



# table of contents



01.	Summary	03
02.	Why invest in Education	05
03.	What to do in education	09
04.	New challenges in education	28
05.	Recommendations for development	30
06.	References	31

# Education Quality

## 01.

### Summary

There is a consensus on the importance of investing in education and the returns that individuals gain for each additional year they decide to study. Education is a tool to escape poverty, access better jobs, increase income, and improve quality of life. However, in Colombia and Latin America, there is still much work to be done in terms of educational quality. Children and young people struggle to learn basic skills such as reading, writing, and performing mathematical operations. They are not developing the socio-emotional competencies demanded by the current world, and they still do not have sufficient access to higher education. Additionally, they lag behind in acquiring the necessary skills demanded by the current job market: global and digital competences.



**In the first edition of the series 'What Works for Development,' different research studies have been compiled in which interventions with the most impact in education are discussed.**

**I.** The earlier the intervention is, the greater the return will be. The delays in experiences and learning that a child develops in early childhood tend to persist throughout their life, so literature recommends providing comprehensive care from the early years of life. In this first stage, two experiences in Colombia are highlighted within the document: Buen Comienzo (Good Start) and the Demonstrative Center for Excellence in Comprehensive Early Childhood Care.

**II.** Individuals with greater proficiency in reading and mathematics tend to achieve better outcomes in the labor market, grasp other subjects more easily, are more productive, and have higher self-esteem. Programs aimed at improving the learning of these basic skills often include comprehensive and pedagogical interventions within the classroom. For example, the "Let's All Learn to Read" program in Manizales has demonstrated a positive impact by improving the reading and writing outcomes of children in public schools in Manizales.

**III.** Socioemotional skills make a difference. Young people who manage to develop and combine these types of competencies with academic performance tend to achieve better outcomes in their adult lives. For the past

20 years, an active pedagogy model has been implemented in Manizales: Active School. In a survey conducted by the OECD, it was found that students from Active School (AS) achieve better results in these types of competencies compared to students from institutions without the program.

**IV.** Those who lack access to higher education levels face disadvantages in terms of job opportunities, income, and quality of life. To address this, the World Bank has proposed Technical and Technological Education programs as efficient strategies for integration with higher education, offering faster, more efficient, and less expensive alternatives. In Manizales, young people graduating from the "University at Your School" program are achieving higher average incomes compared to other youth in the city, even surpassing some individuals with university degrees.

**V.** Cognitive and technical skills are not enough; current dynamics demand that young people also acquire proficiency in a second language and develop digital capabilities. To address this, Manizales has been implementing different pilot programs aimed at fostering technological skills in children and youth to meet the challenges of the 21st century.

# 02.

## Why invest in Education

Education is one of the main drivers of development. It is an effective instrument for reducing poverty and inequality, as it enables people to access better jobs, increase their income, and improve their quality of life.

Globally, a worker's hourly earnings increase

by **9%** 

for each additional year of schooling they have<sup>1</sup>.

In addition to playing a leading role in development and yielding returns for individuals in the form of higher incomes, education is also a sound public investment.

On average across OECD countries, every dollar invested by the government in tertiary education generates a public benefit of \$2.9 for a man and \$2 for a woman. Governments profit from increased tax revenues, reduced social spending, lower crime rates, and decreased public health expenditures<sup>2</sup>.

With its investment decisions, the government can also help create favorable conditions for economic growth and development, which are among the ultimate goals of a society.

A study published in the Oxford Bulletin of Economics and Statistics found that, when examining the distribution of public spending, expenditure on education has the most positive impact on long-term economic growth. Conversely, spending on social assistance programs might have negative effects on long-term growth<sup>3</sup>.

<sup>1</sup> Patrinos & World Bank (2016)

<sup>2</sup> OECD (2021b)

<sup>3</sup> Gemmell et al. (2016)



However, governments should not only invest more resources in education but also invest them

**more wisely**



All resources allocated to education should be spent efficiently, directing them towards programs that have the greatest impact.

Colombian cities are constantly urged to increase the investment made by local administrations in education using their own resources. For instance, Manizales only

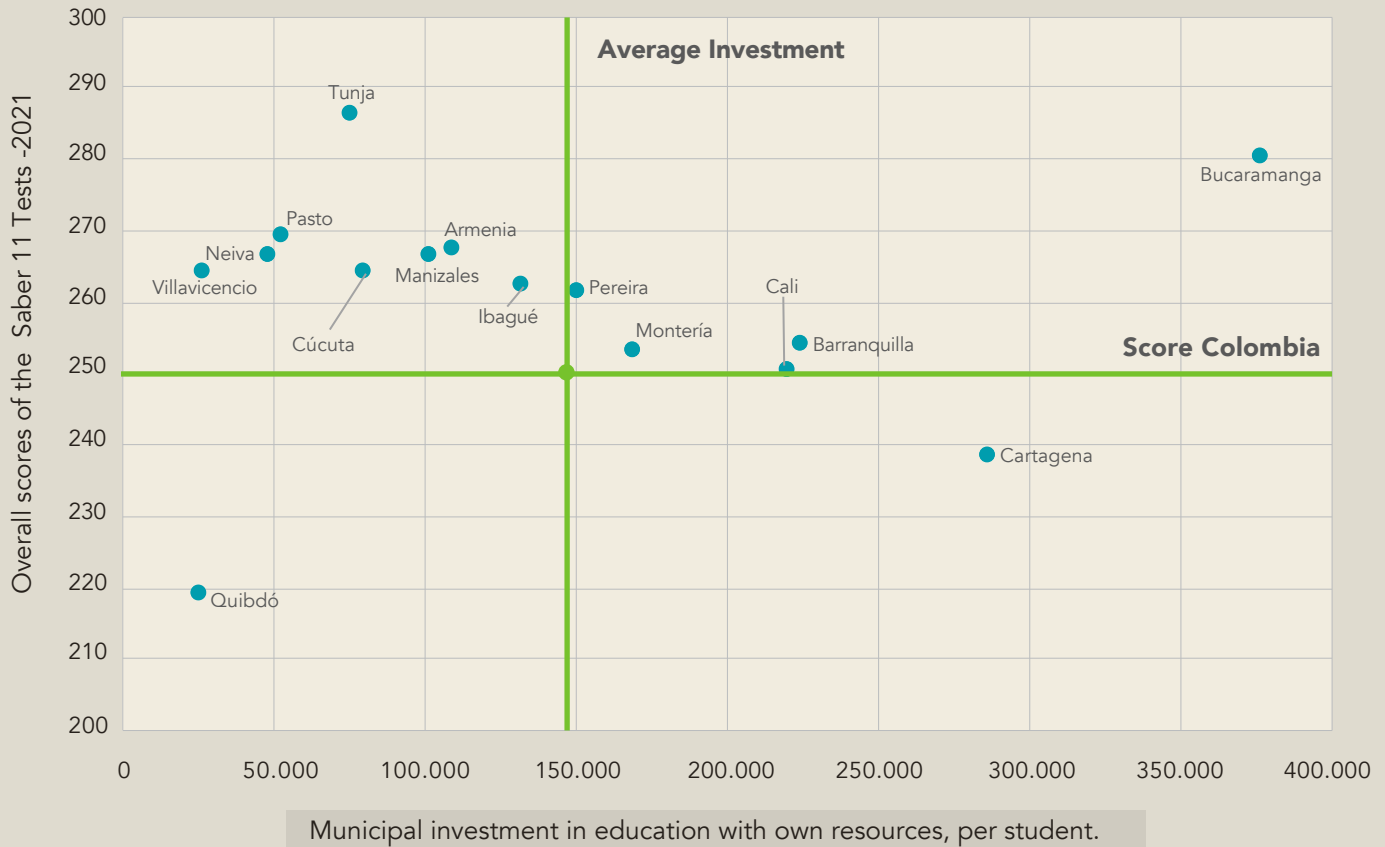
invests 4.8%<sup>4</sup> of its own resources in education, with the rest of the investment in the sector coming from domestic transfers.

Despite the ongoing call for increased investment, this document also extends an invitation to make quality investments. The contrast between education investment per student and the results of the Saber 11 tests in 16 cities in Colombia reveals that more is not always better. Some capital cities with better results in the Saber 11 tests, such as Tunja, Pasto, Armenia, and Manizales, have investments per student well below the average of all cities.

<sup>4</sup> Calculated based on the Regional Compensation Fund (FUT-CHIP). Average 2018-2021.

Manizales is the fourth city in the country with the lowest proportion of its own resources invested in education.

Investment in education per student with own resources and scores in the Saber 11 tests. 16 cities of Colombia.



Source: General Accounting Office of the Nation, FUT-CHIP; Ministry of National Education and Colombian Institute for the Evaluation of Education (ICFES).

Note: Bogotá and Medellín were excluded from the analysis to maintain a homogeneous comparison group, as their investments per student were about 8 times higher than the average of the rest of the cities.

The importance of education within society makes its challenges urgent. At the same time, the current demands of the labor market require going beyond the traditional challenge of educational access, in which significant progress has already been made. Education coverage at all levels has expanded in recent decades; however, the quality

of education received by children and young people still has much room for improvement. Colombia has consistently ranked among the lowest in the OECD countries in the PISA tests for reading, mathematics, and science, with its performance even worsening in the latest tests conducted in 2018 compared to 2015.



A World Bank study on employers' demand<sup>5</sup> for skills defines four sets of competencies related to the labor market: socioemotional, cognitive (basic and higher-order), and technical. While all are valued by the job market, employers express a higher demand for socioemotional and higher-order cognitive skills.

Building on the World Bank's recommendations regarding the skills demanded by the labor market, the first edition of the "What Works for Development" series presents the main learning challenges faced by children and youth in Manizales,

Colombia, with an emphasis on basic life skills. Each challenge is accompanied by educational literature on evidence-based approaches to addressing learning challenges. After presenting the problem and the literature recommendations, the document introduces some education interventions with proven impact. Finally, the document concludes with a series of development recommendations that encapsulate the main messages and action plans for promoting evidence-based development.

---

<sup>5</sup> Cunningham & Villaseñor (2016)



# 03.

## What to do in education

### 3.1 The basis is in early childhood

**35% of children under the age of 5 in Manizales did not receive any form of institutional care in 2021, or there was no record of it<sup>6</sup>**

Intervention, care, and early stimulation play a crucial role in the cognitive development of children, especially in the first 1,000 days of life. **The gaps in experiences and learning that a child develops in early childhood tend to persist throughout their life**, also resulting in disadvantages in skills, achievements, health, and success in adulthood<sup>7</sup>.

In addition to the individual benefits a child receives from proper early childhood care, preschool education programs also yield economic benefits. On one hand, investment in these stages is highly profitable: every dollar invested in early childhood generates returns between 7% and 10% annually<sup>8</sup>. On the other hand, early education is a significant factor in reducing inequality, as approximately 50% of a person's lifetime income variance is already determined by the age of 18<sup>9</sup>.

### Characteristics of early childhood programs

James Heckman (2008), one of the authors who has made significant contributions to the evaluation of early childhood programs, provides a series of practical recommendations that should be taken into consideration when designing and implementing programs for the early stages of a child's development.

<sup>6</sup> 41% received some form of care from the Colombian Family Welfare Institute (ICBF by its acronym in Spanish), and another 23% were enrolled in preschool, according to data from the Secretariat of Education of Manizales.

<sup>7</sup> Heckman (2011)

<sup>8</sup> Heckman (2011)

<sup>9</sup> Heckman (2008)

## Who are they targeting?

Early childhood programs have a greater impact when they target disadvantaged children who do not receive investment from their homes during the first years of life.

## When to intervene?

The earlier the intervention, the greater the return will be. Indeed, strategies aimed at compensating for disadvantages developed in early stages, such as vocational training programs, rehabilitation programs, and adult literacy programs, have not proven to be as effective. Remediation in adolescence can help reduce some of the gaps acquired since early childhood; however, it is much more costly than closing the gaps when they are first emerging.

## How to intervene?

Programs that involve parents and home as the first setting for a child's development achieve lasting changes in the environment and the child's future development possibilities because the child continues to receive support once the intervention is completed. Additionally, interventions that promote socioemotional skills such as character and motivation, rather than solely focusing on cognitive development, are more effective.

## Who should offer the programs?

In addition to respecting the development achieved by children within their family unit, the involvement of the private sector and other community groups, in conjunction with the offerings of the public sector, can help create programs that are effective and culturally accepted.

## Good practices

Internationally, there are many early childhood programs that have been evaluated and show high returns. Some of the most well-known ones are the Nurse-Family Partnership Program, the Abecedarian Program, and the Perry Program, all implemented in the United States<sup>10</sup>.

In the national context of Colombia, two experiences stand out: **the Buen Comienzo (Good Start) program in Medellín and the Demonstrative Center for Excellence in Comprehensive Early Childhood Care.**

<sup>10</sup> Heckman (2008)

## Buen Comienzo (Good Start)

Is a program that provides early education and promotes the comprehensive development of children and their families in the first five years of life. Families and children receive support from the program starting from gestation in components such as health, nutrition, psychosocial care, and stimulation.

Recognizing the family as the primary educator, the support process for households continues until the child reaches two years. After that age, children transition to the institutional environment, where they are cared for in a center or daycare for a period of five to eight hours daily. The care includes a component of family support and ends at the age of five when children enter basic education. Buen Comienzo has been

implemented in Medellín for 19 years, which has allowed to gather evidence demonstrating its impact on children's development. In an impact evaluation of the program for center and daycare modalities during the period 2017-2021, it was found that children from the evaluated institution who received Buen Comienzo assistance had a positive impact (12% of one standard deviation) on their first-grade academic performance<sup>11</sup>.

As an integral intervention in early childhood, positive effects of the program have also been found on the employability of mothers of the children assisted<sup>12</sup> and on the nutritional and dietary component of the children<sup>13</sup>.

## The Demonstrative Center for Excellence in Comprehensive Early Childhood Care

Is an initiative developed in Manizales through a partnership between the Colombian Family Welfare Institute (ICBF), the Social Development Secretariat of Manizales, and the Luker Foundation. The center aims to establish education environments that promote quality, innovation, and research to impact the early childhood ecosystem through measurement and evidence and contribute to the holistic development of children.

Some of the factors promoted by the Demonstrative Center include practices focused on learning socioemotional competencies, development of 21st-century skills, innovative educational and pedagogical practices, production of evidence-based information, and transformation of educational and pedagogical environments<sup>14</sup>.

<sup>11</sup> Medellín City Hall (2022)

<sup>12</sup> Cardona-Sosa y Morales (2015)

<sup>13</sup> Quintero et al. (2016)

<sup>14</sup> United Way Colombia

## 3.2 Read to Learn

**43%**



**of students in Manizales**

**graduate from high school with difficulties in understanding what they read.**

(Pruebas Saber 11, 2022-II)

This proportion of students responded incorrectly to one of the three learning areas of the Saber 11 tests in Critical Reading: understanding how the parts of a text are articulated to give it a global meaning. In other words, 2 out of every 5 students graduating from high school in Manizales have difficulty understanding the texts they read.

### **Why it is important to read and write well**

Literacy is one of the fundamental skills that children learn in their early years of education. Reading and writing well is essential for their performance as future youth and

adults: it facilitates their ability to learn other subjects, is a highly valued skill in the job market, is also related to political participation, and affects aspects of well-being such as confidence and self-assessment of health<sup>15</sup>.

A survey by the OECD (2019) and its Program for the International Assessment of Adult Competences (PIAAC) found that individuals with higher proficiency in reading tend to have better outcomes in the labor market. Among the countries that participated in the survey, an increase of one standard deviation in a person's literacy score (48 points) was associated with a 0.8 percentage point increase in the probability of having employment and a 6% increase in hourly wage.

A child who learns to read and write well is a future adult with better opportunities in the labor market. For this reason, learn to read and write should be a priority in curricula and educational models. It is urgent that children and young people acquire the basic competences they need for life.

<sup>15</sup> OECD (2019); Zhang et al. (2014); Benavot (1996)

## How can learning processes in reading and writing be improved?

The shortcomings of children in reading and writing must be addressed in a timely manner. Achieving major developmental milestones such as reading and writing is less costly if done within specific age ranges<sup>16</sup>. For this reason, **children who do not learn to read and write well in the early grades of education typically do not catch up to their peers who are proficient readers by the time they reach middle school. In fact, the gap between students with high and low performance in literacy continues to widen over time after they develop the competency**<sup>17</sup>.

Considering that the quality of a child's early education has a significant impact on their performance throughout their academic journey<sup>18</sup>, it is essential to reinforce the learning processes in reading and writing during the early grades and implement effective remediation methods to ensure that no student falls behind in acquiring this competency.

There is a lot of literature in education on interventions that have the greatest impact in the early grades to improve reading and writing skills.

**Strategies such as providing books and libraries, improving parental literacy skills, or providing them with information about their children's academic performance often have little to no impact on improving these competences unless they are accompanied by pedagogical strategies within the classroom**<sup>19</sup>.

The strategies that have demonstrated the greatest impact have the following characteristics<sup>20</sup>:

- They are developed in the early grades, as the quality of early education received by children impacts their academic performance in subsequent grades.
- They have a pedagogical component of classroom support that includes structured materials for teachers, phonics-based methods for reading instruction, and content with an appropriate level of difficulty for students.
- They include small-group teaching methods, typically ranging from two to six students.

<sup>16</sup> Cunha y Heckman (2007)

<sup>17</sup> McKinsey & Company (2017); Good et al., (1998); Shaywitz (1996)

<sup>18</sup> McKinsey & Company (2017)

<sup>19</sup> Barrera-Osorio et al. (2020); Goux et al. (2017); Banerji et al. (2017); Borkum et al. (2012); Glewwe et al. (2009)

<sup>20</sup> Marinelli et al (2019) a partir de: Hirata & Rocha e Oliveira (2019); Muralidharan et al. (2019); Machin et al. (2018); Banerjee et al. (2017); McKinsey & Company (2017); Machin & McNally (2008)

## Good practices

Manizales has been the pilot city in the implementation of education programs. "Let's All Learn to Read" (LALR) is one of the interventions aimed at early-stage students and developed in partnership between the Luker Foundation, the Family Compensation Fund (Confía), the City Hall of Manizales, and the Inter-American Development Bank (IDB).

### Let's all Learn to Read

LALR aims to improve reading and writing skills and competences, addressing the low results of state tests and PISA tests among students in the early grades. It has been developed since 2014, the year the program pilot began, and by 2022, it had already been implemented in 100% of urban public institutions in the city.

The strategies implemented by the "Let's All Learn to Read" program follow the recommendations made by the literature in education on interventions that do have an impact on improving reading and writing skills.



- It focuses primarily on the early grades, with a major component in preschool and first grade, along with remediation tutoring for students facing challenges in grades two through five.
- Its methodology includes teacher training and classroom support, as well as the design and provision of high-quality educational materials.
- Remediation tutoring is offered to students from second to fifth grade with low performance in reading and writing, conducted in groups of up to six students.

The program's continuous evaluation strategy has allowed it to accumulate solid evidence of its impact, establishing it as a best practice in teaching. LARL has been adopted by public schools in Colombia and Panama, benefiting more than 700,000 students and teachers, and was internationally recognized with the Wise Award 2021 from the Qatar Foundation.

The IDB has conducted two impact evaluations using experimental methodology to assess the effects of the "Let's All Learn to Read" program. The first evaluation, conducted between 2015 and 2017 with 90 public schools and over 2,000 students,

aimed to assess the effect of offering LARL remediation tutoring to third-grade students with difficulties in reading and writing<sup>21</sup>. The second experiment took place between 2018 and 2019 with nearly 4,000 students in 71 schools, evaluating how the educational material and teacher support impact reading fluency in first grade. The main results of these evaluations are as follows:

- The overall reading score of first-grade students using the program's pedagogical innovations increased by 31% of a standard deviation compared to students who did not receive support (control group).
- By the end of third grade, the reading scores of children receiving tutoring improved by 29% of a standard deviation compared to students not receiving reinforcements (control group).
- Remediation tutoring in reading and writing also has positive indirect effects on some math scores, both at the end of third grade and in exams taken in fourth grade.

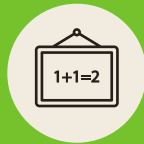
<sup>21</sup> Marinelli et al. 2019

In summary, the "Let's All Learn to Read" program has a positive impact on improving the reading and writing scores of children in public institutions in Manizales, either through pedagogical support in first grade or through remediation tutoring between second to fifth grade.

### 3.3 Adding and subtracting are basic life skills.

**65%** of primary school students in Colombia have low performance in Mathematics

(OCDE, 2018)



The report from the PISA tests classifies all students who score below level 2 as low-performing students, and the United Nations considers this as the minimum level of mastery a child should achieve by the end of secondary education. It is at this level where they begin to have the ability to use mathematics in simple real-life situations. However, the average

mathematics score of Colombian students only reached level 1.

Numerical skills are one of the basic competences that children and young people develop from the early grades. Lagging behind in mathematics affects productivity and the likelihood of a person being employed in their adult life, and has been associated with low self-esteem and feelings of inefficacy<sup>22</sup>.

According to the OECD's Program for the International Assessment of Adult Competences (PIAAC) in 2019, mathematical skills positively influence the likelihood of employment and having better incomes. In the survey results, an increase of one standard deviation in the mathematics score was associated with a 0.9 percentage point increase in the probability of being employed and a 7% increase in wages.

<sup>22</sup> Otto & Kistner (2017)



## Good practices

Among the countries in the Americas, Canada has the best Mathematics results in the PISA tests (2018). Quebec has stood out for its high performance in mathematics and its teaching model aimed at better preparing young people for the needs of the 21st century. Some of the main curricular and pedagogical differences in Quebec's model are<sup>23</sup>:

**Curricular differences:** The scope of Quebec's curriculum clearly establishes a progression of content and skills. In teacher training and within the classroom, it emphasizes the initial construction of foundations before moving on to problem-solving. At the end of basic education, the curriculum explicitly states the need to develop speed and accuracy in mental and written calculation, as well as multiplying larger numbers and performing inverse operations. Each grade tends to cover fewer topics, focusing instead on developing them in greater depth. For example, in fourth

grade, the curriculum content focuses solely on three topics: multiplication, division, and simple algorithms.

**Teacher training:** Teacher training programs in Quebec typically last four years longer on average. Primary school teachers must complete 225 hours of mathematics education courses, compared to up to 39 hours in other Canadian provinces. Additionally, the instructional materials used by teachers are another strength of Quebec's programs, aiming to make learning accessible to students.

## Let's all learn Math

Is a project originated in Manizales in 2022, aiming to improve the math skills of first and second-grade students in public schools in the city. It employs a modern pedagogical approach based on evidence for teaching mathematics.

The program's pedagogical strategies were designed by PREST Canada based on the Canadian methodology, combining in-person and digital components, including:

<sup>23</sup> <https://policyoptions.irpp.org/magazines/october-2018/what-can-be-learned-from-quebecs-math-prowess/>

- Educational materials for students and teachers, including guides, workbooks, and didactic materials.
- Teacher training and mentorship to implement the material in the classroom.
- Individual assessment of students at the beginning and end of the school year using the Early Grade Math Assessment (EGMA).
- Problem-solving focus, structuring units around real-life problem situations.

Preliminary results from the "Let's all learn Math" pilot showed a positive effect on the skills of first and second-grade students. This prompted the initiation of an experiment in 43 public educational institutions in Manizales to estimate the educational impact of the program. The evaluation is being conducted in partnership with the Inter-American Development Bank (IDB) and PREST Canada between 2022 and 2024.

### 3.4 Beyond academic performance: socio-emotional competencies

The development of non-academic skills such as **self-regulation, self-efficacy, and self-esteem** are better predictors of income at age 25 than cognitive skills.

(OECD, 2015)

Socio-emotional competencies encompass a wide range of skills that can influence an individual's personal and collective development. These capacities include behavioral patterns, mood states, approaches to tasks, and even beliefs about oneself and the environment. According to several studies, emotional competencies play a fundamental role in the growth and development of children and youth; they are key to well-being, academic achievements, and create a comprehensive set of essential life skills.

While success in life is often thought to depend solely on academic performance, this relationship is usually more complicated. Some students with similar grades may exhibit significant differences in outcomes throughout their lives, primarily because they develop socio-emotional skills that enable them to effectively confront challenges. Therefore, emotional skills should be recognized as complementary to cognitive skills.

The socio-emotional skills developed in students end up predicting some of their long-term outcomes. Increases in these competencies have been associated by the literature with:

- Better academic performance and a higher likelihood of obtaining a university degree<sup>24</sup>.
- Lower risk of premature mortality and a reduced likelihood of adopting unhealthy habits such as smoking and alcohol abuse<sup>25</sup>.
- Better outcomes in employment and income.

A study by the OECD revealed that composite skills such as self-efficacy, self-regulation, and self-esteem are better predictors of income at age 25 than cognitive skills<sup>26</sup>.

A socio-emotional skills assessment (SSES) conducted by the OECD in 2019 highlights the conditions and practices that promote or difficult the development of social and emotional competencies in students between 10 and 15 years old, as well as the benefits derived from these skills. The study involved ten cities<sup>27</sup>, including Manizales.

Some of the most relevant results of the evaluation for the city of Manizales are:

- As young people enter adolescence, their emotional skills decrease.
- Socioeconomic status influences the development of socioemotional skills, with a higher status being linked to better skills, especially in aspects such as tolerance and curiosity.
- Curiosity and persistence are strongly related to better academic performance in all age cohorts in subjects such as reading, mathematics, and art.
- While strong correlations are not found between emotional competencies and tertiary education expectations, a higher correlation is observed between emotional competencies and skills such as tolerance, curiosity, and assertiveness.

<sup>24</sup> Rosander y Backstrom (2014); Heckman et al. (2006)

<sup>25</sup> Roberts et al. (2007)

<sup>26</sup> OCDE (2015); Roberts et al. (2007)

<sup>27</sup> Bogotá (Colombia), Daegu (Corea), Helsinki (Finlandia), Houston (Estados Unidos), Estambul (Turquía), Manizales (Colombia), Moscú (Rusia), Ottawa (Canadá), Sintra (Portugal) y Suzhou (China).

## Practical recommendations for the development of socio-emotional competencies

Socio-emotional competencies are malleable and influenced by environments such as families, schools, peers, and individual experiences. It has been demonstrated that these skills can be improved through various types of interventions, with impacts on academic skills, reduced involvement in crime, and increased productivity in adulthood.

Some authors recommend:

### Implementing interventions during early childhood<sup>28</sup>:

These skills can be developed through learning and change with age. Some studies demonstrate that personality is more malleable in childhood and adolescence, becoming more stable

with age. Early interventions tend to be less costly than interventions carried out during adolescence.

### Teachers can influence student's socio-emotional competencies<sup>29</sup>:

Certain studies link teachers as influencers on students' socio-emotional competencies, providing emotionally supportive environments that contribute to students' social and emotional development.

### Family interventions:

Home visits to families are useful for the development of socio-emotional competencies. During these visits, social workers and educators should focus on establishing a positive relationship with parents and children, and on providing information and resources to help families raise their children effectively.



<sup>28</sup> (Ackerman, 1996; Kautz et al., 2014; Chernyshenko, Kankaraš y Drasgow, 2018; Roberts, Walton y Viechtbauer, 2006; Borghans 2008).

<sup>29</sup> (Blazar y Kraft, 2017; Pianta y Hamre, 2009; Chetty, Friedman y Rockoff, 2014; Hanushek y Rivkin, 2010).

## Good practices

### The 'High Scope' Perry Preschool Program.

Is based on active learning that develops cognitive and socio-emotional skills such as emotional control. In the short term, the program had a significant effect on children's IQ during the program and up to one year later. In the long term, positive outcomes were observed in terms of school performance, high school graduation, adult income, and reduction in crime<sup>30</sup>.

### Health and physical education curriculum

In primary schools in Ottawa, Canada, a health and physical education curriculum is followed, focused on promoting students' socio-emotional skills. The plan helps students recognize obstacles, manage emotions, express feelings, and develop strategies to cope with stress. This contributes to maintaining motivation, resilience, and optimism in students<sup>31</sup>.

### Active School

Research and applications of active pedagogies in Colombia generally refer to Escuela Nueva (New School), a model that emerged in the late 20th century, became a national policy in the 1980s, and was implemented in rural areas of Caldas since 1982.

Escuela Nueva views the student as the subject of their own learning, giving them an important and active role in their learning process. Its methodology involves reorganizing the classroom into small groups, moving away from the traditional model of teacher-led lectures and promoting greater student participation<sup>32</sup>.

<sup>30</sup> Schweinhart et al. (2005)

<sup>31</sup> Servicio Público de Ontario (2019)

<sup>32</sup> Crece (2012)

## Active School (AS)

The OECD (2021) highlights the Active School (AS) program in Manizales, Colombia, as a model that fosters comprehensive skills in students in public education. AS was established in 2002 as a pedagogical model that promotes participatory and collaborative learning, fostering the development of socio-emotional competencies. The program's methodology proposes a new conception of the classroom, turning it into a space for meeting and collective construction of learning. Currently, Active School continues to be implemented in educational institutions in Manizales through a partnership between the Municipality of Manizales, the University of Manizales, the Center for Advanced Studies in Childhood and Youth (CINDE), and the Luker Foundation.

In an assessment of socioemotional competencies by the OECD<sup>33</sup>, in which Manizales participated, schools with the AS model showed superior results in 12 out of 15 social and emotional skills compared to non-AS schools, controlling student's socioeconomic characteristics.

Additionally, one of the issues that initially motivated the implementation of the Active School program was the high dropout rates. In 2002, the year the program was launched, the intra-annual dropout rate in Manizales's institutions was 8.5%. By 2019, nearly 20 years later, the dropout rate had dropped to 1.5%.

## Active School (AS) Levapan (SEE Learning)


The Levapan Foundation has been implementing the SEE Learning program from Emory University in the United States in the city of Tuluá, Colombia. This program focuses on comprehensive education beyond technical skills, promoting emotional, social, and ethical intelligence from preschool to grade 11<sup>34</sup>.

Through the SEE Learning methodology, teachers from public institutions have been trained, and students have received support sessions once or twice a week. In addition to the emotional education curriculum in basic and middle education, the Levapan Foundation has also launched the Kiwi program for emotional literacy for children aged 2 to 5 in ICBF childcare centers.

<sup>33</sup> OCDE (2015)

<sup>34</sup> Fundación Levapan (2022)

### 3.5 Technical training that brings you closer to the job market.

**63%**   
of individuals over  
25 years old  
in Manizales do not  
have a college  
degree.

35% did not complete high school, and 28% only have a high school diploma. At the same time, those with a college degree earn an average income 2.5 times higher than those who only complete high school<sup>35</sup>.

#### New dynamics of higher education

The transition from high school to higher education is crucial as it allows young people to develop technical and specific skills to enter the labor market. Individuals with a higher

education degree have a higher likelihood of entering the labor market, achieving higher incomes, and enjoying a better quality of life.

Despite the importance of higher education, a large part of the population does not reach these levels of education, either because they must take on other responsibilities, lack sufficient academic preparation, or are unwilling to invest the time and resources necessary to obtain a university degree<sup>36</sup>.

The transition rate to higher education in Manizales was in 2020 was only 50.2%<sup>37</sup>, indicating that only half of the young people who graduated from high school in 2019 entered some form of higher education in 2020.

**In addition to the challenge of access to higher education, the current demands of the job market have led to a reconsideration of the relevance of undergraduate and graduate programs. Nowadays, institutions, companies, and students themselves seek education that aligns with modern dynamics: faster, more efficient, and responsive to the real needs of the productive sector<sup>38</sup>.**

<sup>35</sup> Calculations based on DANE-GEIH.

<sup>36</sup> Ferreyra et al. (2021)

<sup>37</sup> National Higher Education Information System (Sistema

Nacional de Información de la Educación Superior - SNIES)

<sup>38</sup> Ferreyra et al. (2021)

## Strategies for Articulation with Higher Education

In a World Bank report titled "The Fast Track to New Skills"<sup>39</sup>, the benefits of short-cycle programs (SCP) are highlighted, including technical and technological education programs. The study was conducted in some countries in Latin America and the Caribbean (LAC), including Colombia, and highlighted the following advantages for this type of higher education programs:

- Allow for the relatively rapid and cost-effective formation of qualified human capital.
- Graduation rates are higher compared to university programs (57% vs. 46%).
- Across LAC, they have lower unemployment rates (3.8% vs. 6.1%) and higher formal employment rates (82% vs. 67%) compared to university program graduates.
- Online job postings reveal a high demand for SCP graduates compared to university graduates.
- Graduates earn 60% more than high school graduates and 25% more than individuals with incomplete university education.
- Returns on university education have declined since the 2000s, while returns for SCP have increased in most countries studied.
- Some short-cycle programs offer higher returns than many university programs.

## Good practices

### University at your School

Since 2014, the "University at Your School" (U@S) program has been implemented in Manizales, aiming to facilitate the transition of urban public high school students from grades 10th and 11th to technical and technological education (TyT).

Beyond being an articulation program between secondary and higher education, U@S seeks to improve the job skills of young people, their integration into the labor market, and the consolidation of their life projects through access to TyT training.

<sup>39</sup> Ferreyra et al. (2021)



U@S has been developed through a partnership between the Luker Foundation, the Secretariat of Education of Manizales City Hall, Official Educational Institutions, and Higher Education Institutions in the city. The collaboration among these stakeholders allows for the provision of programs that address students' interests and the demands of the productive sector. Thus, the strategy includes designing relevant training offerings, teacher training, curriculum adjustments, and educational material development<sup>40</sup>.

The "University at Your School" program has a baseline from 2015, an interim evaluation conducted in 2017, and a final evaluation in 2022. Monitoring the program's outcome and impact indicators through surveys of students and graduates demonstrates the program's impact on access to higher education, strengthening job skills, and the labor market integration of young people.

### **Access to TyT Education**

- In 2015, only 3 out of 10 graduates from official schools with U@S program offerings managed to enroll in a technical or technological career. In the interim evaluation of University in Your School (2017), 8 out of 10 students succeeded in accessing these levels of education. An increase of over 50 percentage points (pp).
- 79% of young graduates from schools articulated with U@S have a

technical or technological education degree, 36 pp higher than those from non-articulated schools (43%).

### **Strengthening Competences**

- U@S graduates perceive that the educational level attained has improved their abilities to continue studying, find employment, perform well at work, start a business, manage a business, define their life project, achieve personal goals, and be a better person.

<sup>40</sup> Crece (2022)

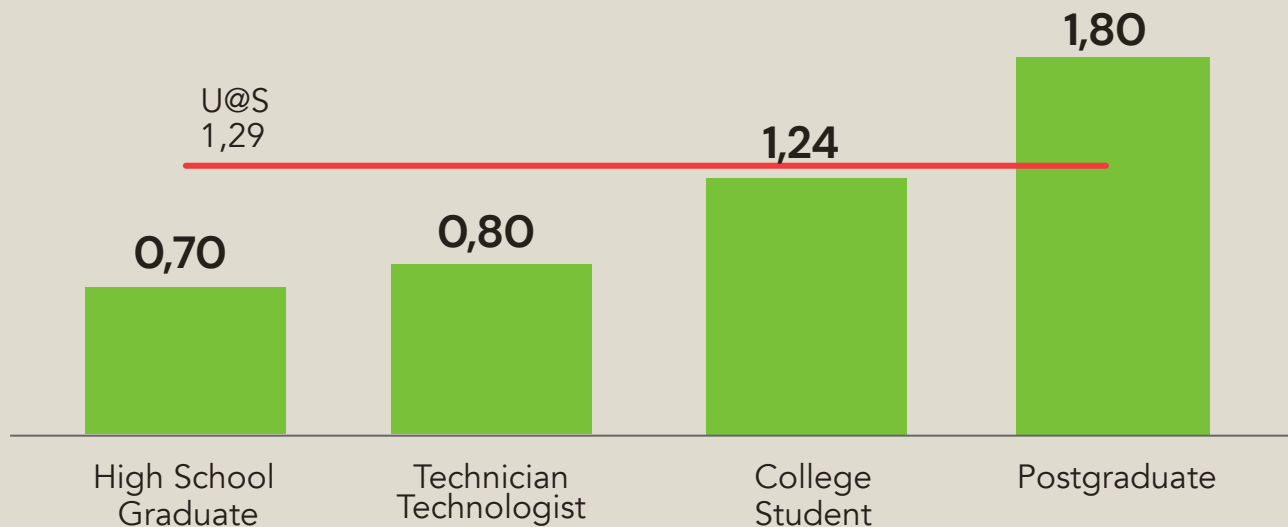
## Integration into the Labor Market and Income Opportunities

- U@S has a positive impact on the earnings of graduates. The percentage of program's graduates with an income of 1 legal minimum wage in Colombia (SMMLV) or more increased from 8% in 2015 (Baseline) to 78% in 2022 (Final Evaluation).
- The formal employment rate of U@S graduates (73%) is higher compared to their comparison

groups (64% for students from non-articulated schools) and even higher than the formal employment rate of the young population in the city.

- Young people from U@S are earning higher incomes compared to other youths in the city. The average salary received by U@S graduates (1.29 SMMLV) is even higher than the average salary of the university-educated population (1.24 SMMLV).

## Monthly labor incomes of the young population in SMMLV, by educational levels



Information from: CRECE - Alumni Survey (2022)

## University in the Countryside

Is a project aimed at bridging secondary and higher education for students from public schools in rural areas of the department of Caldas, Colombia. Students have the opportunity to start their technical and technological education (TyT) from the tenth and eleventh grades, aiming to improve young people's access to higher education and their integration into the labor market.

The program was initiated in 2009 and has since expanded to all 27 municipalities of Caldas. Evaluations of the program reflect changes in the life projects of young people, as well as improvements in their labor insertion and performance. Additionally, students are more inclined to choose productive activities related to rural areas, participate in community spaces, and express interest in continuing their studies or working in the area where they live<sup>41</sup>.



<sup>41</sup> Crece (2017)

# 04.

## New challenges in education

Cognitive and socio-emotional competencies form the foundation for achieving success in adulthood, but they are not sufficient on their own. The characteristics of current jobs require individuals to possess skills in digital and global competences, preparing them for an increasingly globalized world with modern challenges.

### Digital competences

In the 2019 World Development Report, the World Bank called for a prioritization of training in digital competences. The changing nature of the job market and work has made it clear that basic competences alone are no longer sufficient. Technological skills are one of the training trends and an opportunity for young people to contribute even more value to the productive system.

In the series "The Future of Work in Latin America and the Caribbean", the IDB highlighted three trends in post-secondary education: a growing focus on digital skills; the rise of open and online courses such as MOOCs and training camps or bootcamps; and finally, the transition to hybrid education that takes into consideration the needs and preferences of students<sup>42</sup>.

Training in digital competences is urgent. According to the Ministry of Information and Communication Technologies, by 2025, Colombia will have a deficit of 200,000 workers in the technology sector.

In Manizales, the Luker Foundation has initiated the implementation of 4 pilots for the development of digital and technological competences in official educational institutions of the city.

<sup>42</sup> BID (2021)

**Arukay:**

A curricular learning system in computational thinking and programming that is easy to implement. It includes teacher training, e-learning platforms, programming languages through challenges, and data analytics systems.

**Coding Hub Manizales:**

A program for the development of computational thinking and programming skills.

**Brave Up:**

A web platform that detects and prevents bullying and cyberbullying in educational communities, using sociograms and diagnostic surveys on bullying issues.

**Bootcamp Manizales:**

a program for training of young graduates in ICT competences that allows them to have tools to join technology companies in Latin America.

**Global Competences**

Having proficiency in English has become a valued skill in the job market. More and more companies have relationships and connections globally that require proficiency in other languages. Professionals who speak English stand out from others: a study by Hays, a multinational recruitment company, found that a person with English proficiency can earn between 15 and 20% more compared to someone who does not have it.

In Manizales, 89% of students in public schools do not have the expected level of English proficiency<sup>43</sup>. At the same time, young people are facing higher unemployment rates compared to the city's overall unemployment rate, emphasizing the importance of reforming English teaching processes to achieve better results.

<sup>43</sup> Saber 11 Tests

# 05.

## Recommendations for development

The first edition of the "What Works for Development" series provides six key recommendations to ensure that efforts invested in policies and programs to improve education have a greater impact.

**I.** The Demonstrative Center for Excellence in Comprehensive Early Childhood Care in Manizales should be promoted as a space that fosters quality, innovation, and research for the comprehensive development of children in the city. The call is to scale up these interventions and expand the coverage of comprehensive care to reach more children in the city.

**II.** The "Let's All Learn to Read" program in Manizales should continue to be strengthened due to the positive impact it has demonstrated on children's literacy outcomes. This is the path to improving the basic skills of future young people and adults in Manizales.

**III.** The implementation of the "Let's all learn Math" program

in Manizales, based on the Canadian model of teaching these competences, has begun. It is recommended to strengthen the program and continue its evaluation to gather evidence of its results.

**IV.** The Active School model has been implemented in Manizales for 20 years. It is necessary to continue and strengthen the teaching of socio-emotional skills in the classroom.

**V.** It is recommended to continue strengthening the "University in Your School" program as a strategy to increase access to higher education and improve the employability of young people in Manizales.

**VI.** The modern world brings new challenges and opportunities for young people: the growing demand for global and digital competences. In this regard, it is a priority to work on new pilots for the development of digital and technological competences.

# 06.

## References

Ackerman, P. L. (1996). A theory of adult intellectual development: Process, personality, interests, and knowledge. *Intelligence*, 22(2), 227–257.

Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukerji, S., Shotland, M., & Walton, M. (2017). From Proof of Concept to Scalable Policies: Challenges and Solutions, with an Application. *The Journal of Economic Perspectives: A Journal of the American Economic Association*, 31(4), 73–102.

Banerji, R., Berry, J., & Shotland, M. (2017). The Impact of Maternal Literacy and Participation Programs: Evidence from a Randomized Evaluation in India. *American Economic Journal. Applied Economics*, 9(4), 303–337.

Barrera-Osorio, F., Gonzales, K., Lagos, F., & Deming, D. J. (2020). Providing performance information in education: An experimental evaluation in Colombia. *Journal of Public Economics*, 186(104185). <https://doi.org/10.1016/j.jpubeco.2020.104185>

Benavot, A. (1996). Education and Political Democratization: Cross-National and Longitudinal Findings. *Comparative Education Review*. <https://doi.org/10.1086/447400>

Borkum, E., He, F., & Linden, L. (2012). The effects of school libraries on language skills: Evidence from a randomized controlled trial in India. National Bureau of Economic Research. <https://doi.org/10.3386/w18183>

CRECE. (2022). Envaluación Final de Impacto del programa Universidad en tu Colegio.

Cunningham, W. V., & Villaseñor, P. (2016). Employer Voices, Employer Demands, and Implications for Public Skills Development Policy Connecting the Labor and Education Sectors. *The World Bank Research Observer*, 31(1), 102–134.

Ferreyra, M. M., Diaz, L. D., Urzua, S., & Bassi, M. (2021). La vía rápida hacia nuevas competencias: Programas cortos de educación superior en América Latina y el Caribe. World Bank Publications.

Foorman, B. R., & Torgesen, J. (2001). Critical elements of classroom and small-group instruction promote reading success in all children. *Learning Disabilities Research & Practice: A Publication of the Division for Learning Disabilities, Council for Exceptional Children*, 16(4), 203–212.

- Gemmell, N., Kneller, R., & Sanz, I. (2016). Does the Composition of Government Expenditure Matter for Long-Run GDP Levels? *Oxford Bulletin of Economics and Statistics*, 78(4), 522–547.
- Glewwe, P., Kremer, M., & Moulin, S. (2009). Many children left behind? Textbooks and test scores in Kenya. *American Economic Journal: Applied Economics*, 1(1), 112–135.
- Good, R. H., Simmons, D. C., & Smith, S. B. (1998). Effective Academic Interventions in the United States: Evaluating and Enhancing the Acquisition of Early Reading Skills. *School Psychology Review*, 27(1), 45–56.
- Goux, D., Gurgand, M., & Maurin, E. (2017). Reading enjoyment and reading skills: Lessons from an experiment with first grade children. *Labour Economics*, 45, 17–25.
- Hanushek, E. A., Schwerdt, G., Wiederhold, S., & Woessmann, L. (2015). Returns to skills around the world: Evidence from PIAAC. *European Economic Review*, 73, 103–130.
- Heckman, J. J., Stixrud, J., & Urzua, S. (2006). The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior. *Journal of Labor Economics*, 24(3), 411–482.
- Hirata, G., & Rocha e Oliveira, P. (2019). Lasting effects of promoting literacy – do when and how to learn matter? *Education Economics*, 27(4), 339–357.
- Hoyle, R. H., Fejfar, M. C., & Miller, J. D. (2000). Personality and sexual risk taking: a quantitative review. *Journal of Personality*, 68(6), 1203–1231.
- John, O. P., & Srivastava, S. (1999). The Big-Five trait taxonomy: History, measurement, and theoretical perspectives. [personality-project.org](http://www.personality-project.org). <http://www.personality-project.org/revelle/syllabi/classreadings/john.pdf>
- Kankaraš, M., & Suarez-Alvarez, J. (2019). Assessment framework of the OECD Study on Social and Emotional Skills. <https://doi.org/10.1787/5007a7def-en>
- Machin, S., & McNally, S. (2008). The literacy hour. *Journal of Public Economics*, 92(5), 1441–1462.
- Machin, S., McNally, S., & Viarengo, M. (2018). Changing How Literacy Is Taught: Evidence on Synthetic Phonics. *American Economic Journal: Economic Policy*, 10(2), 217–241.
- Malouff, J. M., Thorsteinsson, E. B., & Schutte, N. S. (2006). The five-factor model of personality and smoking: a meta-analysis. *Journal of Drug Education*, 36(1), 47–58.
- Marinelli, H. Á., Berlinski, S., & Busso, M. (2019). Remedial Education: Evidence from a Sequence of Experiments in Colombia. <https://doi.org/10.18235/0002075>



Muralidharan, K., Singh, A., & Ganimian, A. J. (2019). Disrupting Education? Experimental Evidence on Technology-Aided Instruction in India. *The American Economic Review*, 109(4), 1426–1460.

OECD. (2015). *Skills for Social Progress: The Power of Social and Emotional Skills*. OECD.

OECD. (2019). *Skills Matter: Additional Results from the Survey of Adult Skills*. OECD Publishing.

OECD. (2021a). *Beyond academic learning: First results from the survey of social and emotional skills*. [https://www.oecd-ilibrary.org/education/beyond-academic-learning\\_92a11084-en](https://www.oecd-ilibrary.org/education/beyond-academic-learning_92a11084-en)

OECD. (2021b). *Education at a Glance 2021: OECD Indicators*. OECD Publishing.

Patrinos, H., & World Bank. (2016). Estimating the return to schooling using the Mincer equation. *IZA World of Labor : Evidence-Based Policy Making*. <https://doi.org/10.15185/izawol.278>

Roberts, B. W., Kuncel, N. R., Shiner, R., Caspi, A., & Goldberg, L. R. (2007). The Power of Personality: The Comparative Validity of Personality Traits, Socioeconomic Status, and Cognitive Ability for Predicting Important Life Outcomes. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, 2(4), 313–345.

Rosander, P., & Bäckström, M. (2014). Personality traits measured at baseline can predict academic performance in upper secondary school three years later. *Scandinavian Journal of Psychology*, 55(6), 611–618.

Wilson, K. E., & Dishman, R. K. (2015). Personality and physical activity: A systematic review and meta-analysis. *Personality and Individual Differences*, 72, 230–242.

Zhang, X., Koponen, T., Räsänen, P., Aunola, K., Lerkkanen, M.-K., & Nurmi, J.-E. (2014). Linguistic and spatial skills predict early arithmetic development via counting sequence knowledge. *Child Development*, 85(3), 1091–1107.

