Spring 2019

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Basque Nationalism and Education
The influence of Euskara on student achievement in the Basque Country

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SIT Spain: Policy, Law, and Regional Autonomy in Europe
May 8, 2019
Abstract:

Between 2012 and 2015, Programme for International Student Assessment (PISA) test scores in the Basque Country have dropped significantly. In reading, the average score dropped 7 points\(^1\) and in math, scores fell by 13 points.\(^2\) Most notably however, science proficiency plummeted 23 points between 2012 and 2015.\(^3\) With 2018 PISA data yet to be published, this downturn in the educational success of the Basque Country is drawing significant concern from educators, parents, and policymakers alike.

These concerns are bolstered by the fact that Basque public schools spend €3,712 more per pupil than average expenditure of Spain,\(^4\) yet perform slightly lower than the state and multiple other autonomous regions in all three subjects.\(^5\) This has led many to ask why, if education spending is significantly higher, the region is economically prosperous, and there is little diversity among the population, are Basque schools performing below the Spanish average? Likewise, what is fueling the overall downward trend in Basque scores?

These questions reignite the ongoing debate about the efficacy of using Euskara, the Basque language as a medium of instruction. In many respects, the emergence of Basque as a language of instruction is considered to be politically motivated rather than the result of positive pedagogical outcomes. Therefore, in this paper, I hope to examine how Basque nationalism, operationalized by Euskara as a language of instruction, impacts student outcomes and educational achievement in the Basque Country.

By examining the Basque Country’s performance on the 2015 PISA exam among a number of important education factors: school type, language of instruction, language of the exam, and socioeconomic status, I aimed to determine what may have caused the overall decrease in scores in the Basque Country. The results of my research shows that above all other factors, socioeconomic status and the overall downturn in the Economic, Social, and Cultural Status of the Basque Country had the greatest influence in students’ PISA competence scores. Language of instruction on the other hand, was not found to have statistically significant results.

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\(^2\) Ibid. 121.

\(^3\) Ibid. 36.

\(^4\) “The Basque Country Heads the Expenditure per Student among the Regions, Spending Nearly 4,000 Euros More per Student in the State Network than the Average in the Spanish State.” *Bizkaia Talent*.

Introduction:

Article 27 of the Spanish Constitution underscores two fundamental ideas in respect to education: that everyone has the right to an education (Todos tienen el derecho a la educación) and that the state recognizes freedom in teaching (Se reconoce la libertad de enseñanza). These ideas are supported both by the practice of free and obligatory basic education in Spain and in the varied liberties given to parents, teachers, and schools.

In Spain, there three types of schools: Public, private, and concertados. Public schools are completely funded by the state. Private schools receive no state funding, and concertados receive a mixture of state and private funds (functioning much like charter schools in the US). Likewise, language of instruction varies across autonomous communities, and in Basque Country, Catalonia, Galicia, and Valencia, schools often teach in their regional language. In the case of the Basque Country, parents may choose between three options regulating to what extent their child’s education is in Euskara, the Basque language. Option A offers Spanish as the language of instruction with Basque taught as a subject. Option B offers teaching in both Spanish and Basque, and Option D offers Basque as the primary language of instruction with Spanish taught as a subject. In recent years, Option D has become the overwhelming choice of parents in the Basque Country.6

6 See appendix A.
Regardless of the language model chosen by parents, it is important to remember that the option exists entirely because of Basque nationalism and the political strength of the Basque cultural identity. I have chosen to study the impact of nationalism, in this case, Euskara as a language of instruction, on the academic achievement of students in the Basque Country because it blends the program’s thematic emphasis on the Basque culture, my own personal interest in education, and the larger question of how nationalism fundamentally impacts individuals in spaces beyond the political arena.

When considering the relationship between nationalism and education, we tend to focus on the use of education as a unifying factor in building or maintaining a nation-state. Since the inception of the common school, a movement dedicated to ensuring that all students receive a public education, schools have been used to cultivate citizens with common moral beliefs. In many cases, education is used to foster nationalism, strengthen social cohesion, and shape national identity. Therefore, while significant research exists considering the impact of education on nationalism, far less information exists considering the impact that nationalism (and its resulting institutions) on the educational outcomes of students.

In this paper, I hope to answer the following research question: How does Basque nationalism, specifically, using Euskara as a language of instruction impact student outcomes and educational achievement in the Basque Country? The objectives of my project are to determine how teaching in Euskara (operationalized by examining the differences among linguistic models) impacts students’ achievement on the Organization for Economic Cooperation and Development’s (OECD) Programme for International Student Assessment (PISA) exam in comparison with other important factors such as school type, socioeconomic status, and language of the exam. Given the debate that currently exists regarding the efficacy of using Basque as a language of instruction, I hope that the results of my study will prove useful to those considering the future of education in the Basque Country in a way that goes beyond nationalist politics.

Generally, the parameters of my study were small. One key limitation is that all empirical evidence is taken from the PISA exam. To truly understand the relationship between language of instruction and educational outcomes, data should be derived from multiple avenues such as other exams conducted in the Basque Country (Evaluación de Diagnóstico), completion of secondary school, and attendance in University. Despite the small scope, I hypothesize that there will be a significant difference among language models A, B, and D on the PISA exam,
signifying that using Euskara as a language of instruction has an impact on educational outcomes in the Basque Country.

**Current Situation:**

Between the 2012 and 2015, the PISA exam scores of the Basque Country dropped in all three subject areas (and dropped significantly in math and science). Given the traditionally high results of the Basque country, this decrease in educational proficiency has caused concern among educations, parents, and policymakers alike, leading some to question the efficacy of the various linguistic models and educational networks used in the Basque Country. Below is a short summary of the results.

**Science:**

The following graph shows the Basque science proficiency scores on the PISA exam between 2003 and 2015. Arrows indicate statistically significant changes, therefore the results of 2006 are significantly higher than 2003 but are considered equal to 2009. In 2012, scores in the Basque Country were significantly higher than in 2009, but dropped significantly in 2015.\(^7\) Likewise, it can be observed in the graph below (which compares outcomes in the Basque Country in Science with the OECD and Spanish average between 2003 and 2009), that this 23 point drop between 2012 and 2015 caused the Basque Country to fall significantly below both the OECD average and the national average of Spain.\(^8\) However, it is important to note that most OECD

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8 Ibid. 87.
countries and many autonomous communities in Spain also saw their scores drop between 2012 and 2015. The OECD international average fell 8 points in 2015, and only 7 of 39 countries managed to improve their results during that time.\(^9\) Still, the Basque Country fell significantly below this already falling average.

**Reading:**

As can be seen in the chart below, reading scores in the Basque Country have not changed significantly between 2003 and 2015.\(^10\) Although the average reading score decreased 7 points between 2012 and 2015, the difference is not significant because the standard error was 4.7 for the 2015 exam. In fact, scores between 2003 and 2006 were 10 points apart, but their difference was still not significant. These scores however, have consistently kept the Basque Country well within the OECD average.\(^11\) The mean scores of the Basque Country, like most states within the EU, are located in performance level 3 (out of 7 total levels: 1b, 1a, 2, 3, 4, 5, 6, 7).\(^12\) Additionally, the low variability of results in reading competence in the Basque Country, measured by the difference in scores between the 95\(^{th}\) and 5\(^{th}\) percentiles, indicates that the Basque educational system is highly equitable.\(^13\)

As can be seen in figure 3.2.1.c., during the five editions of the PISA exam administered in the Basque Country, there was no statistically significant

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\(^9\) Ibid.
\(^10\) Ibid. 89.
\(^11\) Ibid. 119.
\(^12\) Ibid.
\(^13\) Ibid.
difference in scores with the OECD average. In comparison to Spain however, the Basque Country scored significantly higher than the Spanish national average from 2003 to 2012. In 2015 however, the overall score of Spain increased while reading competence in the Basque Country decreased, statistically equalizing the difference between the two groups. Likewise, in 2015, there was no significant difference in reading competence between the Basque Country and the autonomous communities of Aragón, Asturias, the Balearic Islands, Cantabria, Castilla-La Mancha, Cataluña, Valencia, Galicia, and La Rioja.

**Math:**

The graph below shows the evolution of math scores in the Basque Country between 2003 and 2015. Scores remained statistically indifferent from 2003 to 2012, but dropped significantly (from 505 to 492) in 2015. This 13 point drop in mathematical competence represents the lowest results of all five PISA exams administered in the Basque Country since 2003. Likewise, figure 3.3.1.c represents the evolution of mathematical competence in the Basque Country as compared with Spain and the OECD international average. Given that arrows indicate statistically significant changes, the graph below shows that between 2003 and 2006, the scores of the Basque Country fell within the OECD average, but were significantly higher than the national average of Spain. From 2009 to 2012, mathematics scores in the Basque Country were

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14 Ibid. 90.
15 Ibid.
16 Ibid. 121.
17 Ibid. 122.
significantly higher than both Spain and the OECD international average. The significant
decrease in Basque mathematical competence in 2015 placed it within the OECD international
average once again, and because Spanish scores maintained similar levels as in 2012, all three
were statistically indifferent in the last round of PISA testing. Likewise, the results of the
Basque Country in math are considered statistically indifferent from the autonomous
communities of Aragón, Asturias, Cantabria, Castilla la Mancha, Cataluña, Valencia, Galicia,
and La Rioja. Like most European Countries, the mathematics performance level of the Basque
Country falls within level 3, and given the low variability of results between students at each end
of the performance distribution (5th and 95th percentiles), the Basque education system is
considered highly equitable.

**Literature Review:**

**Differing opinions:**

Two interviews have been included in the literature review because I believe they offer
important insight into the debate of Esukara as a language of instruction in the Basque Country.
These interviews provide not only the historical context of integrating the Basque language into
school systems, but also offer considerations beyond the academic outcomes of students (as
measured by PISA exam results). I consider these interviews as representative of the opposing
views on maintaining the Basque language, the role of education generally, and the influence of
Basque nationalism. The following interviews were conducted using an informal question and
answer format with generally the same set of questions (more in the methods section).

*Interview 1: In support of Basque as a language of instruction:*

This first interviewee is a professor in the Department of Language and Literature
Education at a teacher training college in the Basque Country. Her school’s position to teaching
languages is an integrated approach focused on students’ multilingual competence. They work
towards multilingual schools, but particularly schools where one language is considered a

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18 Ibid.
19 Ibid. 149.
20 Ibid. 122
21 Ibid. 149.
minority language, which in this case is Basque. Their goals include both the revitalization and normalization of Euskara.

When asked about the impact of nationalism on education in the Basque Country, she said that it was important that we first consider the historical context: In her opinion, the Basque case is unique because of how much it has achieved in the 40 years following the death of Franco. During the dictatorship, not only was the Basque language and culture oppressed, but active steps were taken to push Euskara toward extinction. Ikastolas, anikastola

22 run in secret at the time, were the only schools taught entirely in Basque. After Franco’s death however, through regional autonomy, the Basque Country gained the devolved powers necessary to make their own decisions in education. This change was fundamentally important because education is key to the revival, normalization, and prestige of a minority language.

Continuing, the professor said that while people always say that language should not be used as a political weapon, it is true that if Basque nationalists had not pushed so hard for the use of Euskara years ago, the forces of the state would have done nothing. This is important because “the minority language is always on the losing end because of the pressures of the majority language, so you always need proactive policies.” In essence, Basque Nationalism is what led the language acquisition process forward.

Although different linguistic policies and levels of activism exist in different regions of Euskadi,23 in the Basque Autonomous Community there is significant support for Euskara as a language of instruction. According to the professor, in order to be successful in maintaining a minority language, you need 1) grassroots movements, 2) a local government that is proactive about promoting the language, and 3) a general consensus among the public. In essence, you need politics, ideology, and people focused on a common goal. She believes this has been achieved in the Basque Country, and that the massive popularity of Model D schools is a testament to the public’s commitment to learning and maintaining Euskara.

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22 An ikastola is an educational center that uses Basque as a vehicular language. They emerged in the 20th century and distinguished themselves by using the language at a time when it was not present in the public education system.

23 Consisting of the Autonomous Communities of the Basque Country and Navarre in Spain and the Northern Basque Country in France.
When asked why so many parents choose Model D, the professor gave a detailed response: At the beginning, with the Ikastolas, parents chose a Basque education for their children because they were militant nationalists…but 40 years has passed since then. Initially, when the three language models were first developed, parents chose Model D for identity reasons and because they wanted their children to speak Basque. Later, parents chose Model D because Basque was perceived to have instrumental value in education. In fact, for the first 20 years, using Basque as a medium of education was perceived to be better than Spanish. In many respects, this occurred because the challenge to convert an education system from Spanish to Basque called for intense innovation. For many years, schools taught in Basque were considered vibrant with innovation, new methodologies, and highly motivated teachers. In some ways, these Basque schools were also considered more democratic (compared to traditional religious school). Now however, parents chose Model D for a variety of reasons: some are identity related or due to Basque nationalism, but many parents send their children to school in Basque because they may need it later in life, and it is easiest to learn as a child.

When asked whether the Basque Education system is equitable, the professor responded that while differences exist between public schools and concertados, she does not think it is a big issue in society. In fact, she said, the public school system is very good. It is not just left to those who cannot afford other options and many of her colleagues in education chose to send their children to public schools. While some believe that Spain should get rid of the concertado school system in order to promote equity, she believes the way to make the system more equitable is for the public school system to be excellent. This way, it will be the choice of parents regardless of their ability to pay. “It is about more than funding,” she said.

When asked about the drop in PISA scores between 2012 and 2015, the professor said that the Basque schools have changed. Whereas Basque-medium schools used to have fewer children and were more homogenous, today it is “what everybody does”. She also thinks that the commitment to Basque as a language of instruction has changed. Now, children are not learning Basque because they want to; for many, it has just become a part of life. She also pointed to the sociolinguistic and socioeconomic changes that have occurred in the Basque Country in recent years such as the increase of immigrant students.

As a final note on whether she thought it was important to maintain Euskara, the professor added that she views a minority language as an opportunity rather than a challenge.
She believes it gives the region cohesion, a great sense of identity, and solidarity. Likewise, she believes working with a minority language such as Basque gives the educational system a common project and a constant mandate for innovation, all of which she views positively. At the end of the day, she said, “it is parent’s choice”, but even those who are not Basque nationals sent their children to Model D schools because they are simply good schools… excellence is key.

Interview 2: In opposition of Basque as a language of instruction:

This second interviewee is a teacher in a concertado school in the Basque Country. Her school is considered trilingual (Spanish, English, and Basque) but most closely falls under the category of Model B.

When asked if it is important to maintain the Basque language, the teacher responded that it is important the language not be forgotten, but she believes it is an injustice that one’s proficiency in Euskara can determine so much of their life. Going on, she said that there are many children who do not adapt to learning the language well. It hurts her that if these students are not doing well in certain subjects taught in Basque, they cannot move onto the next level. She believes that Basque should be taught as a language subject, but believes that students learn much more efficiently in their own language (Spanish).

When asked whether the Basque education system is equitable, the teacher responded succinctly that people put more importance on teaching Euskara than in students’ educational outcomes. Later on however, she felt it was important to add that the Basque Country is putting more emphasis and resources on students learning Euskara than in teaching subjects that develop the minds of children like music, religion, ethics, civics, theater, or art. She said that many schools do not teach music or art anymore, and that they are forgetting subjects that are fundamental to the personal and cognitive development of children.

When asked about the decrease in PISA scores between 2012 and 2015, the teacher said that she thinks changes in the educational system are to blame. Relating it back to Basque as a language of instruction, she said that if Euskara is not your maternal language, it can be very difficult for students to adapt to both a new language and a new method of learning. This is especially important as more immigrants come to the Basque Country.

When asked why so many people chose Model D, the teacher responded that it is because parents think their children will need to speak Euskara to work in the Basque Country. She
believes that parents are thinking about the future of their children, but only if they chose to stay in the Basque Country, because to work here, as a doctor, teacher, or even a street cleaner, you must be able to speak Basque – even if you will never use it in your daily job.

When asked whether politics plays a big role in education in the Basque Country, she emphatically responded: “¡fundamentalmente!” Later on, when asked if she thought policymakers valued the acquisition and maintenance of Euskara over individual students and their educational outcomes, she said yes. “They are not thinking about the child.” Continuing, she said that in the Basque Country, students need to speak Basque to work in many jobs. But that is a political mandate, not a reality…. everyone speaks Spanish. She believes that if people were really thinking about the child, they would open up the world to them. For her, this means teaching students English rather than Basque. In her experience, there are many children who have significantly more trouble learning Euskara than English (and many people forget Basque once they leave school). The Basque Country is such a small part of the world, and she believes it is absurd that students leave school with high a proficiency in Basque but struggle to speak English. As a final note, she adds that the amount of money spent in the Basque Country spent on teaching in Euskara is ridiculous, and that she thinks many teachers at her school would agree with her opinions on Basque as a language of instruction in schools.

Catalan Comparison:

Questioning Catalan linguistic practices:

A similar debate is occurring in Catalonia. Jorge Calegro and Álvaro Choi, professors in Economics at the University of Barcelona, recently published a paper examining the effects of learning in a language other the mother tongue, and the policy of linguistic immersion in Catalan schools. Broadly speaking, their results show that the scores obtained by students who speak Catalan in their home are considerably higher than those of students who speak Spanish (and these scores, in turn, are significantly higher than those of students who speak neither Spanish nor Catalan in their home). Their two hypotheses are:

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1. Students who speak Spanish at home, but are educated in a Catalan language program, perform lower in the skills assessed by PISA than their peers who speak Catalan, all else (sociocultural and economic characteristics) held equal.

2. There is heterogeneity in the relationship between the language spoken in the home and the level of skills, so that the relationship is very intense in some groups of students who use Spanish at home, while it is not significant in others.²⁵

Their results confirm hypothesis 1 for science and reading competence, but reject the hypothesis in mathematics.²⁶ Students who speak Spanish in the home obtained 10.85 points less in science and 10.3 points less in reading than students who speak Catalan in the home.²⁷ According to the authors, for math proficiency, the lack of statistical significance for the language spoken at home can be attributed to the specific, formalized language used in math as a subject.²⁸ The results of the study also confirm hypothesis 2. In science competence, the authors find a significant effect for language spoken at home among certain subsamples: for boys, students in public school, students living outside of Barcelona, and students in the upper third of the socioeconomic status index.²⁹

According to Calegro and Choi, these results clearly point to the existence of an equity problem in Catalonia as a result of the language immersion programs in schools.³⁰ They argue that the results indicate that the policy of language immersion has a problematic dimension that should be explored through further research. Furthermore, they emphasize that the repeated recognition of the linguistic immersion policy as a success is more related to political, rather than educational objectives given that it is not supported by empirical evidence (and the evidence provided by the authors finds the opposite conclusion).³¹

In support of Catalonia’s language practices:

As a rebuttal, Avel·lí Flors Mas and Xavier Vila, in a piece entitled "Drowned in Confusion?" point out several problems with the findings of Calegro and Choi. First, they

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²⁵ Ibid. 14.
²⁶ Ibid. 15.
²⁷ Ibid.
²⁸ Ibid.
²⁹ Ibid. 16.
³⁰ Ibid.
³¹ Ibid. 17.
question the two hypotheses proposed. Hypothesis 1, they say, should be formulated in gradual terms. Instead of saying that students from “Spanish speaking families” will obtain worse results, they should refer to students that “do not master the language of the school.” As the hypothesis stands, to be from a “Spanish speaking family” inevitably links school performance (lower outcomes) to one’s native language. Secondly, Flors Mas and Vila argue that not all Spanish speakers experience lower results compared to their Catalan speaking peers. In fact, according to the data offered by Calegro and Choi, there are non-significant results among girls, concertados, those who live in Barcelona, and individuals in the bottom third of the socioeconomic status index (a significant proportion of students in Catalonia). Additionally, Flors Mas and Vila argue that Calegro and Choi fail to recognize the heterogeneity of linguistic practices in the contemporary Catalan school. Not only does the term “Spanish speaking family” refer to several different populations including Spanish migrants and immigrants from Latin America, but after significant changes in the Catalan population, the sociolinguistic complexity of education practices is much higher and more diverse than it was 50 years ago.

In their concluding argument, Flors Mas and Vila go so far as to say that the most appropriate interpretation of the results obtained by Calegro and Choi is the opposite conclusion: the slightly lower results obtained in reading and science by native Spanish speaking students is not due to the use of Catalan as a language of instruction, but rather to its lack of use which makes it difficult for students to gain proficiency in the language. If true, they continue, the rational answer to their educational challenge is a better application of Catalan in schools.

Comparing the Basque Country and Catalonia:

The debate in Catalonia is relevant to the problems faced in the Basque Country because the question of minority languages in school also often falls on political and nationalist lines rather than strictly their relation to educational outcomes. Catalonia’s case is perhaps slightly more intense given that its language immersion programs (reflecting Model D) are more widespread and their nationalist sentiments have taken them to the point of a fully-fledged independence movement.

32 Ibid.
33 Ibid.
34 Ibid.
35 Ibid.
Looking at an empirical comparison of the two regions, according to the Organization for Economic Cooperation and Development, Catalonia scored higher than the Basque Country in all three PISA subject areas in 2015. Likewise, Catalonia had a greater share of students performing in the highest levels of competence and a smaller share of low performing students than the Basque Country in all subjects. Finally, Catalonia had much higher levels of social equity and a better performance among immigrant students in all subject areas compared to the Basque country in 2015.  

**Socioeconomic Status:**

Factors of diversity such as socioeconomic status play a significant role in student outcomes. On average, students from higher socioeconomic classes achieve better grades and standardized test scores, have higher rates of extracurricular participation, school leadership, and college enrollment and completion. Furthermore, in recent years, the disparity in academic achievement between students of high and low social classes has grown to the extent that family income is now a “better predictor of children’s success in school than race” in the United States. Similar trends can be seen all over the world.

According the OECD, students who are disadvantaged are, on average, twice as likely to score in the bottom 25% of the performance distribution. In fact, more than half of the test performance differences observed among students in different schools is the result of socioeconomic status disparities. These disparities are so large that on average, the performance difference between advantaged (the top quarter of socio-economic status) and disadvantaged (the bottom quarter of socio-economic status) students is 90 score points, or the equivalent of more than two years of schooling and more than one PISA proficiency level. However, some students transcend these obstacles. Approximately 29% of disadvantaged students perform at high levels despite their socioeconomic status. These students are called

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36 “Compare Your Country - PISA 2015.” Compare ESP-Basque Country with ESP-Catalonia. OECD.
38 Ibid.
40 Ibid. 46.
41 Ibid. 38.
resilient.⁴² A student is classified as resilient if they are in the bottom quarter of the PISA index of economic, social and cultural status in their country/economy of assessment but perform in the top quarter of students among all countries and economies tested (after accounting for socio-economic status).⁴³

In order to account for these complex differences, the OECD developed the PISA Index of Economic, Social, and Cultural Status (ESCS, or ISEC in Spanish).⁴⁴ This index was created based on the following variables: the International Socio-Economic Index of Occupational Status (ISEI); the highest level of education of the student’s parents (converted into years of schooling); the PISA index of family wealth; the PISA index of home educational resources; and the PISA index of possessions related to “classical” culture in the family home.⁴⁵ Students who are in the lower quartile of the ESCS index are considered as socioeconomically disadvantaged students. Put into practice, the score-point difference in science associated with a one-unit increase of the ESCS index was 38 points on the 2015 PISA exam, again with 29% of students being resilient.⁴⁶

The Economic, Social, and Cultural Status Index works on a number scale. Higher numbers represent greater levels of prosperity, whereas lower numbers represent increased socioeconomic disadvantages. The average ESCS of all OECD countries is -0.04, slightly higher than the European Union average of -0.07.⁴⁷ Including Spain, which has an ESCS level of -0.51, there are 19 countries that fall below the OECD average.⁴⁸ Likewise, all autonomous communities in Spain, including the Basque Country, have an ESCS lower than the OECD average. In the Basque Country, the economic, social, and cultural status level is considered to be -0.25, the second highest among the

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⁴² Organization for Economic Cooperation and Development. PISA 2015 Results in Focus. 2018. 4.
⁴³ Ibid. 8.
⁴⁴ Índice Socioeconomico y Cultural (ISEC) in Spanish
⁴⁶ PISA 2015 Results in Focus. 9.
⁴⁸ Ibid.
autonomous communities of Spain.\textsuperscript{49} However, as will be seen below, there are significant differences among the various school networks and linguistic models employed in the Basque Country.

First examining school models, the following graph compares the ESCS levels among public and concertado schools in the Basque Country between 2012 and 2015. As can be seen, in total, there has been a significant decline in the economic, social and cultural status of the Basque Country between the 2012 and 2015. Overall, the Basque ESCS average went from 0.03 to -0.25, a loss of 0.28 points overall.\textsuperscript{50} Public schools saw the largest ESCS decrease during these years, losing 0.33 ESCS points while concertados lost 0.22 points.\textsuperscript{51} Given the tremendous impact of socioeconomic factors on educational outcomes, these large changes in the Basque Country between 2012 and 2015 could explain the significant decrease in PISA scores.

If the economic, social, and cultural status of the Basque Country is analyzed according to linguistic models, it can be observed that the greatest change occurs in Model A which sees an ESCS decrease of 0.41 points. Model D schools also saw a substantial ESCS drop, losing 0.27 points.\textsuperscript{52} Logically, this change in the ESCS of Model D schools (and final result of -0.27) closely resembles the Basque Country average of -0.25 given the overwhelming number of students enrolled in Model D schools in the Basque Country. In fact, Model D represented approximately 62% of the testing sample in 2015.\textsuperscript{53} Lastly, Model B schools saw the smallest ESCS decrease, losing 0.21 points (although, this is still a major loss).

\textsuperscript{49} Ibid.
\textsuperscript{50} Ibid.
\textsuperscript{51} Ibid.
\textsuperscript{52} Ibid. 22.
\textsuperscript{53} Ibid.
Finally, it is important to analyze the ESCS changes across all school types in order to understand what variations exist within school systems and linguistic models. First and foremost, the graph shows that all of the schools in the public network had ESCS scores below the Basque Country average and all of the concertado network, results clearly matching graph 2.3.1.a shown above. Conversely, all three linguistic models of the concertado school system had an ESCS score above both the Basque Country and all models of public schools, again in conjunction with the results above.\textsuperscript{54} However, there are several particularly striking pieces of data. With a drop of 0.40 points between 2012 and 2015, Model A public schools have the lowest ESCS levels in all the Basque Country.\textsuperscript{55} This is significant given that in general, across exam years and test subjects, these Spanish-taught public schools tend to achieve the lowest scores across all educational strata in the Basque Country. Their ESCS levels, rather than the language of instruction, could explain the differences in student achievement, but this will be discussed at length later in the paper. Additionally, Model B public schools showed the largest decrease in ESCS levels, losing 0.66 points between 2012 and 2015.\textsuperscript{56} Yet according to graph 2.3.1.b, overall, Model B schools lost the fewest points among all three linguistic models in 2015. This shows that Model B concertado schools must have lost proportionally less than their public counterparts. Finally, the large 0.38 decrease in the economic, social, and cultural status of Model A concertado schools (which in all previous exam years had the highest ESCS scores by a substantial margin) shows just how powerful of a change has occurred in the Basque Country in the recent years. While Model A concertados are still relatively well-off among their peers in the Basque Country, they are now situated just slightly below Model D concertado schools.

\textsuperscript{54} Ibid.  
\textsuperscript{55} Ibid.  
\textsuperscript{56} Ibid.
It is important to examine the relationship between ESCS levels and student performance in order to determine the equity of a school system. If there does not appear to be a strong statistical relationship between socioeconomic status and academic performance, a school is thought to be more equitable. However, a strong relationship may indicate that school systems are replicating existing social and economic disparities in the lives of their students.

**Methods:**

In setting out on this research project, I found that my advisor was very helpful in directing me to the Basque Institute for Research and Evaluation in Education (ISEI-IVEI). While limited data generally exists for the Basque Country on the reports published by the OECD, it was incredibly helpful to have a wealth of information specifically focused on this region. In deciding how I would present this information in conjunction with my own analysis, I decided to take a different approach than that used by the ISEI-IVEI. The 2015 report published by the ISEI-IVEI separates the analysis of factors that impact education by exam subject. For example, under the category of science, there is information about how gender, socioeconomic status, school strata, etc. impact student outcomes. For my purposes, however, I decided it would be more prudent to discuss select phenomena that could have impacted results in the Basque Country and then discuss how each is observed in the three subjects of the PISA exam.

One of the biggest obstacles I encountered during the research process was a language barrier. Unfortunately, the Basque Institute for Research and Evaluation in Education did not have a summary of the 2015 PISA results in English. While exam data from 2003 to 2012 was available in English, the most recent data was only available in Spanish and Basque. Although it would have been much easier to use the 2012 PISA exam report, it would have significantly altered my results to use anything other than the most recent data. In some respects, however, this impacted my decision to only include PISA testing data. While I later realized that including data from both the PISA exam and Evaluación de Diagnóstico would have been unreasonable, it was this initial set-back that made me consider the data I was using more closely.

For the interviews, I looked for individuals I believed would represent the differing opinions that exist regarding Euskara as a language of instruction. Of course, this involved some significant assumptions on my part based on where these individuals worked. In the end, my
predictions were correct, but in order to maintain the integrity of the interviews, I asked participants the same set of questions:

- Do you think it is important to maintain the Basque language?
- Do you think teaching in Basque is a benefit to children overall? To their education?
- Do you think the Basque education system is equitable?
- Do you think that politics plays a large role in education?
- Do you think the Basque Education system is adequately funded?
- Why do you think so many parents choose Model D for their children?
- Why do you think PISA scores dropped so much between 2012 and 2015?
- What you think are the biggest challenges facing education in the Basque Country?

Of course, my interviewees answered these questions differently and the order of inquiry was largely driven by the conversation itself rather than my planned list. Furthermore, in order to maintain the confidentiality of my interview subjects, I anonymized their information, only disclosing their status as a teacher in a concertado and a professor at a teachers’ college. The exact wording of their information as well as my plans for maintaining the security of their interview data was explicitly stated in the informed consent agreement which I presented to my interview subjects before conducting the interview. I asked the participants to read and sign the informed consent agreement and made sure to specifically ask for consent to record the interview and quote specific passages in my research paper. Both interviews felt very comfortable, and I plan to share my findings at the conclusion of the research project.

Findings:

**Educational Models: Language and School Type** 57

*Science:*

The following graph shows the difference in science proficiency between students evaluated in 2012 and 2015 according to their educational network (public school or concertado) and language of instruction (model A, B, or D). Looking first at educational networks, the results show that overall, concertados scored significantly better than public schools in 2015. Whereas public schools attained only 473 points in scientific competence, concertados scored 492, therefore producing almost a 20 point gap. 58

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57 See Appendix B
58 Ibid. 50.
However, it is important to note that the behavior of these two school systems is very different. While concertados score higher overall, between 2012 and 2015 they lost 27 points in scientific competence which is significantly more than the public school loss of 18 points. This significant drop in scores among concertado schools caused the gap between the public and concertado school networks to decrease from 28 points in 2012 to only 19 points in 2015. In fact, the 2015 gap is the lowest score distance between the two educational networks among all administrations of the PISA exam in the Basque Country. This reduction in the scientific proficiency gap caused the significant difference between concertados and public schools to disappear once the SESC (Economic, Social, and Cultural Status) influence was removed from the data. However, this will be explored at length in the socioeconomic section below.

When examining linguistic models, it can be seen that only Model B schools outperformed the Basque Country average in both 2012 and 2015. Model D performed almost exactly at the average, and Model A fell 11 points below the community average. Specifically, when comparing the results of 2012 and 2015, it can be observed that Model A schools lost 27 points in scientific proficiency, the largest drop among all the models. It was closely followed by Model D however, which lost approximately 24 points. Whereas Model A schools showed a larger decrease in competence, their impact on the overall decrease in Basque Country scores was relatively small because Model D schools represented five times the weight of Model A in the overall sample in 2015 (just over 61.6%). Therefore, while the decrease in scientific

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59 Ibid. 50.
60 Ibid. 51.
61 Ibid.
62 Ibid. 50.
63 Ibid. 51.
competence among all models is important, Model D schools carry significantly more weight. However, the score differences between the three linguistic models is not statistically significant.\(^{64}\)

Finally, with respect to the distribution of high and low performing student scores among school types and linguistic models, test data shows that in 2015 there were not large differences between public and concertado schools. While at the highest end of the spectrum, concertados had almost twice the percentage points as public schools, when adjusted to mitigate the influence of the Socioeconomic and Cultural Index between the two school systems (just as was done with competence scores), the distance is not nearly as large.\(^{65}\) Among the linguistic models however, there are large performance differences, especially at the lowest competence levels. Model B performs best with the lowest percentage of low performing students, almost 10 points less than Model A, and almost 3 points less than Model D.\(^{66}\) At the levels of excellence, there are no statistical differences among linguistic variations, but Model B still performs better.\(^{67}\)

The next graph shows the difference in scientific competence between 2012 and 2015 for all school types and linguistic models. According to the data, all three linguistic variations of the concertado schools outperformed the public school network and the Basque Country as a whole.\(^{68}\) Furthermore, it can be observed in the graph that all three public school models fell below the mean score of the Basque Country.\(^{69}\) All schools saw a decrease in science proficiency in 2015 with the exception of Model A public schools which remained constant.\(^{70}\) Additionally, Model A concertados saw the largest decrease in

\(^{64}\) Ibid. 51.  
\(^{65}\) Ibid. 51.  
\(^{66}\) Ibid. 52.  
\(^{67}\) Ibid.  
\(^{68}\) Ibid. 53.  
\(^{69}\) Ibid.  
\(^{70}\) Ibid. 87.
scientific competence in 2015 with a total loss of 39 points.\textsuperscript{71} However, this group only represents 7.8% of the weighted Basque sample, therefore its significant decrease in scores has a relatively small impact on overall performance. Model B and D concertados on the other hand, lost 24 points each between 2012 and 2015. Their decrease in competence had a greater impact on the Basque average given that between the two groups they represented 62% of the sample.

Finally, in terms of the performance distribution of each school variation, it appears that all school systems had a similar percentage of students in the low end of the competence spectrum, approximately 20%.\textsuperscript{72} While this is a high percentage (especially for concertado schools) compared to other subjects, it is likely due to the larger, overall loss of scientific competence in the Basque Country in 2015.

\textit{Reading:}

The following graph shows the difference in reading proficiency between students evaluated in 2012 and 2015 according to their educational network and language of instruction. The PISA Exam results show that public schools in the Basque Country scored significantly lower (479 points) than concertados (502 points) in 2015.\textsuperscript{73} However, despite this 23 point gap between concertados and public schools, the behavior of these educational networks shows a very different pattern. Between 2012 and 2015, concertados lost 12 points in reading proficiency while public schools maintained their level of competence.\textsuperscript{74} This falls in line with a larger pattern observed across PISA exam subjects between 2012 and 2015 wherein concertados showed significantly

\textsuperscript{71} Ibid.
\textsuperscript{72} Ibid. 87.
\textsuperscript{73} Ibid. 97.
\textsuperscript{74} Ibid. 119.
greater losses in proficiency while public schools (overall performing lower) maintained past levels and/or loss fewer proficiency points.

By linguistic models, there was no significant score difference between Model A, B, and D schools in 2015, but all saw a decrease in proficiency. Most notably, Model D schools lost 10 points in reading competence between 2012 and 2015. This loss among Model D schools, which was more than twice the losses observed in Model B and five times that of Model A, is important given that Model D represents 61.6% of the sample taken in the Basque Country.

In terms of the distribution of high and low performing students among the two educational networks and three language models, the 2015 PISA data shows that 13.4% of students in concertados performed at the lowest levels of proficiency while public schools had 8% more, or just over 20% of its students performing below the baseline competence level. At the other end of the spectrum, concertado schools had almost 3% more students than their public school counterparts performing at the levels of excellence. Therefore, it can be concluded that concertados performed better than public schools in 2015. Analysis of PISA results by linguistic models shows that in 2015, Model B schools performed best at both the high and low levels of the performance distribution. At the lowest levels of competence, only 13.7% of students in Model B schools had performed below the competence baseline compared to 18% of students in Model D and almost 23% of students in Model A schools.

The following figure illustrates the disaggregated results in reading proficiency between 2012 and 2015 for all school types and linguistic models. Most notably, the graph below shows that of all the school types tested, only Model A and B public schools improved their scores in reading proficiency between 2012 and 2015. Model B public schools improved by 7 points, but Model A public schools improved their competence levels by a staggering 22 points. Despite this significant increase in scores, Model A public schools remained the lowest performing school strata in the Basque Country in 2015, a pattern replicated across PISA exam subjects. Furthermore, the data shows that all three linguistic models: Model A, B, and D, in the public

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75 Ibid. 119.
76 Ibid. 97.
77 Ibid. 97.
78 Ibid.
79 Ibid. 98.
80 Ibid. 119.
81 Ibid. 99.
school network performed below both the Basque Country average (and were significantly lower than concertado Model B).\(^82\) Meanwhile, all three linguistic variations of concertado schools outperformed their public school counterparts and the Basque Country average, but there was no significant difference between concertados.\(^83\) This trend of concertados outperforming public schools matches the data examined in the graph above and is replicated across PISA subjects.

When comparing performance between the 2012 and 2015 editions of the PISA Exam, a contrasting pattern emerges. In 2015, the greatest losses in reading proficiency occurred among concertado schools. Model A and D which represent 37% of the test sample, saw the greatest decreases in competence, losing 14 and 13 points, respectively. Likewise, although Model B concertado schools lost relatively fewer points, their 9 point loss is still impactful given that alone they represent almost 22% of the exam sample.\(^84\) The influence of public schools on the overall decrease in reading proficiency between 2012 and 2015 is very small, and is only due to the drop observed in Model D.

With respect to the distribution of scores in the highest and lowest levels of proficiency, it appears again, that overall, concertados performed better than public schools. At the low levels of performance, Model A public schools saw 34% of their student body fall below the competence baseline compared to only 17% in Model A concertados. Model B public schools had 25% of their pupils score in the lowest levels of proficiency while their concertado counterparts only had 12%. Finally, Model D public schools had 19% of their students score below the competence baseline compared to 16% in Model D concertados.\(^85\) At the highest levels of performance, the same pattern emerges: larger distances in achievement between the

\(^{82}\) Ibid.
\(^{83}\) Ibid.
\(^{84}\) Ibid.
\(^{85}\) Ibid. 100.
public and private strata of Model A and B with less distance between the two versions of Model D schools. At the levels of excellence, Model A public schools had 1.2% of students fall in the highest end of the performance distribution compared to 8% in concertados. Model B public schools had 3.3% of students perform in the levels of excellence compared to 8.4% in concertados. Finally, the distance between Model D public and private is markedly less with 4.2% of public and 4.8% of concertado students scoring in the highest level of competence.\footnote{Ibid.}

**Math:**

The figure below shows the difference in mathematical proficiency between students evaluated in 2012 and 2015 with respect to their educational network and language of instruction. Looking first at educational networks, it can be seen that concertados score significantly higher (501) in mathematical competence than public schools (481).\footnote{Ibid. 129.} However, it is important to note that the behavior of these two school systems between 2012 and 2015 is very different. While overall their scores are higher, concertados lost significantly more points between these two administrations of the test. Whereas public schools lost 7 points in 2015, concertados lost 19 points in mathematical competence.\footnote{Ibid. 149.} These results are important because they cement the pattern that across all PISA exam subjects, between 2012 and 2015, concertados lost significantly more points in competence than public schools. Within the public school system, the overall loss of points can be attributed to Model D schools, whereas in concertados, there were significant losses in both Model A and D schools (as can be observed in figure 3.3.5.a).\footnote{Ibid. 129.} By linguistic models, there was no significant difference between Model B and D
schools, with 497 and 493 points, respectively. However, Model A schools scored significantly lower, achieving only 474 points. As can be observed, all language models saw a decrease in student scores, most notably in Model D which lost 18 points.

Additionally, it is important to analyze the distribution of high and low performing students within the two different school systems and languages of instruction. Overall, concertados tend to have less students in the low performance levels and a higher percentage of students in the levels of excellence (6% and 8.7%, respectively). Public schools on the other hand have a higher proportion of students in the lower end of the performance distribution (24%) and fewer students in the levels of excellence (6%). By linguistic models, it appears that Model B performs the best with a higher proportion of students performing in the levels of excellence and fewer students in the lowest ends of the distribution than the other two models. Likewise, Model A has a particularly high level of students, almost 29%, scoring in the lowest levels of the performance distribution.

The graph below shows the difference in performance from 2012 to 2015 between public schools and concertados among all linguistic models. According to the graph, Model A public schools had significantly lower scores in both 2012 and 2015 than the rest of the school variations listed (except Model B public schools), yet were the only group to see improvement. This is interesting given the same trend is observed in scientific and mathematical competence: Model A public school are the only group to improve/maintain their scores, yet are still the lowest performers. Likewise, the results of Model A and B public schools are

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90 Ibid. 149.
91 Ibid.
92 Ibid. 129.
93 Ibid. 130.
94 Ibid. 149.
significantly lower than the scores of all concertado schools. However, between public and concertado Model D schools, there is no significant difference in scores.\textsuperscript{95} Among concertados, mathematical competence decreases most in Model A and D schools with a loss of 25 and 23 points, respectively.\textsuperscript{96} Overall, between 2012 and 2015, the mathematical competence scores of all schools went down with the notable exception of Model A public schools.

With respect to the distribution of high and low performing students, the results match that of the two subjects examined previously. Generally speaking, concertados performed better with a lower percentage of their students falling below the baseline level of competence. In Model A public schools however, almost half of students scored in the lowest levels of proficiency.

**Language of the Test:**

*Science:*

The graph below compares the results of students tested in Basque or Spanish on the PISA exam in 2012 and 2015 as well as the percentage of students who answered in each language. While the proficiency scores of both groups dropped significantly, students who answered in Spanish saw a decrease of 22 points from 2012 to 2015 while the scores of students who took the exam in Basque dropped almost 30 points between the two editions of the test.\textsuperscript{97} Although in 2012 the score difference between Basque and Spanish was statistically significant favoring those who took the exam in Euskara, in 2105 (and all other years the exam was administered), there was no statistically significant difference between exam

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\textsuperscript{95} Ibid.

\textsuperscript{96} Ibid.

\textsuperscript{97} Ibid. 69.
Likewise, there is no significant difference between students from Basque and Spanish speaking families on the 2015 PISA exam.  

**Reading:**

The figure below shows the evolution between Spanish and Basque language forms of the PISA exam between 2012 and 2015. In 2012, the results of students who took the exam in Basque improved extraordinarily from the results of 2009, increasing by 25 points. At this time, the distance in achievement between the Basque and Spanish versions was 11.2 points (in favor of students who answered in Basque) and was considered statistically significant. In 2015 however, these trends reversed. On average, Spanish test takers saw a loss of 12.1 points while the scores of those who took the exam in Basque dropped 25 points. Although both test languages saw substantial changes, the difference between Basque and Spanish scores was no longer statistically significant in 2015. Non-significance between the two versions is in fact, the norm. Similarly, there was no significant difference between Basque and Spanish family speakers in 2015, with both worsening their results: 9.3 points for family Spanish speakers and 13.9 points for family Basque speakers.

**Math:**

The chart below shows the progression of PISA scores between 2012 and 2015 among students who took the exam in Spanish or Basque. In 2012, the average distance between both linguistic versions of the test was 25 points (favoring those who answered in Basque), and was considered statistically significant. In 2015 however, these trends reversed. On average, Spanish test takers saw a loss of 12.1 points while the scores of those who took the exam in Basque dropped 25 points. Although both test languages saw substantial changes, the difference between Basque and Spanish scores was no longer statistically significant in 2015. Non-significance between the two versions is in fact, the norm. Similarly, there was no significant difference between Basque and Spanish family speakers in 2015, with both worsening their results: 9.3 points for family Spanish speakers and 13.9 points for family Basque speakers.

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98 Ibid. 70, 88. 
99 Ibid. 
100 Ibid. 111. 
101 Ibid. 120. 
102 Ibid.
statistically significant. In 2015 however, this large gap was reduced by 13.7 points and is no longer considered significant. Overall, the non-significance of the differences between linguistic groups has been the normal behavior across PISA exam subjects with 2012 serving the only exception. Likewise, there was no significant difference between the results of family Basque and Spanish speakers. Both linguistic groups saw a decrease in scores (12.5 and 16.6 points, respectively).

**Socioeconomic Status:**

**Science:**

The following graph shows the relationship between the Economic, Social, and Cultural level of OECD countries/autonomous communities and their results on the 2015 science PISA exam. As observed in previous editions of the assessment, the correlation between the ESCS and average score of a country/economy is positive, meaning that the higher ESCS score a country attains, they higher they are expected to score in scientific competence. The regression line below (blue diagonal line) illustrates the expected science proficiency outcome in relation to the ESCS of a given country or autonomous region. Therefore, the regions falling above the regression line achieved results above expected in relation to their socioeconomic status,

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103 Ibid. 142.
104 Ibid. 150.
whereas countries and communities falling below the line obtained below-predicted results.\textsuperscript{105}

The Basque Country is located slightly under the ESCS regression line, meaning that it achieved somewhat lower results that what would be expected for its socioeconomic situation.\textsuperscript{106} Spain, on the other hand, scored significantly better than expected for its ESCS level (as did all the other autonomous communities, except the Basque Country).\textsuperscript{107} This is striking given that the Basque Country spends significantly more on education than Spain and its other autonomous regions (€3,712 per pupil above the average national expenditure\textsuperscript{108}), yet it appears to result in less equitable results for students. Furthermore, with the exception of Madrid, according to the graph, the Basque Country has the second highest ESCS level in the country, yet it scored significantly lower in science competence than many other regions. This data shows that in science proficiency, the Basque Country is not attaining results on par with the levels of educational equity achieved in other autonomous regions (like Catalonia as discussed in the literature review).

For an in-depth view of the relation between socioeconomic status and educational achievement in the Basque Country, it is important to examine the variation in scientific competence between the four ESEC quartiles. The following graph shows the results of students in the Basque Country between 2012 and 2015 according to their socioeconomic status. The data clearly shows a positive correlation: students in the bottom ESCS quartile obtain the lowest scores in science proficiency while students in the highest quartile performed 50 points above students in the lowest levels of the ESCS index.\textsuperscript{109} The differences in competence are significant among all ESCS quartiles.\textsuperscript{110} The data also shows

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig1.png}
\caption{Gráfico 3.1.8.1.c. PISA. Comparación de resultados en Competencia científica por niveles de ISEC en 2012 y 2015.}
\end{figure}

\textsuperscript{105} According to PISA, this index explains 38.8% of the variation in average scores obtained by students.
\textsuperscript{106} Ibid. 58.
\textsuperscript{107} Ibid. 58 and 59.
\textsuperscript{108} “The Basque Country Heads the Expenditure per Student among the Regions, Spending Nearly 4,000 Euros More per Student in the State Network than the Average in the Spanish State.” Bizkaia Talent.
\textsuperscript{109} Ibid. 60.
\textsuperscript{110} Ibid.
that in 2015, all ESCS levels fell significantly, more than 20 points in all cases. The biggest change occurred in the lowest quartile of socioeconomic wealth, where 0.52 units of ESCS were lost. The upper quartile of wealth, however, while experiencing the smallest decrease in socioeconomic status, saw the greatest decrease in student scores losing 29.4 points in science proficiency.\textsuperscript{111}

The following section analyzes the results in 2015 science competence between the various educational strata in the Basque Country after the influence of socioeconomic status has been eliminated. In this way, scores between school types and linguistic models can be compared under equal socioeconomic conditions. In following graph, blue columns represent the exact scores obtained by students, and the red columns represent the results once the effect of the ESCS index has been detracted.\textsuperscript{112}

Generally speaking, by school type, after controlling for the impact of ESCS Index, the results show that students in the public school network improved their scores by 6.6 points in 2015, while students in concertados lost 3.1 points in science proficiency. When controlling for the impact of socioeconomic status, the overall score difference between public and concertado schools was reduced from 18.9 points (true scores) to 10.2 points, causing the significant difference in performance between public and concertados to disappear.\textsuperscript{113} By linguistic models, after controlling for socioeconomic status, the results showed that in 2015, Model A schools improved by 8.3 points, Model B schools decreased by 3.2 points, and Model D schools gained 1.2 points in science proficiency. As found previously with school networks, these differences between linguistic models are not significant once the influence of the ESCS Index is detracted.\textsuperscript{114} Looking specifically at the disaggregated results, after detracting the influence of socioeconomic status, almost all of the significant differences

\textsuperscript{111} Ibid. 59 and 60.
\textsuperscript{112} Ibid. 61.
\textsuperscript{113} Ibid.
\textsuperscript{114} Ibid.
between school networks and linguistic models disappears. The only significant difference that remains is between Model A public schools and the rest of the educational strata (with the exception of Model B public schools).\textsuperscript{115}

\textit{Reading:}

The following section examines the relationship between socioeconomic status and reading competence in the Basque Country on the 2015 PISA exam. Like the section above, the following graph shows the relationship between the ESCS of various OEDC countries/autonomous communities and their reading competence scores. The blue diagonal line represents the regression function between the two variables and serves to predict the score for a given ESCS level. As in previous exams, the correlation between ESCS and reading scores is positive, meaning that a higher ESCS score predicts higher levels of reading competence. Scores above the regression line indicate above expected results. Looking specifically to the graph, it can be observed that the Basque Country falls slightly above the regression line, indicating that its results in reading proficiency are above expected given its socioeconomic status.\textsuperscript{116} This indicates that in reading competence, schools in the Basque Country are slightly above average in terms of educational equity. Likewise, the graph shows that every other autonomous community in Spain also saw above expected results, especially Castilla y León, Castilla-La Mancha, and Galicia which showed significantly higher levels of educational equity.\textsuperscript{117}

\textsuperscript{115} Ibid. 62.
\textsuperscript{116} Ibid. 103.
\textsuperscript{117} Ibid.
With respect to student achievement across ESCS levels, the following graph shows reading proficiency according to the four quartiles of the socioeconomic index between 2012 and 2015. As was the case for science proficiency, the data expresses a positive correlation. Students in the bottom ESCS quartile achieve the lowest levels of reading proficiency in 2015 with 464.4 points, while those in the upper quartile performed significantly better with 512.2 points (48 points more than their socioeconomically disadvantaged peers). Overall, in reading competence there is only a significant performance difference between the highest quartile of socioeconomic status and the other three ESCS levels, rather than between each individual level.

Between 2012 and 2015, there were significant changes between the ESCS levels of each quartile in the index. The biggest change occurred in the lowest quartile, where the ESCS level dropped from -0.57 to -1.09. In the upper quartile however, there was little change (from 0.67 to 0.50) between 2012 and 2015, meaning that the brunt of the overall socioeconomic downturn occurred in the lower ESCS quartiles. In a contrary manner, the performance data between 2012 and 2015 shows that the greatest decrease in reading proficiency occurred in the highest socioeconomic quartile while at the lowest level, there was no significant change. Unfortunately, in the case of reading proficiency, the Basque Institute for Educational Evaluation and Research did not disaggregate the data farther than the four ESCS quartiles. Without more information on how socioeconomic status impacts each strata of school in the Basque Country, it is impossible to determine any more about how school systems in the Basque country either promote equity or continue socioeconomic trends.

118 Ibid. 104.
119 Ibid. 103.
120 Ibid. 105.
121 Ibid. 104
Math:

This section analyzes the relationship between mathematical competence and socioeconomic status in the Basque Country following the 2015 administration of the PISA exam. As in the preceding sections, the blue diagonal line of the graph below represents a regression of the relationship between scores in reading competence and the ESCS level of various OECD communities. Yet again, the correlation between ESCS and scores in mathematical proficiency is positive. The placement of the Basque Country above the regression line in 2015 suggests that scores in math competence were above expectations in relation to the socioeconomic status of the autonomous community.\(^\text{122}\) In fact, all the autonomous communities in Spain are located above their expected proficiency level with the exception of the Canary Islands. Among the autonomous communities, Navarra scored especially high in comparison with the predictions made by the regression function. Performance above expected levels for a given socioeconomic level suggest that schools in that region are particularly equitable in that they provide students better outcomes than predicted for their ESCS level.

Looking toward student achievement across ESCS levels, the following graph shows mathematical proficiency according to the four quartiles of socioeconomic wealth in the Basque Country. According to the data, students in the highest quartile of socioeconomic wealth achieved results 57 points higher than those in the lowest level of the index (515.1 points v. 458 points).\(^\text{123}\) These results are consistent with the findings of the previous two sections in that, yet again, there is a positive correlation between wealth and higher proficiency levels on the math

\(^{122}\) Ibid. 134.

\(^{123}\) Ibid.
section of the PISA exam. Additionally, there is a statistically significant difference among all ESCS levels (except between the two middle levels).\(^{124}\)

Between 2012 and 2015, there were substantial changes in the ESCS level of each quartile due to the overall drop in the Basque Country. Generally speaking, the greatest downward change occurred in the bottom quartile of wealth, and the smallest change occurred at the highest quartile.\(^{125}\) This signifies that the lowest ESCS quartile took on a large majority of the overall decrease in socioeconomic wealth in the Basque Country between 2012 and 2015. Furthermore, while all levels of the socioeconomic index saw decreased mathematical proficiency following the 2015 examination, it was the highest quartile of wealth that saw the greatest drop in scores. High ESCS students lost 22.7 points between 2012 and 2015 while low ESCS lost only 10.6 points in mathematical proficiency.\(^{126}\)

Unfortunately, as in the case of reading proficiency, the Basque Institute for Educational Evaluation and Research has chosen not to disaggregate the data farther into school type and linguistic model. While the trend observed (the highest ESCS levels incur the greatest loss in proficiency) could help explain the losses seen in concertado schools in 2015 (because on average, concertados have significantly higher ESCS levels than public schools), without more information, no acceptable conclusions can be drawn.

**Conclusions:**

Based on the data, my hypothesis that there would be a significant difference between the language models A, B, and D on the 2015 PISA exam could not be supported. In general, the results showed that a more significant impact exists according to school strata and socioeconomic status. This does not necessarily signify that Euskara as a language of instruction

\(^{124}\) Ibid.
\(^{125}\) Ibid. 135.
\(^{126}\) Ibid.
does not have an impact on educational outcomes in the Basque Country, simply that other factors hold more influence.

With respect to the three language models, the 2015 PISA data showed that Model A schools consistently perform significantly below average,\textsuperscript{127} Model B schools are reliably high performing, often the best of the three variations, and Model D schools most closely represent the overall Basque average (primarily as a result of their large sample size). While these results could be taken in support of Model B’s mixed language program, there is not a statistical difference between the results of the three linguistic models.

When analyzing the results from another linguistic angle, language of the test, the 2015 PISA results also show no statistical significance between students who took the exam in Spanish or Basque. This is true across all three subject areas. Although Euskara test takers lost more points than those who took the exam in Spanish in 2015, it was only in 2012 that the results between the two languages were significant, favoring Basque. It is important to note however, that there may be a methodological problem with the variable, language of the exam. According to my project advisor, Estibaliz Amorrortu Gomez, there may not have been standardization in why some students took the exam in Basque v. Spanish. In some cases, it was left to the student questionnaire, and in others, the school chose for students. Finally, no significant differences were observed between native Spanish or Basque speakers of the test.

With respect to the impact of school type on PISA outcomes, the data shows that in all subject areas, concertados outscore public schools. At the same time, between 2012 and 2015, it was concertados that saw the largest decreases in competence. Likewise, when considering educational equity and the distribution of high and low performing students across school strata, overall, concertados showed better results than public schools. However, the general trend shows larger score distances between the public and private strata of Model A and B, while a smaller gap exists between public and concertado Model D schools.

Lastly, with regard to the impact of socioeconomic status on student outcomes, the results overwhelmingly show a clear positive correlation between one’s socioeconomic status and scores on the PISA exam. Likewise, when controlling for the impact of socioeconomic status (in science competence), the statistically significant difference in scores between concertados and

\textsuperscript{127} See Appendix C.
public schools is eliminated. Likewise, the difference between linguistic models are non-significant once the ESCS influence is detracted. These results push forward the conclusion that socioeconomic status, as supported by the literature review, plays a bigger role in educational outcomes than many other factors. While these results do not directly play into the nationalist debate at hand, they are important for the Basque Country to consider as it moves into the future and continues to see its population change through immigration and globalization.
Bibliography


Appendix

A. Enrolment in Infant-Primary School (2-5 and 6-11 yr olds), per linguistic model in the Basque Autonomous Community (%) (EUSTAT 2016)

The green line (Gaztelaniaz) represents Model A. The blue line (Euskaraz eta gaztelaniaz) represents Model B, and the red line (Euskaraz) represents Model D. This graph shows the significant increase in the popularity of Model D over time. Taken together, Model D and B represent almost 95% of the population attending infant and primary school in the Basque Country from 2015 to the present.

B. When analyzing difference between school types, The Basque Institute for Educational Evaluation and Research only makes comparisons between public schools and concertados. This is likely because these two variations of schools make up the majority of the education system in the Basque Country and are more representative of the population as a whole.

C. Why do Model A public schools consistently have the lowest scores and highest levels of educational inequity while simultaneously reporting the greatest improvements between 2012 and 2015? One explanation is the small sample size of these schools. In the Basque Autonomous Community, Model A schools are disappearing. As seen in the graph above, Model A schools seem to represent less than 5% of the overall school system. Fewer and fewer Model A schools means less options exist for parents and students. Likewise, students in Model A schools tend to be immigrants either from other parts of Spain or Latin America. This means that immigrant students (because of their previous Spanish knowledge) are likely concentrated in Model A public schools. If true, this would have significant impacts of the results obtained in Model A schools because on average across OECD countries, and after controlling for socioeconomic status, immigrant students are
more than twice as likely as their non-immigrant peers to perform below the baseline level of proficiency.\textsuperscript{128}

D. Below is a list each figure shown in my paper with their corresponding page number in: The Basque Institute for Educational Evaluation and Research. (2017). \textit{PISA 2015 EUSKADI INFORME DE RESULTADOS}. Basque Institute for Educational Evaluation and Research, Bilbao. In order of appearance:

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\textsuperscript{128} PISA 2015 Results in Focus. 4.