MMAP Analysis for AB 705 Advisory Subcommittee: Overview and Summary
Outline

• Introduction
• Student Flow in the ESL Sequence
• The Importance of Ed Goal
• ESL Student Typology
  – High School Students
  – International Students
  – Other ESL Students
Introduction: English Language Learners, English Language Pathways, and AB 705

- The goal of the ESL analysis was to present a clear picture of the ESL population and understand how AB 705 would impact these students. Specifically, these analyses are targeted at understanding how to maximize the probability that degree and transfer-seeking students will complete transfer-level English composition within three years, if on the ESL pathways, or within one year, if one the mainstream English pathway.
When English language learners enter community college, they are generally free to select to enter an ESL sequence or a mainstream English course sequence. Thus, the population of interest are not just those students who entered the ESL path but also those students who *might* have entered the ESL path, but instead entered the mainstream English path.
AB 705 applies specifically to ESL students who are degree/transfer-seeking. MMAP research has shown that throughput is much higher for degree/transfer seeking ESL students, confirming that recorded Ed Goals are, in fact, aligned with students’ behavior and intended outcomes. Colleges can use Ed Goal (or similar) to identify which ESL students AB 705 applies to, i.e., those who are degree- and/or transfer-seeking.
Student Flow in the ESL Sequence
Visualizing Student Flow with Sankey Diagrams

- Sankey diagrams are ideal for displaying flow or movement.
- Represent complex processes visually.
- Width of lines are proportional to overall quantity represented in the diagram.
- Powerful conversation starters.
Sankey Diagram Objectives

• To better understand the relationship between starting ESL level and students’ pathways and progress through the ESL and English sequences, including attrition and throughput.

• To visualize how ESL students moved through ESL and English course sequences in the California Community College system prior to AB 705.

• To identify sequence structures that increase the likelihood ESL students who start the English Language Arts (ELA) pathway in credit ESL will successfully complete transfer level English (TLE/TLEE) within three-years.
Sankey Diagram Methodology

- Enrollments and outcomes were tracked for three years/six semesters for six cohorts of students.
  - Outcomes for students who start the ESL/English sequence in Summer/Fall 2013 were tracked through Spring 2016.
    - Students who started in the Summer were combined into one cohort with students who started in the Fall.
  - Winter/Spring 2016 students were tracked through Fall 2018.
    - Students who started in the Winter were combined into one cohort with students who started in the Spring.
  - Enrollments were tracked anywhere in the CCC system (e.g., students could start at one college and finish at another and it would be captured as a completion).
  - Highest sequence enrollment defined as credit ESL or English sequence course closest to Transfer Level English (TLE) or Transfer Level English Equivalent (TLEE).
Degree-seeking students who started the ESL/English sequence in credit (CR) ESL at a CCC between Summer/Fall 2013 and Spring 2016 disaggregated by starting level

- Six levels below: 4,714
- Five levels below: 5,405
- Four levels below: 8,326
- Three levels below: 13,502
- Two levels below: 12,180
- One level below: 11,434
- TLEE: 382

[Bar chart showing the headcount starting at each level]
Tips for Using ESL Sankey Diagrams

• Sankey diagrams can be found on MMAP website under ESL Resources / Student Pathways from Credit ESL to TLE or TLEE: https://rpgroup.org/Our-Projects/All-Projects/Multiple-Measures/Resources

• These interactive diagrams provide a visual display of degree-seeking ESL students moving through the ESL and English sequence.

• Follow the flow of students from left to right to track ESL students from starting level through six terms.

• The width of the line represents the volume of students. **Focus on high volume pathways**.

• Hover the cursor over a line to see the weight or number of students moving from one point to another.

• Note: A small number of students start the ESL/English sequence in a summer/winter term and complete a level higher than starting level in the following primary fall or spring term (Term1)
Three Year Outcomes Reported on ESL Sankey Diagrams

- **Three-year TLEE Throughput Rate** = percent of starting population who successfully complete Transfer Level English (TLE) or Transfer Level English Equivalent (TLEE) ESL within three years.

- **Enrolled ESL or English sequence** = percent of starting population who have not successfully completed TLE or TLEE and are still enrolled in ESL or English sequence courses at the end of three academic years.

- **Not Enrolled in ESL or English sequence** = percent of starting population who have not successfully completed TLE or TLEE and are no longer enrolled in the ESL or English sequence courses at the end of three academic years, i.e., attrition.
Summary of Sankey Diagram Analysis

Attrition from ESL at Three Years by Starting Level

- 68% 6 levels below
- 65% 5 levels below
- 61% 4 levels below
- 53% 3 levels below
- 44% 2 levels below
- 40% 1 level below
- 6% TLEE

Attrition at three years
Degree-Seeking Students Starting in Credit ESL
Four Levels Below Transfer Level Fall 2013 - Spring 2016

- Year 1 Throughput Rate = <1%, Attrition Rate = 28%
- Year 2 Throughput Rate = 8.6%, Attrition Rate = 50%
- Year 3 Throughput Rate = 23%, Attrition Rate = 61%

Still enrolled in ESL/English sequence = 16%

N = 8,326
Summary

• Within three years, over half of ESL students who started at more than three levels below transfer-level English were no longer enrolled in the sequence and had not completed transfer-level English.

• Students beginning in Transfer-level English Equivalent ESL courses had dramatically lower attrition (6%) and higher throughput (94%) within three years compared to all other groups.

• This descriptive analysis did not control for Ed Goals or other student characteristics.
The Importance of Ed Goal
ELL/ESL Throughput Data File Description

- 92 cohorts of students tracked forward for up to three years (aka, throughput cohorts)
  - 555,625 noncredit students
  - 328,403 credit students
- Focal sample time period 2004 through 2018
- Further disaggregated by student type and/or degree/transfer-seeking status
**TLC Throughput by Credit/Noncredit and Student Ed Goal**

AB 705 only applies to ESL students who are degree/transfer-seeking. Throughput is highest for degree/transfer-seeking credit ESL students – indicating that Ed Goal is aligned with their intended outcomes. Colleges can use Ed Goal (or similar data) to identify those ESL students to which AB 705 applies (i.e., degree and transfer seeking students).
ESL Typology
Degree/Transfer-Seeking ESL Student Types That Are Affected by AB 705

1. English Language Learner (ELL) U.S. High School Graduates
2. International Students (IS)
3. Other ESL students who are degree/transfer seeking

37% of ESL students fall into one of these three student types

For more on AB 705 go to: https://assessment.cccco.edu/ab-705-implementation
Relative Sizes of All First-Time English Language Arts Pathways in 2017-18

Non-ELL Students: Mainstream English, 252,096

Students with Non-Degree/Transfer Goals: Noncredit ESL Students, 42,331

ELL US HS Graduates: Mainstream English, 16,468

Other Degree/Transfer focused ESL Students

Other Degree/Transfer focused ESL Students

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Relative Sizes of First-Time English Language Arts Pathways in 2017-18 for ELL/ESL Students

Students with Non-Degree/Transfer Goals: Noncredit ESL Students, 42,331

ELL US HS Graduates: Mainstream English, 16,468

Students with Non-Degree/Transfer Goals: Credit ESL students, 9,158

Other Degree/Transfer focused ESL Students: Noncredit ESL Students, 3,033

Other Degree/Transfer focused ESL Students: Credit ESL students, 5,573

International Students: Mainstream English, 1,165

International Students: Credit ESL students, 1,556

ELL US HS Graduates: Noncredit ESL Students, 1,607
Relative Sizes of First-Time English Language Arts Pathways in 2017-18 for Degree/Transfer Seeking ELL/ESL Students

<table>
<thead>
<tr>
<th></th>
<th>ELL US HS Graduates: Mainstream English, 16,468</th>
<th>Other Degree/Transfer focused ESL Students: Credit ESL students, 5,573</th>
<th>Other Degree/Transfer focused ESL Students: Noncredit ESL Students, 3,033</th>
<th>ELL US HS Graduates: Noncredit ESL Students, 873</th>
</tr>
</thead>
<tbody>
<tr>
<td>About 87% of ELL US High School graduates enter mainstream English at the community college.</td>
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U.S. High School Graduates
High School English Language Learners

• Which English language pathway maximizes the probability of completing transfer-level English for ELLs with a U.S. diploma?
  – For methodological reasons, previous MMAP research focused on students with complete high school records, unintentionally giving the false impression that four years of high school attendance was necessary. In fact, the conclusion that four years of high school is necessary for MMAP rules to apply was an untested hypothesis.
  – To test this hypothesis, we compare ELL high school graduates who started at one-level below in ESL to those who started in transfer-level English for each possible number of years of U.S. high school records (e.g., one year = just Senior year; two years = Junior and Senior years; three years = Sophomore, Junior and Senior years).
  – To attempt to control for missing high school records due to out-of-state high school attendance, residency and citizenship were also included in the analysis.
U.S. High School Graduates’ Transfer-level English Throughput by Years in U.S. High School, ELL Designation, and Community College English Language Arts Pathway (excludes US Citizens)

- **ELL in HS, ESL in CC**
  - Just Sr.: 30%
  - Jr.+Sr.: 30%
  - So.+Jr.+Sr.: 25%
  - Four years: 31%

- **Not ELL designated in HS, ESL in CC**
  - Just Sr.: 45%
  - Jr.+Sr.: 48%
  - So.+Jr.+Sr.: 49%
  - Four years: 48%

- **Ell in HS, English in College**
  - Just Sr.: 81%
  - Jr.+Sr.: 83%
  - So.+Jr.+Sr.: 81%
  - Four years: 82%

- **1 yr. post-AB 705 TLC throughput (projected)**
  - Just Sr.: 100%
  - Jr.+Sr.: 100%
  - So.+Jr.+Sr.: 100%
  - Four years: 100%
ELL US HS Graduates Have Higher Throughput on the English Path than the ESL Path

One-year TLC Throughput for ELL US High School Graduates Disaggregated by English vs. ESL Path, All Citizenship Statuses, and Years of U.S. High School
Predictive Validity of High School GPA for English Language Learners
Predictive Validity of 11th Grade Cumulative High School GPA for English Language Learners

Correlation Between Predictor and Grade Points in Transfer-level English

- HS GPA
- English STAR Test Score
- ACCUPLACER

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>First English Class (non-ELLs)</td>
<td>0.388</td>
</tr>
<tr>
<td>First English Class (Direct to English ELLs)</td>
<td>0.240</td>
</tr>
<tr>
<td>First ESL Class</td>
<td>0.248</td>
</tr>
<tr>
<td>First English Class After ESL</td>
<td>0.220</td>
</tr>
</tbody>
</table>

The chart shows the correlation coefficients for different predictors with grade points in transfer-level English.
Relationship between HS GPA and Success in TLE

- **ELL Success in TLE**
  - HS GPA < 1.90: 53%
  - HS GPA 1.90 to 2.59: 63%
  - HS GPA > 2.60: 72%

- **Non-ELL Success in TLE**
  - HS GPA < 1.90: 42%
  - HS GPA 1.90 to 2.59: 59%
  - HS GPA > 2.60: 80%
Predictive Validity of High School GPA

- While the predictive validity of high school GPA for ELL students in transfer-level English is lower than the predictive validity for non-ELL students (0.24 vs. 0.39) it is still considerably higher than the predictive validity of the ACCUPLACER test or the STAR test. Moreover, one of the reasons the predictive validity of high school GPA is lower for ELLs is because there is less range in success rates among ELL students when disaggregated by HS GPA. While this means that the high GPA group of ELLs does not have as high of a success rate on average as the high GPA non-ELL group (72% vs. 80%), it is also true that the low GPA ELL group has a higher success rate in transfer-level English than the low GPA non-ELL group (53% vs. 42%).
Using High School GPA to Adjust Predicted Success Rates in Transfer-Level English Given Increased Access
High School English Language Learners

• Adjusting for differences in high school GPA among students
  – Historically, there are differences in average high school GPA between students who started in transfer-level English composition at the community college and those who started in lower levels of English.
  – Result of accounting for differences in HS GPA is a net downward adjustment to expected one-year throughput rate for ELL students on the mainstream English path.

• High school graduates who start in ESL have historically started at many different levels. Here we focus in on a best-case scenario where students begin in ESL at one-level below transfer-level English.
  – Derive expected one-year throughput rate for the subset of students who start in one-level below in ESL and then transition to transfer-level English composition.
  – Upward adjustment to expected throughput rate for ELL students on the ESL path.
Throughput Rates for ELL U.S. High School Graduates: ESL vs. English

Throughput rates of ELL U.S. High School Graduates

- ESL path from 1 level below directly to TLE (1 yr.): 38%
- ESL path from 1 level below directly to TLE (3 yrs.): 64%
- Transfer-Level English path (1 yr.): 84%
- Transfer-Level English path (1 yr., GPA weight. est.): 69%
Historically, U.S. high school graduates who are ELLs and who enroll directly into transfer-level English achieve high levels of throughput within one year. Projections indicate that even as more students gain access to transfer-level English their throughput rate—even without any additional corequisite support—is still expected to be higher in one year than the three-year success rate of ELL U.S. high school graduates who begin on an optimized ESL pathway (69% vs. 64%). Although, these throughput rates are close, one represents a worst-case scenario that is likely to be improved upon given the current scaling and innovation around corequisite support while the other represents a best-case scenario that is not necessarily certain to be implemented given the current structure of ESL curriculum and placement practices.
High School English Language Learners

• While evidence suggests that U.S. high school graduates maximize their probability of completing transfer-level English, what about high school graduates who were still taking English Language Development classes in 12th grade?
  – Do they have higher one-year throughput when placed in transfer-level English or in one-level below ESL?
Specific Case Analysis:
Students Who Took ELD in 12th Grade

- Enrolled in ESL (n = 223): 16%
- Enrolled in transfer-level English (n = 903): 85%

1-yr. Throughput
Discussion

• Given how common it is for ELL US HS grads to enter mainstream English, what types of ESL support will improve the success of English Language Learners?
• The evidence suggests that direct enrollment in transfer-level English will maximize the probability of completion for U.S. high school graduates who are ELLs.
• Is the ESL label particularly problematic for generation 1.5 students, as suggested by Ortmeier-Hooper (2008)?
International Students
International Student TLE Throughput Rates

<table>
<thead>
<tr>
<th>Levels Below</th>
<th>ESL Path</th>
<th>English Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>5+ levels</td>
<td>22%</td>
<td>28,584</td>
</tr>
<tr>
<td>4 levels</td>
<td>34%</td>
<td>29%</td>
</tr>
<tr>
<td>3 levels</td>
<td>50%</td>
<td>41%</td>
</tr>
<tr>
<td>2 levels</td>
<td>58%</td>
<td>62%</td>
</tr>
<tr>
<td>1 level</td>
<td>61%</td>
<td>66%</td>
</tr>
<tr>
<td>Transfer level</td>
<td>95%</td>
<td>88%</td>
</tr>
</tbody>
</table>

ESL path = 28,584
English path = 16,958
Majority of International Students on English Path Start at Transfer-level

Only about one in three international students start in mainstream English.

- ESL path = 28,584
- English path = 16,958
Throughput Rate Varies by Placement Level and ESL vs. English Path

• When international students start on the English path, they tend to start at higher levels than those who start on the ESL path, this means that the overall throughput rates of students who start on the English path have historically been much higher than the throughput rates of students on the ESL path.

• Throughput rates are somewhat higher for international students placed directly into TLEE relative to those who start in TLE (95% vs. 88%), though rates for both groups are very high. Additionally, TLEE opportunities are still relatively uncommon and that TLEE currently does not articulate with the UC, which may require students to also take TLE.

• Students on the English path have somewhat higher throughput rates than those on the ESL path when starting one or two levels below (5 points and 4 points higher, respectively). This pattern flips for students starting three and four levels below, with students on the ESL path achieving higher TLE throughput rates than students on the English path (9 points and 5 points higher, respectively).
Throughput Higher on English Path Across All International Student Language Groups

ESL path = 28,584
English path = 16,958
Asian Language Group Represents Large Majority of International Students

- Asian, 58%
- MENA/ European, 12%
- Hispanic, 3%
- African, 2%
- Filipino, 1%
- East Indian, 1%
- Other, 1%
- ESL path = 28,584
- English path = 16,958
- Unknown, 23%
Asian Language Group International Students Are Most Likely to Begin on ESL Path

- Asian: 71%
- Unknown: 62%
- Hispanic: 55%
- Other: 52%
- MENA/European: 38%
- African: 31%
- Filipino: 30%
- East Indian: 22%

N = 45,542

N.B: English is an official language in both India and the Philippines.
International Student Highlights

• Students who start on the English path have higher throughput
  – However, I.S. do not have a high school GPA or similar variable that allows for independent assessment of capacity
• Majority of I.S. start in ESL (63%)
• I.S. from Asia are the most likely to start in ESL (except for India & the Philippines, which are the least likely)
Other Degree/Transfer-seeking ESL Students
Non-International, Non-US HS Graduates
Third Group ESL Students

• Do some colleges have higher throughput rates for ESL students who do not have US high school diplomas and who are not international students?  
• If so, what is driving the difference in throughput rates?
College’s Average ESL Starting Level and Throughput Rate are Highly Correlated

N = 47 colleges with 30+ students of this type
Credit ESL students with no diploma
Third Group ESL Students

• To what extent are demographic differences among the groups of degree/transfer-seeking “third group” ESL students related to the observed differences among colleges in throughput rates?
College throughput rates for degree-seeking ESL students with no diploma

N = 47 colleges with 30+ students of this type – no U.S. HS diploma
Adj. R² = 0.68
Independent Variable = Starting ESL level
Controls = age, language group, citizenship status
What lessons can we draw?

• There is an interplay between ESL placement practices and ESL curriculum such that at colleges where third group ESL students are typically placed into higher levels, the average throughput rate is commensurately higher.
Inter-college variation in average starting ESL level and TLE throughput for degree/transfer-seeking students with no US diploma

Three-year Throughput Rates

Throughput Rate

<table>
<thead>
<tr>
<th>Levels Below</th>
<th>Throughput Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 4</td>
<td>16%</td>
</tr>
<tr>
<td>&gt;= 4 and &lt; 3</td>
<td>25%</td>
</tr>
<tr>
<td>&gt;= 3</td>
<td>31%</td>
</tr>
</tbody>
</table>

Average ESL Placement Level for Third Group ESL Students

N = 88 colleges with 30+ “third group” students
Third Group Analysis Highlights

• Not all colleges have a significant “third group” population
• Some colleges are more effectively moving this group of students to and through TLC than others
  – How do assessment, placement and curricular structures correlate with higher levels of student throughput?
    • Colleges that place most “third group” students at or around 3 levels below have the highest average throughput for this group (27%)
    • College throughput rates drop by about ten percentage points for each level below three that colleges place most students (i.e., 17% for 4 levels below, 7% for 5+ levels below)
What conclusions can we draw about ESL?

• U.S. High School Graduates
  — 87% of English Language Learners who graduate high school enroll in mainstream English at the community college.
  — US high school graduates who take the English path realize much higher transfer-level English completion rates than those who take the ESL path, even after controlling for differences in high school GPA and years of participation in a US high school.
What conclusions can we draw about ESL?

• International Students:
  – Majority of international students start in ESL (63%).
  – International students who start at transfer-level have the highest throughput.
  – The international student data file does not have a measure similar to high school GPA that would allow for independent assessment of capacity.
What conclusions can we draw about ESL?

- Other ESL Students (“Third Group)
  - Throughput rates for this group vary widely across colleges.
  - ESL placement practices and ESL curriculum interact such that at colleges where third group ESL students are typically placed into higher levels, the average throughput rate is commensurately higher.