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Success in Education by Defying Great Odds: A Positive Deviance Analysis of Educational Policies

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Education is seen as a resource at a global level but is currently considered to be in crisis in many parts of the world. This constitutes a significant drawback in terms of humanity's prosperity and well-being since education is the key not only to an educated workforce but also to humane, collaborative, and caring societies. Even within this dim landscape, there are certain educational systems that defy the odds and perform significantly higher than their otherwise comparable systems. This paper proposes using an unusual lens for educational policy comparative studies, that of positive deviance, to aid us in progressing towards a more stable educational state of affairs. Using a positive deviance methodology, which focuses on learning what is working well in systems that defy and overcome substantial challenges, this study investigates the patterns, attitudes, and actions of three selected cases: Massachusetts as a positive deviant in the US, Estonia as a positive deviant in Europe, and Castile-Leon as a positive deviant in Spain. The purpose is, by analysing educational policies, laws, and other related documents, to find commonalities that explain why these systems outperform others. The results of the comparative analysis pinpoint areas and strategies informative to those leading struggling educational systems, such as a strong commitment to equity and justice, placing teachers at the centre of reforms, using assessment as a tool for process monitoring and summative inquiry, and making preschool education accessible to all.

Keywords: education, educational improvement, educational policy, learning crisis, positive deviance

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Uspeh v izobraževanju prek kljubovanja velikim izzivom: analiza pozitivne deviacije izobraževalnih politik

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∞ Izobraževanje velja za vir na svetovni ravni, vendar se trenutno v veliko delih sveta zdi, kot da je v krizi. To je velika pomanjkljivost za blaginjo in dobro počutje človeštva, saj je izobraževanje ključ ne le do izobraževalne delovne sile, ampak tudi do humane, sodelovalne in skrbne družbe. Vendarle pa v tej temačni sliki obstajajo nekateri izobraževalni sistemi, ki kljubujejo razmeram in dosegajo bistveno boljše rezultate kot njihovi siceršnji primerljivi sistemi. Ta članek predlaga uporabo neobičajne perspektive za primerjalne študije izobraževalne politike, tj. pozitivne deviacije, ki nam lahko pomaga pri napredku k stabilnejšemu stanju na področju izobraževanja. Z uporabo metodologije pozitivne deviacije, ki se osredinja na učenje o tem, kaj dobro deluje v sistemih, ki kljubujejo in premagujejo velike izzive, ta študija raziskuje vzorce, stališča in ukrepe treh izbranih primerov: Massachusetts kot pozitivni deviant v ZDA, Estonija kot pozitivni deviant v Evropi in Kastilja - Leon kot pozitivni deviant v Španiji. Namen je z analizo izobraževalnih politik, zakonov in drugih povezanih dokumentov najti skupne značilnosti, ki pojasnjujejo, zakaj so ti sistemi uspešnejši od drugih. Rezultati primerjalne analize opredeljujejo področja in strategije, ki so informativni za voditelje izobraževalnih sistemov, ki so se znašli v težavah, kot so: močna zavezanost enakosti in pravičnosti, postavljanje učiteljev v središče reform, uporaba ocenjevanja kot orodja za spremljanje procesa in sumativno raziskovanje ter dostopnost predšolske vzgoje za vse.

Ključne besede: izobraževanje, izboljšanje izobraževanja, izobraževalna politika, kriza učenja, pozitivna deviacija

Learning Crisis

Even though we have abundant research on what works in education and have a strong sense of what needs to be done to obtain optimal learning, there are significant disappointments in many educational systems. Globally, there is a perception of an existing learning crisis. For example, there are still many children who are not schooled all the way up to secondary education and, even when schooled, children from low-income backgrounds struggle to master basic skills in math and reading (Oketch, 2021; UNESCO, 2018; World Bank, 2018). Similarly, in many countries, immigrant students or children of immigrant families significantly underperform their peers (Šori et al., 2011), and the educational gap persists (Hanushek et al., 2019). This learning crisis is more salient in least-developed countries (Friedlander et al., 2019), but it also affects disadvantaged students in developed or developing countries. In recent decades, educational reforms have been initiated at the local, country, and international levels but rarely land the results they were set to achieve (Niemi, 2021).

With the advent of the health crisis created by the Covid-19 pandemic, there has been an increase in the already existing educational breach between more and less affluent students (Hofmann, 2021). Therefore, the need to focus on education and improve our teaching and learning at a global level, which was already important, has now also become urgent. One possible way to help individuals and governments is to define key aspects of what constitutes an effective educational system by applying a positive deviance approach. Specifically: in light of all the social, economic, and political challenges, which educational systems have thrived and how? The aim is to research how, given negative odds against them, some educational systems have found ways to design and implement quality educational systems that also target equity.

This paper contributes to the discussion by applying a novel lens, that of positive deviance, to examine how three different systems have overcome educational challenges, crafting a model with commonalities that could be applied to other educational systems. Using data from reliable and valid sources, the paper provides individual and aggregated data to inform the problem and support suggested solutions.

There are positive outliers at many levels. We focus here on three proven and documented outliers: Massachusetts within the United States, Estonia in northern Europe, and Castile and Leon in Spain in southern Europe. These systems are vastly different, but all provide clear examples of how educational systems that are believed to be in crisis can overcome the odds.

Is There Really a Problem?

In this section, data is used from large-scale studies and other sources to shed light on the existence and magnitude of the problem.

Student (Under)Performance in the US

There are three sources of large data available to examine US students' performance in the US over time: the National Assessment of Educational Progress (NAEP), the Trends in International Mathematics and Science Study (TIMSS), and Programme for International Student Assessment (PISA).

NAEP, also known as the 'Nation's Report Card', measures student mastery of content in various core subjects in grades four, eight, and twelve. NAEP results have mostly been stagnant for the last 20 years. The most recent report, from 2019, shows that two-thirds of eighth-grade students were not proficient in reading or math (National Assessment of Educational Progress, 2019a). The scores decreased in mathematics and reading for lower-performing students, while the performance of higher students has improved, therefore widening the already existing gap.

TIMSS is an international initiative assessing math and science content in grades four and eight. In math, US fourth graders ranked 15th in 2019, declining from ranking 11th in 2015, while eighth graders ranked 11th in 2019, falling from the 9th ranking of 2015. In science, US fourth graders ranked 8th in 2019, unchanged from ranking 8th in 2015, while eighth graders ranked 11th in 2019, dipping from the 8th ranking reached in 2015 (U.S. Department of Education, 2019).

During the 1960s, the OECD put forward the idea economic growth may depend as much on the increase in human capital (education) as on the changes in physical capital (machines, buildings). This led the OECD to gather statistics on student achievement, and PISA was launched to measure student performance in reading, math, and science in grade ten (the end of compulsory education for most OECD members) (OECD, 2017). PISA results have never been excellent for the US: changes from one implementation year to the next have remained statistically non-significant. The most recent report shows that US students are flat in math and science and perform relatively better in reading (OECD, 2019a).

Education Secretary Betsy DeVos said, based on the NAEP results, that there is a 'student achievement crisis' (Green & Goldstein, 2019). Schneider (2019), director of the Institute of Education Sciences at the USDOE, points out that PISA scores tell us about the 'sad state' of US education. Daniel Koretz, a well-known expert on assessment and testing, was quoted saying that recent

test results show that ‘it’s really time to rethink the entire drift of policy reform because it just isn’t working’ (Goldstein, 2019). In addition to testing experts, educational research leaders, scholars and politicians, the public at large is also sceptical of US students’ learning and performance, with only 29% of Americans and 16% of scientists rating the country’s K-12 education in STEM as above average or the best in the world (Pew Research Center, 2015).

The Promises and Perils of the EU Educational Systems

Data from PISA and from the Programme for the International Assessment of Adult Competencies (PIAAC) are used in this section to make a case regarding the shortcomings of the EU educational systems.

The 2018 PISA results indicate that at least 20% of students in the EU have very low proficiency in reading, mathematics, or science (with 21.7% of underachievers in reading, 22.4% in math, and 21.6% in science). During the years 2009–2018, science and reading performance worsened in Europe, while math performance remained unchanged. There are also major differences in student performance between EU Member States, with underachievement rates ranging from a low 4.2% in Estonia to a high 31.9% in Bulgaria. Only four EU Member States met the EU 2020 benchmark of having an underachieving rate of less than 15% in reading (Estonia, Ireland, Finland, and Poland), math (Estonia, Denmark, Poland, and Finland) and science (Estonia, Finland, Poland, and Slovenia). The results also point out that across the EU, countries with a large share of low performers are also likely to record large performance gaps between students from low and high socio-economic backgrounds (European Commission, 2019).

PIAAC is designed to measure adult literacy skills in digital environments, focusing on key skills that individuals need to participate in society and contribute to economic development. The initial cycle of PIAAC took place between 2011 and 2012. (The second cycle will take place in 2022–2023.) The European Commission (2013a) findings present a dim picture of adult literacy: one-fifth of the adults and one-quarter of the unemployed adults show low literacy and numeracy skills; the adults with low proficiency fall easily into the ‘low skills trap’; and 25% of the population lacks the skills to use ICT successfully.

Overall, these findings highlight the disparities amongst member states, the underachievement of the students and the working force, and the inequalities associated with socioeconomic (and, to some degree, migrant) status. As the EU Commission (2019) points out when discussing said low performance: ‘This is not only a worrying social issue, but also a drag on EU future economic competitiveness’ (p. 14).

Spain is Different... or Not?

The most recent OECD assessment results show a gloomy picture for Spanish students. In this section of the paper, the results of PISA, TIMSS, PIRLS, and PIAAC are presented.

PISA 2018 results show the performance of Spanish students in reading, math, and science is far from the country and European learning objectives (OECD, 2019b). While the newspaper headlines paint a dismal picture of the results of this test, with headings such as ‘Spanish students sink in science’ (Torres Menárguez, 2019) or ‘A crash in science and math of 15-year-old students’ (Torres Menárguez, 2020), the OECD presents results in a much more neutral light, pointing out that, even though Spanish students scored lower than the EU average in math and science, if one looks at the long term trends and taking into account previous year’s results, it would not be possible to determine an upward or downward trajectory. (The results in the reading were deemed invalid due to some plagiarism concerns.) Overall, even with the statistical caveats raised by the OECD, PISA results are not considered positive.

The TIMSS report shows results similar to those found by PISA: In math, the results are two points ahead of the overall average but far from excellent and show no improvements with respect to the 2015 outcomes (505 in 2015 versus 502 in 2019; EU average is 527) (Mullis et al., 2016; Mullis et al., 2020). In Science, the results are not excellent either, with a seven-point decrease, from 518 in 2015 to 511 in 2019 (EU average is 526) (Martinet al, 2016; Mullis et al., 2020). The TIMSS data seems to ratify the poor Spanish results from PISA.

PIRLS outcomes from 2011 (Ministerio de Educación, Cultura y Deporte, 2017) indicate that Spanish students had improved their reading scores compared to the previous administration of the test but still were 11 points behind the UE average and 12 points behind the OECD average. In 2016, the results went up 15 points, but the average was still below the EU and the OECD average by 11 and 12 points, respectively. This was portrayed as ‘yet another failure’ of Spanish students in reading (Ibáñez, 2017). It was also pointed out that Spanish language scores were 53 points away from the higher performer (Russia), deemed equivalent to falling behind a whole academic year (Sanmartín, 2017).

Finally, data from PIAAC placed Spain at the rear end in math performance and second to last in reading comprehension among a total of 23 countries, which some read as indicating that Spanish adults have the worst education in the developed world (Yagüe & Ibáñez, 2013).

The data shows that the state of education in Spain is not optimal, although probably also not as bleak as the media reports. It is clear, though, that there is room for improvement.

Using Positive Deviance as a Lens to Study Educational Systems and Suggest Improvements

Positive Deviance is an asset-based approach. Its aim is to find organically crafted social solutions to complex problems of a social nature, grounded on the idea that in every group, there are a few individuals or subgroups who use uncommon or novel practices to accomplish better solutions to problems than those around them who experience the same challenge. To implement it, the focus is on people in communities or organisations who have made significant headway against a specific issue of the characteristics mentioned above. These individuals or groups are labelled 'positive deviants'. The spread of those solutions to others in similar situations is labelled as the Positive Deviance (PD) approach (Pascale et al., 2010).

In addition to uncovering the 'bright spots', the PD approach presumes that positive deviants are not always known or not sufficiently known to others and thus, a structure for uncovering is initiated. The next step is sharing the knowledge gathered with others by designing interventions that provide the opportunity to spread the positive deviant behaviour quickly and widely.

The term 'PD' first surfaced when it was used in an article by Samuel Wishik and Susan Van der Vynckt (1976) about the search for PDs to identify good dietary practices of families with young children. The project and book written by Richard Pascale and colleagues (Pascale et al., 2010), which recounts the response to a malnutrition initiative in Vietnam, received notable attention and thus provided visibility to the approach at a larger scale. The PD methodology has been used since then in several countries to target a wide-ranging variety of difficult social problems (Le Mahieu et al., 2017).

This approach has been used in a few PD initiatives in education to study solutions to high dropout rates in the US from general populations and subgroups such as minority students and students with disabilities (Ayala, 2011; Kallman, 2012; Malloy, 2012; Niederberger, 2011); enhance African American college graduation rates (Harper, 2012); and improve the psychological resilience of adolescents from the Netherlands participating vocational training programmes (Bouman & Singhal, 2014).

There has not been, however, an application of the PD framework with a supranational approach, which is the purpose of this paper, which studies

PD at the US, European Union, and Spanish levels. In the US, we will focus on Massachusetts. In Europe, we will focus on Estonia. In Spain, we will focus on Castile and Leon. In the following sections, we explain each of these educational systems and why they have become PDs.

Methodology

Approach

While the PD framework has been applied to the educational field, there has not been an application of the PD framework with a supranational approach at the educational system level, which is the purpose of this paper. In the following sections, the educational systems of the US, European Union, and Spain are briefly explained, with an ensuing discussion about how Massachusetts, Estonia, and Castile and Leon have become positive deviants. These educational systems were selected based both on the scientific literature and the media news about success stories in education which defy all odds and demonstrate the outstanding, against-the-odds achievements made by the above-mentioned educational systems.

Participants

This study was carried out using data from various international reports based on achievement and other types of tests (e.g., reading or computer use habits). The NAEP 2019 sample was comprised of 149,500 and 147,000 4th and 8th graders in math and 150,600 and 143,100 in reading (NAEP, 2019b, 2019c). Spain's PIAAC results for 2013 were based on a sample of 6,055 participants, the US had 5,010 participants, and the total sample was 157,000 (OECD, 2013b). Regarding PIRLS, 8,580 students were part of the 2011 sample (Joncas & Foy, 2011), and 14,595 students participated in the 2016 sample (LaRoche & Foy, 2017). The sample sizes for PISA 2018 were as follows: 5,316 Estonia, 35,943 Spain, and 4,838 US out of 600,000 total (OECD, 2019c). There were 1,876 students in Castile y Leon (Consejería de Educación de la Junta de Castilla y León, 2018), and the sample size for PISA 2015 was comprised of 1,700 Massachusetts students (Massachusetts Department of Elementary & Secondary Education, 2016). There were 10,029 4th-grade and 10,221 8th-grade US participants and 7,764 4th-grade Spanish participants in TIMSS 2015 (Martin et al., 2016), with similar samples sizes in TIMSS 2018: 8,776 4th graders and 8,698 8th graders from the US and 9,555 4th graders from Spain (Martin et al., 2020). Therefore, all the studies cited in the paper were based on representative samples of the respective populations.

Materials and Documents

Official documents from education departments, previous and existing educational initiatives, norms and laws, and statistical and educational reports from the regions and countries included in the study were reviewed to analyse the educational trajectories and reforms of said educational systems. This official document search and analysis was complemented by the gathering of media and news documents and reports as well as websites. Secondary data sources such as published academic texts and policy papers were also reviewed. All these materials and documents are cited throughout the text and included in the reference section of this paper.

Research Design

The analysis focuses on common patterns amongst all three case studies to establish highlights that other systems could use as references. The initial step was to select the three systems, as discussed above. Once this selection was completed, a multilevel process was implemented. First, a literature review was conducted on each of the educational systems selected. Second, the literature review was completed with an analysis of news media focusing on said educational systems. Third, the analysis was completed with a document review of educational initiatives, norms, and laws relevant to the themes that emerged in previous phases. Given all this information, the most salient and supported factors for the accomplishments of the selected educational systems were listed in order of magnitude, and from that ranking, the ones on the top were included in the paper. The results are presented so the reader can get a sense of the most relevant educational policies and reforms implemented in the selected optimal systems. It should be noted that none of the selected systems is perfect, even if they represent success stories that ought to serve as inspiration and guidance to those making decisions about their own educational systems.

Results

Positive Deviance Case 1: Massachusetts

Massachusetts ranked as highly as Finland (often used as the 'poster child' in comparing educational outcomes from OECD countries) in the 2015 PISA results (Massachusetts Department of Elementary & Secondary Education, 2016). In reading, students obtained an average of 527 compared to the 497 US average and

the OECD average of 493. No national education systems scored statistically higher, although eight had scores similar to that of Massachusetts, including Finland and Singapore. In math, MA students obtained an average of 500 *vis-à-vis* averages of 470 in the US and 490 at the OECD level. Eleven educational systems statistically outperformed the US, including Singapore. In science, students in public schools in Massachusetts are considered high performance, scoring an average of 529, versus a 496 average in the US and 493 for the OECD. The only education system that performed with a statistically significant higher average was Singapore (556). Moreover, while, on average, science performance declined at the OECD level between 2012 and 2015 (from 501 to 493 points), the Massachusetts average recorded was not significantly different from that of the previous administration.

How did Massachusetts become a positive outlier? One theory is that starting in 1993, there was a bipartisan effort to make sure that students from all backgrounds made good progress. The Massachusetts Education Reform Act (MERA) created Chapter 70, under which districts had to spend more than the minimum required expenditure calculated for each district to avoid monetary penalties. In addition to this adequacy measure, the Chapter 70 formula also includes a factor to provide more funds per pupil for poorer districts, therefore making MERA an equity-based school finance reform (Kim, 2018). The goal was to get everybody to perform well and not merely boost performance in some pockets. The outcomes do confirm this to some extent, as Commissioner Mitchel Chester indicates that just 14% of the variation in the students' science scores is attributable to the economic background of families, while instruction and district practices affect 86% of said variation (Wong, 2016).

The philosophical concept sought by Massachusetts leaders was equity, understood broadly as trying to level the field between rich and poor. The goal to include all students was not just rhetorical; by 2000, the state had to double its funding of public education when compared with 1993. Paul Reville, former education secretary, claims that three strategies have made the difference: a) enhanced early education; b) an expanded school day resulting in significant salary increases; and c) huge boosts to teacher training (Rowe, 2016). The plan called for substantial funding paired with very high expectations for achievement, which led to district takeovers when their performance was not adequate.

From a pedagogical perspective, Massachusetts has made a strong effort to improve teaching and performance assessments. With respect to teaching, the state implemented several policies, with the Massachusetts Task Force on the Evaluation of Teachers & Administrators being a central one by which teachers go through a five-step cycle for continuous improvement. Even though teacher evaluation has been a hot topic that has generated a great deal of discussion in

the field, when implemented properly and along with other measures focused on improving teaching and learning, it can be proven effective even in challenging, high-poverty schools (Reinhorn et al., 2017). In relation to assessment, Massachusetts's focus on new assessment models is backed by research studies that have found that the implementation of performance assessment leads to better classroom instruction and higher student outcomes (Darling-Hammond & Rustique-Forrester, 2005). The Massachusetts Consortium for Innovative Education Assessments not only aims to provide indicators of academic learning to all constituents but also seeks to have teachers participate in the Quality Performance Assessment Institute to become experts and leaders who can create high-quality performance assessments (French, 2018).

Positive Deviance Case 2: Estonia

Estonia's student performance shone in PISA 2018. In reading, Estonia scored an average of 523 points in contrast to an average of 487 points in OECD countries. In math, Estonian students scored 523 points on average compared to an OECD average of 489 points. In science, the average score in Estonia was 530, while in the OECD was 489 points. Only 6% of the variance in reading performance is explained by socio-economic status in Estonia versus an OECD average of 12%. In reading, the average difference between advantaged and disadvantaged students stays at 61 points, compared to the 89 points OECD average. Finally, 16% of disadvantaged students are academically resilient, while the OECD average remains at 11% (OECD, 2019d).

A leading force towards this outstanding performance was the Ministry of Education and Research's aim to achieve what Mailis Reps, the education minister, has termed the 'Nordic level of equity' (Jeffreys, 2019). This leading politician also points out that, to achieve that aim, a high cost needed to be addressed. While the literature analysing the impact (or lack thereof) of funding on student outcomes is contentious and has not historically offered clear guidance, a relatively recent study from the Natural Bureau of Economic Research (Lafortune et al., 2018) indicates that, while there is no immediate effect of reforms on achievement, there are clear changes in achievement trends over time: ten years after the reform, relative achievement of students in low-income districts increases by about 0.1 standard deviations. Consequently, the authors argue that the advantages of marginal investments in school resources in low-income, poorly resourced school districts exceed the costs.

As seen earlier in the case of Massachusetts, Estonia also made a clear and unwavering commitment to early childhood education. Compulsory

schooling starts at the age of seven, but parents rely on preschool to get their children ready, so almost every child in Estonia (89%) goes to public early education from the age of three (Eesti Statistika, 2020). Preschool is not free, but parents make a capped contribution based on income (Herd, 2020). In addition, the activities one can observe inside the classroom are more of a 'Nordic' nature, in that kindergarteners are expected to learn through play directed by teachers; they are not graded against tests but rather receive descriptive school readiness report cards, and advance as soon as they become emotionally and physically ready to learn (Jeffreys, 2019).

Another strategy used in Estonia is to provide high quality universal basic education for all; specifically, Estonia puts all levels of ability together. Separating students into different levels of ability is seen as a counterproductive segregation strategy that results in pockets of achievement but does not improve the overall student performance of the nation. Teachers are expected to find ways of levelling up students from all backgrounds within a couple of years. How is this accomplished?

The education system in Estonia gives teachers a relatively high level of freedom to take risks in how they design lessons. Moreover, following the recommendation given by the OECD (2013), which indicates that professional standards can be used to ensure quality in teacher education, Estonia's teacher professional standards were developed in 2005. In 2013, with input from professionals in the field, a new system of standards was developed. These standards were used to verify teachers' competence and also to serve as guidelines for teacher education curricula and as an evaluation tool. A study indicates that the teacher professional standards have been successfully used to design pre-service teacher education and award certificates at the end of the studies, although the results are not as positive for in-service teachers (Pedaste et al., 2019).

From a pedagogical perspective, Estonia has made a strong e-schooling effort, whereby homework is done and graded online, books are borrowed and read electronically, and schools are supported in assessing students online at ages 10, 13, and 16 (Jeffreys, 2019). This is further supported by a curriculum that focuses on problem-solving from an early age and the transfer of knowledge (Hemmi et al., 2021). Assessment is also at the centrepiece of the educational system starting from early on; for instance, the Early Childhood Classroom Observation Measure calls for direct observation and helps Estonian teachers implement a child-centred approach conducive to higher reading performance (Tang et al., 2017).

Positive Deviance Case 3: Castile and Leon

Castile & Leon (C&L) is an autonomous community of Spain that has consistently outperformed the other communities (Spain is divided into 17 autonomous communities with educational authority). In 2015, C&Ls PISA results (Consejería de Educación de la Junta de Castilla y León, 2015) in reading was 522 average points versus 496 from Spain and 493 and 494 of the OECD and the EU, respectively. In math, C&L students obtained an average score of 506, above the Spanish, OECD, and European ones (486, 490, and 493, respectively). The results in science were even more salient in favour of C&L, with their students scoring an average of 519, compared to 493 for Spain and the OECD and 495 for the EU. The total average score from Castile & Leon was the highest in the country (516), above the EU (494) and positioning C&L in the seventh position within the autonomous communities in Spain.

The 2018 PISA results do not include reading as per OECD guidelines due to some anomalies in the administration and scoring of the tests in some regions in Spain. In Math, C&L scored 502 on average, compared to 491 in Spain, 489 in the OECD and 494 in the EU. In Science, C&L scored 501 on average, compared to 483 in Spain, 489 in the OECD and 490 in the EU. While the average scores declined from 2015 to 2018 (as they did on average for the OECD), C&L remains 12th in math and 14th in science. C&L recorded a high percentage of high achievers similar to that of high-performing countries (Consejería de Educación de la Junta de Castilla y León, 2018).

An important aspect of the C&L's success is its focus on equity. C&L spends at the higher end of the spectrum in terms of investment in public education at the non-tertiary level (Ministry of Education, Culture and Sport, 2016). In addition, various programmes were implemented to reduce educational gaps. For example, with the Programme for the Improvement of Educational Attainment, schools that perform below the expected average receive additional support to improve their performance, providing disadvantaged students with a differentiated educational plan aligned with their needs (Boletín Oficial de Castilla y León, 2014). This has resulted in C&L being one of the autonomous communities in Spain with the highest equal opportunities index (Villar, 2018). More recently, the regional government has launched the 2030 Programme, which aims to support quality education for all and to eliminate educational segregation due to socioeconomic factors (Boletín Oficial de Castilla y León, 2018).

Another reason for C&L's educational success is its teachers. Fernando Rey, the region's educational adviser, argues that this is so because the teaching

task force is better qualified and more stable than that of the rest of the nation, with high motivation to learn and the tools to do so (like regular afterschool faculty meetings to improve teaching and learning) supplemented with high expectations for themselves and for students, guided by rigorous standards and assessment (Díaz, 2016). There is also a strong commitment to innovation and to supporting teaching excellence (Carreira, 2018).

To enhance the quality of the system, the pedagogical focus is on the evaluation of the educational processes, not just the outcomes. This includes self-assessments, both individually and in groups. There is a strong focus on formative evaluation as well as using performance indicators that provide continuous information about how the systems are working. External assessments have also been introduced to triangulate and recognise the status and qualifications of the educational system's players (González García & Vega Santos, 2018; Fernández, 2018).

Discussion: Using Positive Deviance to Improve Education

While the systems analysed above vary in terms of geopolitical areas, history, social context, and many other variables, there are certain aspects of all systems that represent PDs that have been done or are being done presently and thus constitute the essence of the lessons we can draw from this analytical exercise. Those commonalities are a) a strong commitment to equity and justice in education (even when introduced mostly as an investment strategy), b) placing teachers at the centre of reforms and focusing on professionalism, c) using assessment as a tool for both process monitoring and summative inquiry, and d) making preschool education accessible to the vast majority of students in that age range.

The evidence in terms of commitment to equity and justice in education is visible in Massachusetts's MERA initiative, Estonia's efforts towards achieving a 'Nordic level of equity', and Castile & Leon's Programme for the Improvement of Educational Attainment. While not all systems analysed in this paper followed the same line of work, all of them acknowledged the importance of addressing issues of equity. Indeed, research on OECD results shows that the schools with the best PISA 2000 results were those with the higher homogeneity in terms of school achievement (Demeuse & Baye, 2007).

Educational structures are also likely only to count in so far as they empower the teacher who is well trained and adequately financially compensated. This is a key finding from this paper and possibly one of the major challenges faced in terms of EU educational policy reform: 'how to ensure a teaching profession that

is attractive to the best and most motivated in the population' (Volante & Ritzen, 2016, p. 1,000). In Massachusetts, the aim to make huge boosts to teacher training required financial investment and was realised in several policy initiatives. In Estonia, the focus was on teacher autonomy combined with clearly defined teacher professional standards with high expectations for teachers. In C&L, there is a strong commitment to innovation and to supporting teaching excellence, focusing on innovative pedagogical practices, support for teaching excellence, and rigorous standards and assessments for students and teachers.

Placing assessment at the core of the educational system is something that was done in all the cases studied. Massachusetts focuses on academic indicators at the same time that teachers receive specific and mandatory training on performance assessment. In Estonia, the emphasis on performance assessment is also central to the system, starting as early as a preschool with observational assessment scales. In C&L, attention is paid to assessment both as a way to provide indicators to monitor the educational system and as a way to provide information and enhance the processes of teaching and learning and its results.

Both Massachusetts and Estonia had a strong commitment to early childhood education. In C&L, the effort is not as salient because the country as a whole has made and continues to make an effort towards early childhood education (specifically for the 0–2-year-old children since the 3–5-year-old period is already accessible and free for all), as can be seen in the most recent educational law, which calls for the public education system to guarantee a free spot for all students in the 0–2-year-old age group (Boletín Oficial del Estado, 2020).

Overall, the measures taken by the PD cases studied here call for a reasonable investment in education with a clear direction towards equity, always placing teachers at the centre of the educational system to ensure the highest learning by students, mostly via quality assessment systems. As an exploratory paper, one shortcoming is that no pre-existing comparison framework was utilised. Using the results from this paper and with a meta-analysis of other supranational comparative education papers, this study could also be replicated with a larger number of positive deviants included in different levels.

Conclusion

This paper originated with the premise that education is a valuable means to reach educated as well as humane, collaborative, and caring societies. High-quality education is the key to such success (Niemi, 2021) and calls for inclusive, teacher-centred, assessment-driven, and foundational educational reforms.

First, the needs of all learners shall be addressed: educational systems should provide the human and material resources for all students to succeed. An evidence-based decision-making and budgetary process are necessary to distribute funds and tools in effective ways, sometimes even providing more resources to some schools than others (as was clearly shown in the case of Massachusetts). While the public tends to call for ‘equal treatment for all’, the analysis in this study shows that the best strategy for the system as a whole is to focus on equity rather than equality.

Second, teachers have to be at the centre of educational reforms as partners in it (Harford & O’Doherty, 2016). Placing teachers as protagonists of educational change ought to start in the teacher education stage so that the transformative practices expected from in-service teachers are also present in teacher education programmes, enabling systems to reach not just ‘best’ practices but also ‘next’ practices that ensure success in uncertain and ever-changing futures (Schratz, & Symeonidis, 2018).

Third, the assessment should be evidence-based and enhancement-led, focusing on how to improve teaching and learning processes and products rather than gathering data to rank, compare, and penalise those struggling (Marion & Leather, 2015).

Finally, preschool education has proven (as notably shown in the case of Estonia in this study) to enhance subsequent education, including serving as an early prevention dropout (Field et al., 2006); therefore, it must be a given starting point for all educational reforms.

In our global world, educational policies are interrelated, and often solutions to common educational problems are found in various geopolitical areas. Through a positive outlier lens, this paper has revealed and highlighted some of these solutions with the hope of supporting evidence-based educational reform efforts.

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