Capstone Paper Proposal

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1 Proposal

My research topic for this project is the effectiveness of literacy programs in secondary schools and their impact on post-secondary education. In a much-cited 2012 article from the Annie E. Casey Foundation, Donald Hernandez argues that both early literacy skills and poverty directly impact high school graduation rates (**?**). The basis of my research is that literacy has a cascading, or rather a building effect on students: early literacy leads to better results in later grades, which leads to better results after graduation. Reading ability and reading comprehension are the base level skills needed for student success both in school and beyond.

The question I am posing through this research is: **Are the reading and reading comprehension programs implemented in secondary schools in Washington State preparing students for post-secondary success?** Post-secondary success can be defined in many ways, including college enrollment, technical school enrollment, and self-sustaining employment. Based on the data available through the state's Office of the Superintendent of Public Instruction (OSPI), I will focus on enrollment in 4-year and 2-year (including technical training) college.

Literacy programs can not be directly measured, and may differ across school districts, through the state applies standards. Instead, I will use the results of standardized testing and a measurement of the rate at which students achieve scores at or above expected standards for their grade level. Washington state uses standardized tests provided by the Smarter Balanced Assessment Consortium (SBAC). Tests are administered eight times in a student's secondary schooling, from grades 3 to 11, excluding grade 9. Tests are administered in both Mathematics and English Language Arts (ELA).

Standardized tests given as part of the normal schooling, e.g. SBAC, are not subject to the

focus of test-taking strategies like the SAT or ACT might be. Most students are given the SBAC simply as part of the expected school year. They do not study or prepare for the test outside of "teaching to the test" strategies. However, those strategies would be applied equally across all students. Compare this to an AP course, for example, where a select number of students are choosing to take a course centered on the subject matter of the AP exam.

My proposal, then, is that SBAC results are a better measurement of college readiness for students on a whole, and therefore, a better measurement of the literacy policies and coursework enacted within the school and district. A more refined version of my research question is, therefore: **Do standardized test results for literacy predict enrollment in 2-year or 4-year colleges?** An additional question to consider would be whether SBAC ELA scores are more relevant to post-secondary enrollment than SBAC Math scores?

A risk to this project is the possibility of introducing an ecological fallacy. Data is captured at the school and school district level, with additional data broken out by socioeconomic factors including income level and ethnicity. To mitigate these risks, I will be analyzing multiple perspectives of standardized test scores:

- 11th grade SBAC scores, emphasizing the last school year in which tests are administered.

- Consolidated 10th and 11th grade scores to provide a broader view of student readiness across as they move from high school to post-secondary education.

- Weighted scores across all grades, emphasizing later grades while considering a school district's entire literacy program across grades.

Due to an inability to accurately track student movement from elementary to middle to high school, weighted scores across grade levels will be measured and analyzed at a school district level.

As the project progresses, I will also examine socioeconomic factors if possible. Finally, the participation in remedial level English courses in the first year of college enrollment imply a student is not ready for college success. My analysis should control for this data as well.

2 Data Sources

My primary source of data will be CSV files made available at the Washington State Open Data Portal (http://data.wa.gov). As part of the Office of the Superintendant of Public Instruction (OSPI), Washington state began collecting extensive data about students starting with the 2014-15 school year. Note that several data sets have gaps during the 2019-20 and 2020-21 school years due to COVID. Most data is captured at the school and school district level, with additional breakouts based on socioeconomic attributes (e.g. ethnicity and income levels). For privacy, no data is captured at the individual student level.

2.0.1 Data Sources with Independent Variables

This section identifies primary data sets that include independent variables and attributes used for this project. Note that many of the data sources also include rates broken down by demographic attributes.

- **Directory** - Washington School Directory: Primary source of School District and School Names. Used as a look-up table to standardize on School and School District names. `LEACode` and `SchoolCode` are used to define relationships between files where necessary. This data is available from the Office of Superintendent of Public Instruction (https://eds.ospi.k12.wa.us/DirectoryEDS.aspx).

- **Variables:** LEA Code, LEAName (District), SchoolCode, SchoolName

- **Assessment** - Report Card Assessment: Tracks rate of students taking standardized tests (e.g. SBAC) and the percent meeting standards based on score. Missing school years 2019-20 and 2020-21. Data for the 2023-24 school year available here: Report Card Assessment Data 2023-24 School Year | Data.WA | State of Washington.

  - **Variables**: test_administration, test_subject, students_expected_to_test, percent_met_standard, percent_participation

- **Graduation** - Report Card Graduation: Percentage of students graduating from high school within the year. Data for the 2023-24 school year is available here: Report Card Graduation 2023-24 | Data.WA | State of Washington.

  - **Variables**: graduation_rate

- **WSIF** - Washington School Improvement Framework: WSIF is a means of measuring school improvement based on a range of scores including standardized testing, attendance, graduation, and dual credit class participation. A final score indicates the standing of the school for each year. Data is missing for 2020 and 2021. Data for the 2023-24 school year is available here: Washington School Improvement Framework (WSIF) 2024 Annual | Data.WA | State of Washington.

  - **Variables**: growth_ela_median, growth_math_median, attendance_rate, ninth_grade_on_track, dual_credit_rate, final_score

- **SQSS** - Report Card SQSS: School Quality and Student Success (SQSS) is required as part of the federal Every Student Succeeds Act (ESSA). It includes a range of variables related to attendance, discipline, and dual credit participation. Several of the data points are also used

in WSIF, but SQSS provides more detail on the type of dual credit attended. Data for the 2023-24 school year is available here: [Report Card SQSS for 2023-24 | Data.WA | State of Washington](#).

- **Variables**: percent_taking_ap, percent_taking_ib, percent_taking_cihs, percent_taking_running_start, percent_taking_cte

- **Dual Credit -** This data exapnds on the dual credit participation data avaiable in the SQSS data set This further tracks rates at which students participated in Advance Placement (AP), College In The High School (CiHS), Career Tech Education (CTE), and others. Data includes graduating classes from 2015 to 2024 and is available here: [Dual Credit Dashboard Data | Data.WA | State of Washington](#).

  - **Variables**: Course_Type, Percent

2.0.2 Data Sources with Outcome Variables

Outcome variables are also pulled from the Washington State Open Data Portal. These track student outcomes specific to high schools within the state.

- **First Year Enrollment by Sector** - Captures the percent of students that enrolled in a 2-year or 4-year college within one year of graduating. Additional attributes indicate if the college was public or private and if it is in Washington or Out Of State. Note that students Not Enrolled may or may not be employed. Data includes graduating years 2005 to 2023 and can be accessed here: [High School Graduate Outcomes - First Year Enrollment by Sector | Data.WA | State of Washington](#).

  - **Variables**: EnrollmentLevel, OrganizationLocation, OrganizationType (public/private)

- **Persistence / Retention** - This data set tracks students that remain in college after the first year. Persistence is an indication that the student stayed in college, but may have transferred schools. Retention indicates the student stayed in the same school. This is a measure of "stickiness" for college enrollment. The Persistence and Retention data includes graduating years 2005 to 2022 and is available here: High School Graduate Outcomes - Persistence / Retention | Data.WA | State of Washington.

    - **Variables:** Persist_Retain, Percentage

- **Post-Secondary Completion** - A measurement of the rate at which high school students ultimately graduate from college. Data is only captured in this data set for graduation years 2005 to 2016 and may not be used for this analysis, but is captured here for initial consideration. Data is available here: High School Graduate Outcomes - Post Secondary Completion | Data.WA | State of Washington.

    - **Variables**: DegreeType, Percentage

- **Remedial Coursetaking** - Measures the rate at which first year college students from Washington high schools take remedial courses. Remedial courses in Math and English are tracked. This supports tracking the reate at which students exit high school without the literacy or math capabilities expected in college. Data includes graduating years 2005 to 2023 and can be accessed here: High School Graduate Outcomes - Remedial Coursetaking | Data.WA | State of Washington.

    - **Variables**: RemedialType, Percentage

3 Annotated Bibliography

The following annotations apply to the articles identified in the **References** section of this document.

(Cox, Friesner, and Khayum 2003): An examination of university students entering college without the requisite literacy (reading comprehension and writing) skills to succeed. Students are identified based on test scores and grouped based on student who do not take a reading skills course, those who take a course but do not pass, and those that take a course and pass and/or get an exceptional grade (A). The authors conclude that underprepared students are more likely to succeed in college if they have taken and passed a reading skills course.

(Fidalgo et al. 2014): The authors analyze reading comprehension as a hybrid task that involves multiple activities including reading, comprehending, and writing. A common example is analyzing and summarizing an article after reading it. In the analysis, the authors compare students with and without reading difficulties to understand the comprehension process and the iterative cycles used to understand and write about a topic.

(Graham and Carroll 2010): A secondary analysis of survey results collected as part of a doctoral disertation and subsequently delivered as part of a 2010 conference. The authors review and analyze the reading comprehenson of first-year university students and compare against the general population in Canada as well as comaring within group by gender and by area of major study (arts, science, and bsiness administration). Crucially, the authors determined no difference in reading comprehension from teh Canadian population as a whole, indicating that literacy skills were not a factor in university enrollment.

(Hein, Smerdon, and Sambolt 2013): A literature review highlighting indicators and predictors

of student success, including success in reading and writing skills. Tracks primary predictors of success at multiple levels: elementary, middle school, high school, and post-graduation. Test scores, attendance, and GPA are included as primary indicators of success, while enrollment in advanced courses and social skills also contribute to success. Intended to support the design and implementation of programs by school policymakers toward improving student performance and outcomes.

(Hernandez 2011): &&&

(Long, Conger, and Iatarola 2012): An assessment of student test scores based on participation in advanced curriculum including Honors, Advanced Placement (AP), and other rigorous courses. The study focuses on Florida students graduating from high school in 2003. The study includes an examination of enrollment in 2-year or 4-year colleges after graduation and, as such, represents a similar analysis as proposed by my hypothesis.

(Özek, Umut 2025): A study of the effects of placing students in remedial reading programs in school. Such programs can be beneficial to students to bring them up to reading standards as long as the student is not "tracked" into a remedial program, i.e. restricted to remedial classes across other subjects and as they advance in school. The article is included as a counterpoint to students that demonstrate higher literary achievement.

(Savolainen et al. 2008): An analysis of students in Finland of the role of reading and spelling skills as they pursued upper secondary education. Students, upon entering the upper secondary level of education, similar to high school in the US, have the choice of pursuing general education or vocational education. This article analyzes what role, if any, reading and spelling have on that choice and subsequent career choices.

(Talwar et al. 2022): Examines mulitple facets of literacy: literacy skills (including vocabulary

and reading comprehension), reading strategies, and reading motivation. The research analyzes how these multiple aspects of literacy affect academic reading and student success in college. This research demonstrates the direct impact of literacy skills on college success, indicating readiness obtained prior to college directly influences that success.

(Torres and Saerys-Foy 2026): This recent online article emphasizes the importance of developing critical thinking skills through what the authors refer to as deep reading: "the intentional process of engaging with information in critical, analytical, and empathetic ways." Deep reading is recommended to counteract the decrease in literacy attributed to the increase in social media.

References

Cox, Steven R., Daniel L. Friesner, and Mohammed Khayum. 2003. "Do Reading Skills Courses Help Underprepared Readers Achieve Academic Success in College?" *Journal of College Reading and Learning* 33(2): 170–96. https://doi.org/10.1080/10790195.2003.10850147.

Fidalgo, Raquel, Mark Torrance, Olga Arias-Gundín, and Begoña Martínez-Cocó. 2014. "Comparison of Reading–Writing Patterns and Performance of Students with and Without Reading Difficulties." *Psicothema* 26(4): 442–48. https://www.redalyc.org/pdf/727/72732458002.pdf (January 23, 2026).

Graham, Susan, and Wendy R. Carroll. 2010. "Exploring the Impact of Literacy on Business Education and Job-Readiness: An Examination of the Reading Comprehension Skills of First Year University Students." In *Proceedings of the 40th Atlantic Schools of Business Conference,*

Halifax, Nova Scotia: Atlantic Schools of Business, 487–98. https://www.academia.edu/129669350/Battle_of_narratives_in_a_changing_FMCG_distribution_channel (January 25, 2026).

Hein, Vanessa, Becky Smerdon, and Megan Sambolt. 2013. *Predictors of Postsecondary Success.* College; Career Readiness; Success Center, American Institutes for Research. https://files.eric.ed.gov/fulltext/ED555671.pdf (January 23, 2026).

Hernandez, Donald J. 2011. "Double Jeopardy: How Third-Grade Reading Skills and Poverty Influence High School Graduation." *Annie E. Casey Foundation.*

Long, Mark C., Dylan Conger, and Patrice Iatarola. 2012. "Effects of High School Course-Taking on Secondary and Postsecondary Success." *American Educational Research Journal* 49(2): 285–322. https://www.semanticscholar.org/paper/8556cfb76aca7958092a397f2005d9cfdeaf1e50.

Özek, Umut. 2025. "The Effects of High School Remediation on Long-Run Educational Attainment." *EdWorkingPaper* 25(1204). https://doi.org/10.26300/5a3y-aq41.

Savolainen, Hannu et al. 2008. "Reading Comprehension, Word Reading and Spelling as Predictors of School Achievement and Choice of Secondary Education." *Learning and Instruction* 18(2): 201–10.

Talwar, Amani et al. 2022. "Early Academic Success in College: Examining the Contributions of Reading Literacy Skills, Metacognitive Reading Strategies, and Reading Motivation." *Journal of*

College Reading and Learning 53(1): 58–87.

Torres, JT, and Jeff Saerys-Foy. 2026. "Deep Reading Can Boost Your Critical Thinking and Help You Resist Misinformation - Here's How to Build the Skill." https://theconversation.com/deep-reading-can-boost-your-critical-thinking-and-help-you-resist-misinformation-heres-how-to-build-the-skill-268082.