Special Education services due to a disability. (Acronym borrowed from Abedi, 2009)

**ELL-T** = Talented and Gifted English Language Learner
Refers to an ELL who qualifies for TAG services due to giftedness

**ELL-AVG** = Average English Language Learner
Refers to an ELL who does not qualify for either Special Education services due to a disability or TAG programs due to giftedness.
Importance of the Study

• Rich research base on second language acquisition, but very little on acquisition timelines, particularly for Spanish-speaking ELLs in high poverty communities, ELLs who qualify for Talented and Gifted Programs and ELLs with Disabilities

• Changing Demographics in schools

• NCLB and English Language Learners

• Current Political Context Surrounding Bilingual Education
Context of the Study

- Woodburn, Oregon

City of Woodburn
58.9% Hispanic (2010)

State of Oregon
11.7% Hispanic (2010)
Context of the Study

• Woodburn School District
  • 75% of all Woodburn School District students are Hispanic, compared with around 20% statewide

• 40.9% of all students are currently classified as English Language Learners (down from more than 60% three years ago), compared with around 12% statewide. More than 80% are Spanish-speakers.

• Poverty rate ranges from 78-90% by school with 100% of all students receiving free breakfast and lunch
The New Normal

• So, while Woodburn is far from average in the state of Oregon, our English Language Learner population is representative for both the state of Oregon and the nation

• Hispanic students are the fastest growing subgroup in Oregon and nationally. Roughly 25% of all students entering kindergarten in the US are Hispanic.

• It is estimated that by 2020, 25% of all students in US Schools may be English Language Learners. Spanish-speaking students make up more than 76% of all ELLs in the state of Oregon and more than 80% nationally.

• About 66% of Hispanic children in Oregon schools and about 77% nationally receive free and reduced lunch.
Why Woodburn?

• Largest percentages of Hispanic students and English Language Learners in the state of Oregon. WSD’s ELL subgroup is representative of the changing demographics in US schools

• Established Bilingual and English Immersion programs with ESOL supports (13+ years for Bilingual Program)

• During the study years all schools offered both Bilingual programs and English Immersion programs

• High percentages of bilingual teachers and staff

• Welcome Center processes all incoming students, completing home language surveys and language proficiency testing before students enter schools
Why Woodburn?

Woodburn is getting results with English Language Learners!

WSD keeps pace with the state in reading at elementary

* When broken down to 3rd and 5th grade results, the state exhibits a dramatic drop in the percentage of ELLs meeting in reading – from 61% in 3rd grade to 39% in 5th grade
Why Woodburn?

Woodburn is getting results with English Language Learners! WSD outperforms the state in reading for ELLs at middle school.
Why Woodburn?

Woodburn is getting results with English Language Learners! WSD outperforms the state in reading for ELLs at high school.
Why Woodburn?

Woodburn is getting results with English Language Learners!

WSD keep pace with the state in math for ELLs at elementary
Woodburn is getting results with English Language Learners! WSD outperforms the state in math for ELLs at middle school
Why Woodburn?

Woodburn is getting results with English Language Learners! WSD outperforms the state in math for ELLs at high school.

High School Results
Limited English Proficient Subgroup

Students Passing (%)


- WSD HS LEP
- OR HS LEP
Why Woodburn?

Woodburn is getting results with English Language Learners!

Class of 2012 – first graduating class in Oregon required to demonstrate proficiency in reading to earn a diploma

Percentage of ELLs in the class of 2012 demonstrating proficiency prior to the senior year:
State of Oregon = 23%    WSD = 51%

Percentage of WSD seniors who met the reading proficiency requirement in order to graduate in 2012: 99.1%
The Incredible Shrinking AMAOs

AMAO 1 assesses schools based on the percentage of English Languages Learners who progress at least one level in English Language Proficiency (e.g. Beginner to Early Intermediate or Early Advanced to Advanced).

• AMAO 1:
  • Original target for 2009-2010 = 65%
  • Actual statewide results for 2009-2010 = 49.5%
  • New Target (retroactively set) = 50%
  • Original target for 2010-2011 = 75%
  • New Target = 53%
The Incredible Shrinking AMAOs

AMAO 2 focuses on a particular sub-population – “long-term” English Language Learners – those who have been in the US education system for five or more years. AMAO 2 assesses schools based on the percentage of these long-term ELLs who are reclassified as English proficient.

• AMAO 2:
  • Original target for 2009-2010 = 70%
  • Actual statewide results for 2009-2010 = 26.7%
  • New Target (retroactively set) = 22%
  • Original target for 2010-2011 = 70%
  • New Target = 24%
Research Questions

1. What is the rate at which Spanish-speaking, Hispanic English Language Learners acquire English and reach English language proficiency?

2. Are Spanish-speaking, Hispanic English Language Learners over- or under-identified for Special Education and/or Talented and Gifted programs?

3. What effect, if any, does a disability or giftedness have on the rate of English language acquisition and the attainment of English language proficiency for Spanish-speaking, Hispanic English Language Learners?
Research Questions

4. What effect, if any, does native language instruction through bilingual programs have on the rate of English language acquisition for Spanish-speaking, Hispanic English Language Learners?

5. If there is an effect due to program type (bilingual or English Immersion), does it differ for gifted or disabled English language learners versus non-special needs students?
Observational Study Using Hypothesis Testing

- Comparing groups based on classification and program enrollment

- Looking for differences
  - $H_0 = \text{There is no difference}$
  - $H_a = \text{There is a difference}$

- Significance Levels* – 90% threshold, but all reported via p-values to allow reader to make determination

* significance level (as a %) = \((1.00 - p) \times 100\%\)
  (e.g. if $p = 0.15$, then it is an 85% significance level)
Statistical Analyses

Chi-square analysis
- *hypothesis testing for data with discrete distributions, especially binomial data (e.g. TAG or not TAG), determining patterns or similarities of distributions between expected rates or values and observed rates or values*

Contingency Table Analysis
- *special chi-square analysis for data with 2 or more criteria, determining whether the classifications were independent of each other*
Statistical Analyses

Relative Frequency Distributions –
- graphic representation for comparison of distribution shapes when sub-population sizes vary and observation of distribution differences even when
  1. one-way chi-square analyses fail to demonstrate differences
  2. frequency table numbers are insufficient to complete individual-level chi-square analysis

z-test (n>30) and t-test (n<30) –
- tests for analysis of multiple values (e.g. years to English language proficiency), determining statistically significant differences between programs or subgroups
<table>
<thead>
<tr>
<th>Information Breakdown on Eligible ELLs</th>
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<tbody>
<tr>
<td>3460 Eligible ELLs (current and former)</td>
<td>150 Graduated Not Yet Proficient</td>
</tr>
<tr>
<td>2149 Not English Proficient (69 ELL-Ts)</td>
<td>384 Exited the District Prior to Graduation Not Yet Proficient</td>
</tr>
<tr>
<td>(403 ELL-Ds)</td>
<td></td>
</tr>
<tr>
<td>225 Graduated English Proficient</td>
<td>1615 Still Enrolled in 2009-2010</td>
</tr>
<tr>
<td>1042 Still Enrolled in 2009-2010</td>
<td>43 Exited the District Prior to Graduation English Proficient</td>
</tr>
</tbody>
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**Total Students:** 8422

- **Current or Former ELLs:** 5404
- **Entered in K-2:** 4264
- **L1 = Spanish:** 3460

**Entered in K-2:** 5404

**3460 Eligible ELLs (current and former):**

- **1311 Reclassified English Proficient (212 ELL-Ts) (70 ELL-Ds):**
- **225 Graduated English Proficient:**
- **1615 Still Enrolled in 2009-2010:**
- **150 Graduated Not Yet Proficient:**
- **43 Exited the District Prior to Graduation English Proficient:**
- **384 Exited the District Prior to Graduation Not Yet Proficient:**
- **1042 Still Enrolled in 2009-2010:**
Research Question 1: What is the rate at which Spanish-speaking ELLs acquire English and reach English proficiency?

Mean = 7.1277 with a standard deviation of 2.6436

Median = 7.000
Research Question 2:
Are Spanish-speaking ELLs over- or under-identified for SpEd and/or TAG programs?

- No statistically significant differences in identification rates for Special Education for Spanish-speaking ELLs or non-Spanish-speaking ELLs

- There ARE statistically significant differences in identification rates for Talented and Gifted Programs. Identification rates for Spanish-speaking ELLs (8.12%) are significantly lower than either English Only/Fluent English (17.17%) or non-Spanish-speaking ELLs (17.89%)
Research Question 3:
What effect, if any, does a disability or giftedness have on the rate of English language acquisition and the attainment of English proficiency for Spanish-speaking ELLs?

One Way Chi-square → no statistically significant differences among the groups (ELL-AVG, ELL-T, ELL-D)

Contingency Table Analysis → statistically significant differences among the groups @ > 99.99% significance level

z- test → statistically significant difference between ELL-AVG and ELL-D @ > 99.99% significance level

z- test → statistically significant difference between ELL-AVG and ELL-T @ > 99.99% significance level
Mean = 7.35 years

Mean = 5.42 years

Mean = 8.93 years

Relative Frequency Histogram - Years to English Proficiency for ELL-AVGs

Relative Frequency Histogram - Years to English Proficiency for ELL-Ts

Relative Frequency Histogram - Years to English Proficiency for ELL-Ds
Research Question 4:
What effect, if any, does native language instruction through Bilingual education programs have on the rate of English language acquisition and the attainment of English proficiency for Spanish-speaking ELLs?

Comparison Groups:
ELLs in English Immersion & ELLs in Bilingual Programs

One Way Chi-square → no statistically significant difference between groups rates

Contingency Table Analysis → statistically significant differences between group rates @ > 99.99% significance level

z-test → statistically significant difference between groups rates @ > 99.99% significance level
Research Question 5:
If there is an effect due to program type (Bilingual versus English Immersion), does it differ for ELL-Ds or ELL-Ts compared with ELL-AVGs (students without exceptionalities)?

Comparison Groups:
ELL-AVGs in English Immersion & ELL-AVGs in Bilingual Programs

One Way Chi-square ➔ no statistically significant difference between groups rates

Contingency Table Analysis ➔ statistically significant differences between group rates @ > 99.99% significance level

z- test ➔ statistically significant difference between groups rates @ > 99.99% significance level
Relative Frequency Histogram - Years to English Proficiency for ELL-AVGs in English Immersion Programs

Mean = 7.18 years

Relative Frequency Histogram - Years to English Proficiency for ELL-AVGs in Bilingual Programs

Mean = 8.139 years
Research Question 5: If there is an effect due to program type (Bilingual versus English Immersion), does it differ for ELL-Ds or ELL-Ts compared with ELL-AVGs (students without exceptionalities)?

Comparison Groups: ELL-Ts in English Immersion & ELL-Ts in Bilingual Programs

One Way Chi-square $\rightarrow$ no statistically significant difference between groups rates

Contingency Table Analysis $\rightarrow$ INSUFFICIENT CELL NUMBERS

z- test $\rightarrow$ no statistically significant difference between groups rates
Relative Frequency Histogram - Years to English Proficiency for ELL-Ts in English Immersion Programs

Mean = 5.463 years

Relative Frequency Histogram - Years to English Proficiency for ELL-Ts in Bilingual Programs

Mean = 5.128 years
Research Question 5:
If there is an effect due to program type (Bilingual versus English Immersion), does it differ for ELL-Ds or ELL-Ts compared with ELL-AVGs (students without exceptionalities)?

Comparison Groups:
ELL-Ds in English Immersion & ELL-Ds in Bilingual Programs

One Way Chi-square → no statistically significant difference between groups rates

Contingency Table Analysis → INSUFFICIENT CELL NUMBERS

z-test → no statistically significant difference between groups rates
Relative Frequency Histogram - Years to English Proficiency for ELL-Ds in English Immersion Programs

Mean = 8.833 years

Relative Frequency Histogram - Years to English Proficiency for ELL-Ds in Bilingual Programs

Mean = 9.167 years
Research Question 5:
If there is an effect due to program type (Bilingual versus English Immersion), does it differ for ELL-Ds or TAG ELLs compared with average students?

Comparison Groups:
ELL-Ds with Specific Learning Disability in English Immersion & in Bilingual Programs

One Way Chi-square ➔ no statistically significant difference between groups rates

Contingency Table Analysis ➔ INSUFFICIENT CELL NUMBERS

z-test ➔ statistically significant difference between groups rates at nearly 98% significance level
Relative Frequency Histogram - Years to English Proficiency for ELL-Ds with specific learning disabilities in Bilingual Programs

Mean = 9.189 years

Relative Frequency Histogram - Years to English Proficiency for ELL-Ds with specific learning disabilities in English Immersion Programs

Mean = 10.731 years
Emerging Questions… Gap Kids

During analysis, a special sub-group emerged – students who are/were in a bilingual program but who were pulled out from 1 – 3 years into a sheltered English Immersion program prior to reaching English language proficiency.

All reclassified students in the bilingual program

Years in ESOL Program

Number of Reclassified Students

Mean = 6.956 years
Emerging Question:
Is there an impact on English language acquisition rates for Spanish-speaking ELLs among those moved from a Bilingual program into an English Immersion program prior to reaching English language proficiency?

Comparison Groups:

ELLs in Bilingual Programs with and without a gap in Bilingual program

One Way Chi-square \rightarrow \text{no statistically significant difference between groups rates}

Contingency Table Analysis \rightarrow \text{INSUFFICIENT CELL NUMBERS}

z\text{- test} \rightarrow \text{statistically significant difference between groups rates at } > 99.99\% \text{ significance level}
Emerging Questions... Gap Kids

Bilingual Program students with no known gaps in program:

Mean = 6.604 years

Bilingual Program students with known gaps in program:

Mean = 10.56 years

Mean for students in English Immersion programs = 7.933
**Conclusions**

- The choice of analysis tool is key in determining statistically significant findings by which to analyze program effectiveness.

- With 72% of all ELLs taking longer than five years to acquire English language proficiency, the NCLB requirement should be reconsidered.

- ELL-Ts acquire English more quickly than ELL-AVGs who acquire English more quickly than ELL-Ds.

- In general, ELLs in Bilingual Programs acquire English proficiency more quickly than ELLs in English Immersion programs.

- Continuity of the bilingual education model through middle school is essential for English Language Learners.
Recommendations

- NCLB AMAO guidelines need to be revised
  - five years is too short, even as an average target
  - acquiring English language proficiency is complex
  - range of time required is broad

- NCLB guidelines for measuring schools’ success with ELLs needs to be revised

- Support Bilingual Education programs

- More research is needed on timelines for acquisition, with particular attention paid to Hispanic ELLs

- Further quantitative studies on English language acquisition and the impact of bilingual education
Future Research Directions

- Comparison of One-way and Two-way Bilingual program results

- Study of English acquisition rates for students who enter after 3rd grade

- Exploration of the impact of other factors on English language acquisition rates

- Similar research in different contexts to broaden our understanding of second language acquisition timelines