

Financial Education from school age - analysis in small Municipalities in Colombia

Educação financeira desde a idade escolar - análise em pequenos Municípios da Colômbia

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ABSTRACT

Financial education is an aspect that has acquired great importance in the economic development of countries, and its inclusion in basic and secondary education programs can bring benefits to the society and the economy of a country. This being the case, the financial education should not be an option but a necessary condition in the training processes, even more because we are facing generations that think in a different way, whose priorities have changed compared to those of previous generations. The measurement of the level of competences in finance has acquired such importance that different organizations such as S&P or the OECD have developed instruments for this purpose. Colombia shows a low level of development in these measurements, a fact that justifies this research with which it is sought to establish the real level of basic knowledge in finance on the part of students who are about to graduate from high school and enroll higher education or be integrated into the labor world, in the municipalities of Chía and Sopó, near Bogotá, capital of Colombia.

Keywords: financial education, rural development, regional development, economic education.

RESUMO

A educação financeira é um aspecto que adquiriu grande importância no desenvolvimento econômico dos países, e sua inclusão nos programas de educação básica e secundária pode trazer benefícios para a sociedade e a economia de um país. Sendo assim, a educação financeira não deve ser uma opção, mas uma condição necessária nos processos de formação, ainda mais porque estamos diante de gerações que pensam de maneira diferente, cujas prioridades mudaram em relação às das gerações anteriores. A medição do nível de competências em finanças adquiriu tal importância que diferentes organizações como a S&P ou a OCDE desenvolveram instrumentos para este fim. A Colômbia mostra um baixo nível de desenvolvimento nestas medições, fato que justifica esta pesquisa com a qual se busca estabelecer o nível real de conhecimento básico em finanças por parte dos estudantes que estão prestes a se formar e matricular no ensino superior ou ser integrados ao mundo do trabalho, nos municípios de Chía e Sopó, perto de Bogotá, capital da Colômbia.

Palavras-chave: educação financeira, desenvolvimento rural, desenvolvimento regional, educação econômica.

1 INTRODUCTION

Financial education is one of the tools that are available to humanity for achieving the goals of the Millennium, due to its high level of impact on some of these objectives. According to Connolly and Hajaj (2001), financial education is one of the most important factors to reduce social exclusion, closing the gaps between the different levels of a society and providing possibilities to access the formal financial system, with the benefits that this brings. Despite the above, there are still differences in the level of knowledge, aspects such as socioeconomic status, gender, age, education level, or race directly affect the financial knowledge that people can have (Lusardi, 2008). It is paradoxical that those who most need this type of education, the people with the lowest income, are those who demonstrate a lower level of skills.

Notwithstanding its importance, financial education is an issue that has been the subject of study and analysis only since 2003 when the Organisation for Economic Cooperation and Development (2005a) established basic principles for its teaching, and published the first study carried out in its member countries, in which it was able to establish the gap between the perception of knowledge and the real situation in finance. Although in the United States it has been established that those who access financial education programs provided by companies have a better financial situation, Cole and

Shastry (2008) and Willis (2009) have not found sufficient evidence to relate financial success with these programs of financial education.

However, a good process of financial education helps a person to make the right decisions that allow him/her to have a good quality of life and ensure that he/she can continue with it at the moment in which he/she leaves the productive life and enters the stage of retirement. Conversely, poor financial education leads to a deterioration in the quality of life of the retired laborer.

In these circumstances, the development of financial education programs is a concern of governments on the basis that they can help reducing inequality as a result of good decision-making. In this sense, in Colombia, besides the express obligation of financial institutions to offer financial education programs (Ley 1328, 2009), there are various actors and programs that seek this objective. In spite of this, the results are not good. In the measurement that was carried out by the OECD (Organization for Economic Cooperation and Development), in 2015, Colombia ranked last among the countries that were measured in financial education, which highlighted the need to strengthen these processes.

For this reason, the present research seeks to establish the level of development of financial competencies in eleventh grade students (maximum level of secondary education), who are on the brink of entering the labor market. To do this, the article first presents a bibliographic review of the concept, its necessity and importance for the economy of the countries. Then, it makes a description of the findings in the PISA tests to continue with the results of the survey. Finally, the conclusions regarding the work that has been carried out and its approximation with other studies are presented.

2 FINANCIAL EDUCATION

One of the most important axes for the development of any country around the world is education. In this sense, governments give great importance to the investment in this area, seeking the permanent improvement of its quality, mainly in children and young people, but without neglecting other sectors of the population such as adults. In this regard, Stiglitz (1999) states that one of the six fundamental pillars on which a program should be based is education, a responsibility that, due to its scope and impact, must be assumed by the state since it exceeds the capacity and interest of an individual company.

Strictly speaking, the greatest efforts have been focused on the development of skills and knowledge in reading, mathematics, and natural sciences. However, in terms

of business development, the importance of financial education has been understood and in line with it, as various international organizations and governments themselves have implemented specific financial education programmes to enable people, from an early age, to acquire basic knowledge related to the use of money.

In order to achieve the objectives of financial education, it must be taken into account that, according to Hogarth, Anguelov, and Lee (2005), there are three elements on which its development is based: the first one is the acquisition of basic knowledge and the acquisition of necessary information about money management including the appropriation of concepts about credit, savings, and investment; the second one is the understanding of these concepts in the management of money over time; and finally, the development of skills for financial decision-making in which planning, executing, and evaluating are important.

Thus, the strategies aimed at strengthening financial education provide people with greater opportunities for personal development, including for entrepreneurship, while their absence or deficiency results in poor decision-making, hence very high-risk levels and bad use of monetary resources (Patiño, 2016).

Despite the importance that financial education has for the processes of training people for life, its study, analysis, and dissemination dates back to a few years ago when the OECD (Organization for Economic Cooperation and Development), around 2005, published the first studies on financial education in its member countries.

According to the Organization for Economic Cooperation and Development, financial education is:

... the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being (OECD, 2005b, p. 3)

The importance of financial education is such that it is already part of the programs of international organizations that, with their promotion, seek for governments to develop public policies for their strengthening. However, there is no consensus on this issue. Willis (2011) considers that the implementation of these programs is a fallacy, a politically correct decision, but with results that are far from the objectives of the promoters, describing it as a marketing tool rather than as a true solution to the financial

problems of society. On the other hand, Atkinson *et al* (2015), show that the amount and the efficiency in the management of resources by adults is strongly correlated with their financial education, which fully justifies the development of problems of this nature.

Previously, Bernheim and Garret (1996) established that people near to retirement who had received financial education had higher levels of savings than those who had not. In the same vein, Richardson (1995) and Borleis and Wedell (1994) established that the best financial habits of those who attended seminars or financial education courses resulted in a greater value in the retirement salary.

Regarding the benefits in financial returns, Boyce *et al* (1998), concluded that a higher level of financial education is the cause of greater volume and better savings rates in adults, while Bernheim, Garrett, and Maki (2001) established the importance of financial education in adult life and the need for it to be taught to young people from high school onwards.

In relation to the above, Asia Pacific Economic Cooperation (APEC) (2014) states that higher levels of financial security, well-being, and prosperity in families and individuals are related to a significant increase in the quantity and quality of financial education; a more financially educated population opens the door to larger markets, greater asset creation, and more efficient use of financial products.

2.1 THE NEED FOR FINANCIAL EDUCATION

The level of education that is required can be achieved if five fundamental principles are applied in the education of children and adolescents: (i) a syllabus that contains financial education in a complete and thorough manner; (ii) teachers who are fully qualified to teach these topics - even current teachers consider that they can benefit from this program (Way & Holden, 2009, cited by APEC, 2014); (iii) differentiation of the methodology according to the conditions of each of the audiences to be reached - even within the same school, segmenting by variables that respond to the reality of each subpopulation (Mandell, 2008); (iv) commitment by the schools to include the financial education chair in their syllabus since if it is considered important then it must be mandatory; and finally, (v) the interest and participation in the process of adult family members is imperative (Lusardi & Mitchell, 2014).

Thus, financial education in schools is required because the new generations are facing a world of immediacy in decision-making at earlier stages of life as a result of their immersion in more advanced technologies. Just like many of the processes of formation

of the human being, the early implementation of financial education helps in the generation of solid financial bases that allow the creation of lifelong learning habits for adequate decision-making (Lusardi & Mitchell, 2014).

Millennials are a generation that does not see the purpose of having financial knowledge that allows them to make sound decisions in the financial aspect. According to the Global Financial Literacy Excellence Center (Lusardi, 2019; 2017), this situation arises because they believe they do not have enough money as to need this knowledge (39%), they already know enough (27%), or the interest will come when they are close to making an important financial decision (18%).

However, they do not know or do not want to know that financial education, in the long term, provides the opportunity to improve the quality of life of the adult, partly due to the sum of many well-made decisions throughout life, under the precept that the financial market is constantly evolving and the decisions vary according to the age of the person who is making those decisions (APEC, 2014). In social terms, financial education is more important for low-income people because the impossibility of spending forces the duration of the money that is received to be longer, and therefore, the price paid for goods and services must be minimized, which in turn favors the spaces for the social leap; besides, in accordance with the principles of the economy, a well-informed consumer requires efficient markets and reduced dependence on society for individual and family welfare.

Thus, financial education is one of the elements that can help significantly in the economic development of societies; however, it must be accompanied by programs that simultaneously improve financial inclusion since good money management is associated with the formality in its management, and for this purpose, the mechanisms of savings, credit, and investment provided by the financial market must be used (Patiño, 2018).

In line with the above and in the search for comparative elements of worldwide financial education, Standard and Poor's developed and applied the Global Finlit Survey (Lusardi et al, 2015), a study that ranks countries according to the percentage of adults who consider themselves financially literate. This study is based on four groups of questions with which the level of knowledge in risk diversification, inflation and its impacts on daily finances, interest rate, and compound interest calculation are measured.

This study shows the great differences that can be found around the world in relation to the level of financial education. Some countries in Europe and North America are the regions with the best level, above 70%, while the rest of the regions in the world

are homogeneous, such as the case of South America in which, with the exception of Chile and Uruguay (with a higher result), and Bolivia (with a result below average), all the other countries are between 25% and 34% (Lusardi et al., 2015).

This result is not surprising considering that the study concludes that financial education is expensive, this being one of the reasons why the objectives of financial inclusion in the world have not been achieved (Patiño and Patiño, 2019).

2.2 THE ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD) AND THE PISA TESTS

Although the evidence of the absence of financial education is evident in the adult population, it is in this point that the structural failures in the training process are perceived. Young adults, under 30 years old, are experiencing anxiety problems due to the financial situation they are in: 30% because of their concern about their level of indebtedness, 22% because of the acceptance of jobs to receive resources for the debt they have incurred, and 29% because of the postponement of their admission to higher education due to the lack of the necessary resources for this purpose (OECD, 2013).

For this reason, the Program for International Student Assessment (PISA) has included financial education in its measurements, establishing five levels of knowledge: development of basic knowledge; understanding the concept of budget; calculation of percentages and analysis of consequences of financial decisions; understanding financial product management and debt management; and finally, understanding the financial environment, taxes, and the costs of more complex financial transactions.

Among the most significant results of the test, it is evident that the early approach of young people to the management of financial products gives them the possibility to better manage their money; however, this statement is directly related to the level of family income as the higher it is, the greater the possibility of managing financial resources well.

The findings in the 2014 test are worrisome despite the fact that 85.3% of students under 15 years of age passed the basic level, demonstrating that there is still a good way to go to develop the financial skills that will allow them to enter the labor or business market in a more effective and productive way (Lusardi, 2015).

3 METHODOLOGY

The research here presented is non-experimental since it seeks to describe existing phenomena or situations; transversal because it was developed at a specific moment in time, and its scope in this phase does not go beyond describing the situation of the moment; descriptive because it seeks to explain the specific behavior of a population in relation to a specific topic; and exploratory as it looks forward to identify a situation on which future research projects deepening the subject of study can arise.

The research process was developed in three phases: the first one in which, after defining the research topic, we established the population, the sample, and the design of the research instrument; a second one in which the field work in the chosen population was undertaken; and a third one in which the information obtained was analyzed and the research findings were determined.

The instrument that was applied to the students in 2018, included 31 questions developed to be solved in a closed manner, allowing dichotomous, polynomial, and nominal responses, with a view to seek that respondents quickly and effectively identify the response options, encouraging an honest answer with simple and easily understood questions. Out of the 31 questions, 11 were chosen for this research paper.

3.1 CHARACTERISTICS OF THE SAMPLE

The target population was students in their final year of secondary education in the municipalities of Chía and Sopó, in the Sabana de Bogotá, department of Cundinamarca, Colombia. The total population in these municipalities is 139,132 in Chia and 29,146 in Sopó (168,278 in total). Given the lack of classification in each municipality of students who are in the eleventh grade or by age, the population was estimated according to the national averages that indicate that 1.28% of the total population take the state test that is designed for the students who are in the last year of secondary education (eleventh grade in Colombia). According to this, the population that meets the conditions to be part of the study is the following:

$$n = \frac{N \times Z_a^2 \times p \times q}{d^2 \times (N - 1) + Z_a^2 \times p \times q}$$

Z (level of trust) = 95%
p (probability of success) = 0,5
q (probability of failure) = 0,5
d (accuracy - maximum permissible error) = 4%
N (population) = 2.154

For the data that was used, the result of applying the formula was that the sample must be 470 students, which allows us to establish that it is statistically valid since it was applied to 471 students who met the condition of the population.

One of the most important aspects that these municipalities have at the social level is a high-level coverage in secondary education, being 98.7% for Chia and 69.2% for Sópó, figures that are above the average for the department and for the country, with which there is a good approximation to the reality of the total population of the municipality in relation to the level of appropriation of the concepts of financial education.

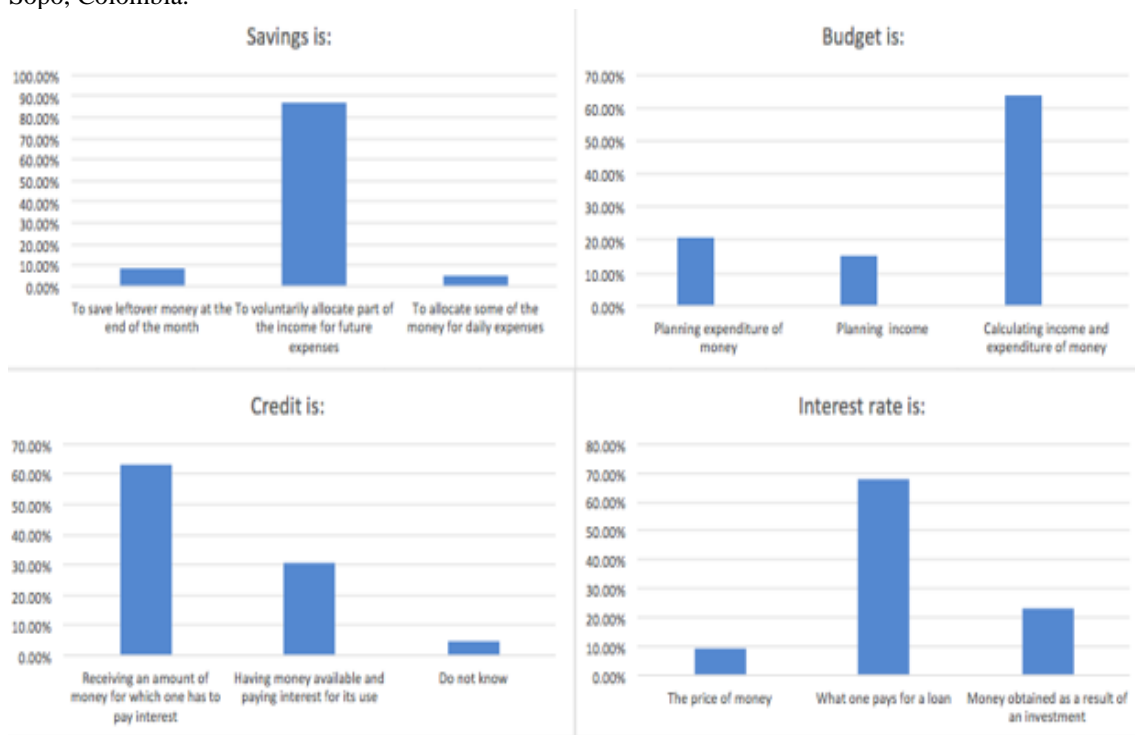
3.2 VARIABLES

The questions were grouped according to their meaning and the possibility of extracting information that was relevant for the development of the investigation. The following categories were established for the analysis: knowledge of basic financial concepts, interpretation and possible application of some of these concepts, specific application of the concepts in simple problems, and identification of the concept of financial education and its importance for the adult life of those who are being surveyed.

4 RESULTS AND ANALYSIS

In the first group of questions, which sought to analyze the approach to basic financial concepts such as savings, credit, interest rate, and budget, it is evident that the population that was analyzed clearly identifies the concept of savings by 86,97% while 13.03% shows confusion. This situation is not repeated in the other concepts; in the case of credit, only 63.47% of the respondents provided the correct answer while 36.53% did not demonstrate knowledge in the definition of the concept; the interest rate shows a very similar level of success of 67.83% and a 32.13% of error; while for the budget, the figures are 63.84% and 26.12%. respectively (Figure 1).

Figure 1. Knowledge of basic financial concepts by eleventh grade students in the schools of Chía and Sopó, Colombia.



Source. Prepared by the authors.

The second group of questions are those related to the interpretation and possible application of some of the concepts previously asked and their application in the student's daily life. In relation to the concept of savings, in spite of the fact that there is no correct answer as to the amount or percentage that should be devoted, it is evident that there is a high degree of sensitivity towards saving among the surveyed group, considering values that are above 25% of the incomes. However, when they are inquired about safety and profitability, concepts that are associated with risk, it is perceived that there is no clarity in relation to these variables, since 46.29% responded that these conditions are met with savings at home, leaving 31.71% for savings in banks or financial institutions. Finally, in this group of questions, 79.73% of those who were surveyed identify the products that are offered by financial institutions, but 20.27% confuse the financial product with the informal loans, with wide coverage among microentrepreneurs in Colombia.

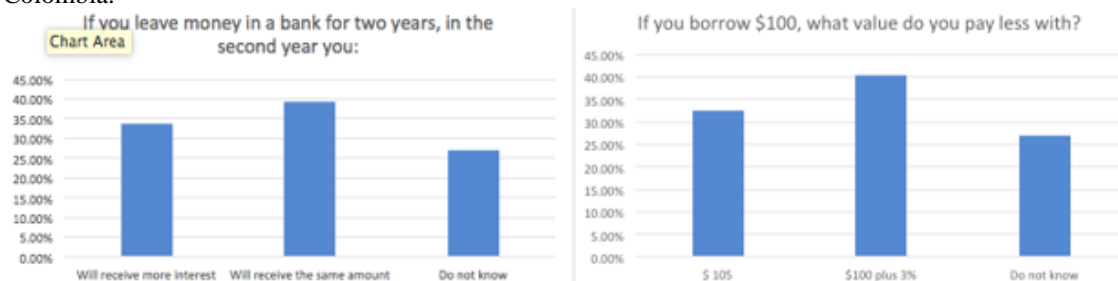
Figure 2. Interpretation of the basic financial concepts by eleventh grade students in the schools of Chía and Sopó, Colombia.



Source. Prepared by the authors.

The third group of questions sought, with simple examples, to measure the level of competence that students have in solving problems related to the concepts defined above. In this sense, when asked about the interest granted in a savings product, only 33.75% answered the question correctly while 66.25% did so wrongly or accepting that they did not know the correct answer. In the case of the question describing a credit situation, 40.52% marked the correct answer and 59.48% did it incorrectly or acknowledging that they did not know the answer.

Figure 3. Application of basic finance concepts by eleventh grade students in the schools of Chía and Sopó, Colombia.

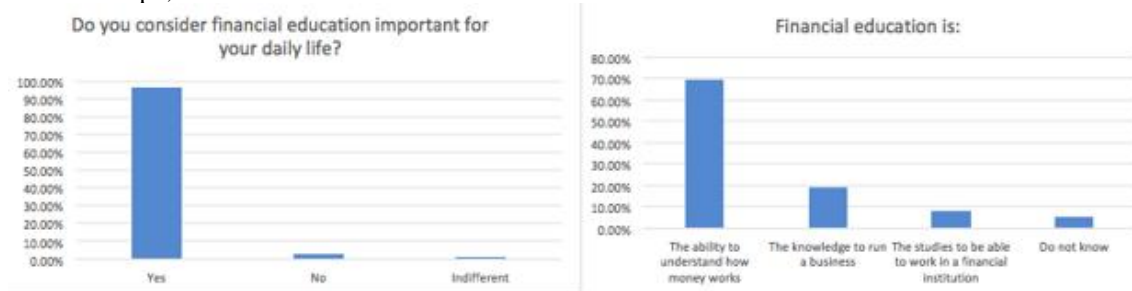


Source. Prepared by the authors.

In the last two questions, we sought to establish whether the concept of financial education and the importance that it may have on everyday life were identified. In the first of the two, 69.30% are clear about the concept of financial education and 30.70% are

confused with other conditions such as the skills to run a company or to work in a financial institution. As for the second question, there is a clear recognition of the importance of financial education in people's lives, with 96.44% of respondents saying this.

Figure 4. Knowledge and importance of financial education for eleventh grade students in the schools of Chía and Sopó, Colombia



Source. Prepared by the authors.

5 CONCLUSIONS

A country must ensure that its population has a high-quality training. In recent years, finance has appeared as an axis of personal, family, and social development, becoming an aspect that should be specially emphasized. The OECD (2013) has recognized the importance that it has, so much that it has been included among the subjects that are evaluated in 15-year-old students, who are normally in the last levels of secondary education in the world, placing financial education at the same level of mathematics, reading, and natural sciences.

The study that was conducted with eleventh grade students in the schools of the municipalities of Chía and Sopó in Colombia, shows that their level of knowledge of the basics in finance is at a level that can be compared with the one obtained in countries that were measured by the OECD in 2005. This means that the correct answers in knowledge of the basic concepts are close to 70% (identical to the figure that was obtained by Australia in that first measurement); however, at the time of the application of the concepts to the solution of simple problems, this percentage falls to 37% (phenomenon very similar to the one shown by Australia, that reached 28%).

The figures that are presented show that comparing with other OECD countries, the population that was analyzed has similar conditions with 13 years of delay, which reveals the differential between countries that are considered as developed, compared to countries with lower levels of development or in the course of development, such as Colombia.

It is worth noting that there is a culture of distrust towards financial institutions in the country (CAF, 2015) that strongly affects the answers about the habits of consumption of financial products, especially savings, considering home as a safe and profitable place for this activity.

Notwithstanding the results, it is clear that there is full awareness about the importance of financial education for the right decision making in an individual's life, which is an excellent opportunity for the existing training programs, offered by financial institutions and other entities (some NGOs and other governmental), to be potentialized, increase their coverage, and provide new development opportunities, especially for those socio-economic sectors that have a greater need to make efficient use of financial resources.

6 LIMITATIONS

The present investigation found inconveniences in the establishment of the population to be studied. Although the segmentation of the target group was done properly, the results of the 2018 Population Census by the National Administrative Department of Statistics (DANE by its abbreviation in Spanish) are not duly published, their figures are aggregated, and cannot be consulted according to the characteristics that are required for this study. Another suitable source for consultation is the Ministry of National Education that shows statistics of students by grades, but also in aggregate. The limitations were overcome by extrapolating the national data to the two municipalities that were analyzed, so the decision was to handle a larger margin of error that would increase the size of the sample and thus obtain valid statistical data.

Although, there are similarities in the findings of this research with previously developed studies, there may be distortions with respect to the national reality since the analysis was made in small municipalities that can vary in their social composition compared to that of large cities and, in contrast, they have levels of coverage in secondary education that are above national standards, and levels of education that are also different because they are municipalities that are in the suburbs of Bogotá and that are home to a large number of students of high socio-economic level of this city.

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