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Analysis of the impact of financial education on the savings of university students in the south of Guayaquil

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Abstract

This study examines the impact of financial education on the saving habits of university students in southern Guayaquil, emphasizing its role in fostering financial stability. A quantitative approach was employed, utilizing a structured survey administered to 384 students to assess their level of financial knowledge and saving practices. The study applied correlational analysis, revealing a moderate positive relationship (Pearson coefficient = 0.518, $p < 0.01$) between financial education and saving behavior. Findings indicate that although 69% of students have received financial education, only 50% regularly create a personal budget, highlighting gaps in financial planning. Moreover, 69% of respondents consider financial education crucial in university curricula. The study concludes that financial education significantly influences saving habits, but its effectiveness depends on external factors such as access to financial products and economic conditions. Practical implications suggest that universities should strengthen their financial education programs by incorporating structured methodologies, such as the Kakeibo method, to enhance responsible saving. Expanding these initiatives could improve students' economic well-being and contribute to long-term financial stability.

Keywords: Economic planning, Financial education, Financial habits, Saving, University students.

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1. Introduction

The management of saving among university students has emerged as a topic of growing global interest due to its influence on individual financial stability and its relevance to economic well-being. Previous international research has shown that saving patterns in this group are determined by a combination of economic, cultural, and educational factors, including

tuition costs, living standards, and the implementation of financial education programs [1]. In this context, it is evident that students' ability to save varies significantly depending on the geographical environment and existing government policies.

In countries with costly education systems, such as the United States and the United Kingdom, students face significant limitations on saving due to student loan debt [2]. In contrast, in nations where higher education is free or subsidized, such as Germany and Norway, students experience less economic pressure, allowing them to develop more consistent saving habits [3]. These contrasts highlight the importance of public policies in fostering a culture of saving.

Financial education has proven to be an effective tool in promoting saving among young people. In countries such as Japan and South Korea, educational initiatives focused on personal financial management have enabled students to adopt saving practices from an early age [4]. These strategies not only improve saving capacity but also prepare students to face the financial challenges of adulthood.

In the Latin American context, various studies have highlighted a complex financial reality. A study conducted in Paraguay, focusing on Public Accounting students at the National University of Pilar, found that although most students report having saving habits, they lack regularity and, in many cases, are sporadic, indicating a weak financial culture [5]. Similarly, research in Ecuador conducted at the National University of Loja determined that while students have saving habits, the amounts accumulated are minimal, averaging only $9.57 per month, with no statistically significant differences between genders [6].

The studies by Tandazo and Ochoa suggest that the lack of financial knowledge directly impacts young people's ability to make sound economic decisions [7]. They argue that financial education not only enhances individuals' ability to manage their personal finances but also reduces their vulnerability to adverse events. Furthermore, developing financial competencies in young people is crucial for fostering saving habits, preventing excessive debt, and building a solid foundation for their economic future [8].

According to research conducted by Rodríguez and Velazco [5], only 35% of university students in Guayaquil have regular saving habits, which is closely related to the absence of adequate financial training [5]. This issue not only affects their short-term financial stability but also limits their ability to achieve long-term financial goals, such as investing in education, acquiring assets, or handling emergencies [9]. Online assessment methods, such as questionnaires in Virtual Learning Environments (VLEs), enhance evaluation effectiveness. Financial education similarly benefits from digital tools, improving resource management and informed decision-making [10].

The saving behavior of university students is conditioned by various factors, including their level of financial knowledge, consumption patterns, and the availability of economic resources. However, studies like that of Zamudio and Ramos emphasize that students who receive financial education from an early stage tend to adopt better saving practices and manage their income more efficiently [11]. This underscores the importance of implementing financial education programs in educational institutions as a strategy to improve young people's economic well-being and, consequently, that of society as a whole.

The benefits of financial education in university students' saving habits extend beyond individual economic stability and impact society in general. According to the OECD [12] a financially educated population is less prone to over-indebtedness crises and contributes to sustainable economic development. In the Ecuadorian context, improving university students' financial education could strengthen financial inclusion and promote a culture of responsible economic planning [13].

Financial education plays a crucial role in promoting saving among university students in southern Guayaquil. Evidence suggests that financial knowledge positively influences young people's ability to manage their resources, reduce debt, and encourage effective financial planning. However, challenges remain regarding the inclusion of financial education in university curricula and access to appropriate financial products. The implementation of educational programs, the use of technology, and strengthening the culture of saving at home could help improve the financial situation of university students in Ecuador.

This research study aims to analyze the impact of financial education on the savings of university students in southern Guayaquil. To achieve this, three specific objectives are proposed: first, to determine the level of financial knowledge among university students; second, to identify the main factors influencing young people's saving and consumption habits; and finally, to evaluate the relationship between available income and university students' saving practices. Using a quantitative approach, this study seeks to identify existing deficiencies in financial education and propose strategies to foster sustainable saving habits among students. E-commerce has become a key tool for SMEs in Guayaquil, but its success depends on well-defined strategies. Financial education plays a crucial role in facilitating informed economic decisions, including digital resource management and savings [14].

2. Theoretical Framework

2.1. The Life Cycle Theory of Saving

Proposed by Modigliani and Brumberg [15] this theory argues that individuals plan their consumption and saving throughout their lives to maintain a stable level of well-being [15]. According to this theory, young people tend to go into debt or spend most of their income due to their initially low earnings, whereas in adulthood, they seek to accumulate wealth, and in old age, they use it for their maintenance.

In the context of university students in southern Guayaquil, this theory explains why saving is low at this stage of life. The lack of financial education and stable income can create difficulties in economic planning, preventing the accumulation of savings [16]. Recent studies have shown that proper financial education can alter this pattern and foster a culture of saving from an early age. According to Chuliá [17] the ability to anticipate future economic needs and develop saving strategies is influenced by the financial training received.

University students' savings also depend on access to suitable financial products, such as savings accounts and investment funds. According to Atkinson and Messy [18], young people who have received early financial education are more likely to plan their financial future and reduce their level of debt [18]. Therefore, applying the Life Cycle Theory to the analysis of university students' savings helps to understand the importance of financial education in developing responsible economic habits and reducing economic vulnerability throughout life.

2.2. The Financial Literacy Theory

Developed by Huston [19] this theory defines financial education as an individual's ability to apply financial knowledge in making personal economic decisions [19]. This approach suggests that individuals with greater financial literacy are more likely to manage their income and expenses effectively. Various studies have shown that university students with financial education have a greater capacity to manage their economic resources. According to [20], the lack of financial literacy is one of the leading causes of over-indebtedness and economic instability among young people Klapper et al. [20].

In Ecuador, access to financial education remains limited, affecting university students' ability to make informed economic decisions [13]. The lack of knowledge in financial planning and control can lead to poor decisions, such as excessive use of credit cards or failure to save for unforeseen events.

A key factor in financial literacy is the formal teaching of these concepts in the educational system. According to Fernandes et al. [21], educational programs designed to improve financial education positively impact young people's economic decision-making. Therefore, Financial Literacy Theory is essential for understanding the impact of financial education on university students and its influence on adopting saving habits and economic planning [21].

2.3. The Consumer Behavior Theory

Developed by Philip and Kevin [22], this theory states that individuals' financial decisions are influenced by psychological, social, and economic factors [22].

Regarding university students, this theory explains how emotions, advertising, and social pressure can influence impulsive consumption and a lack of saving. According to Shefrin and Thaler [23], young people tend to prioritize immediate consumption over long-term savings [23].

The socioeconomic context also affects financial decisions. In southern Guayaquil, where many families face economic constraints, students may prioritize spending on immediate needs rather than saving [24]. However, financial education can modify these behavioral patterns. Studies have shown that educational programs focused on planning and responsible consumption can foster greater financial discipline among young people [16].

Applying the Consumer Behavior Theory in financial education allows for understanding how psychological and social factors affect university students' savings and how financial training can counteract these effects. Savings are defined as the portion of income not allocated to immediate consumption, allowing individuals to accumulate resources to meet future or unforeseen needs [25]. From an economic perspective, saving is a pillar of development, as it promotes investment and financial stability. On a personal level, they constitute a key indicator of an individual's financial health and ability to manage economic risks [26].

For university students, saving takes on particular importance due to the numerous economic challenges they face, such as high educational costs, living expenses, and limited financial resources from personal or family income [27, 28]. Previous studies highlight that young people who develop saving habits early in life are more likely to achieve long- Organization term financial stability [29].

Financial education is defined as the process through which individuals acquire the knowledge, skills, and attitudes necessary to make informed and responsible financial decisions [19]. Its importance lies in providing tools for effective resource management, including savings planning, investments, and debt management.

Various studies have demonstrated that proper financial education positively influences saving habits. Lusardi and Mitchell [1] found that people with high levels of financial literacy tend to save more and plan better for the future [1]. In countries like Japan and South Korea, educational programs targeted at young people have significantly impacted the development of saving habits, highlighting the need to include financial education in school and university curricula [4]. In the Latin American context, the lack of financial education results in irregular and limited saving habits. A study conducted in Mexico by García revealed that incorporating financial education programs in universities significantly improved students' ability to manage their income and promote savings [30].

The socioeconomic and cultural environment plays a crucial role in university students' saving habits [31]. Factors such as family income, tuition fees, living costs, and government policies supporting higher education directly influence students' ability to save [2]. In Ecuador, families' economic situations and the lack of educational programs focused on personal financial management represent significant barriers to fostering a saving culture among young people. Ordoñez et al. [6] identified that university students in the southern region of the country face considerable limitations in their ability to save due to the financial pressure associated with their studies and the limited access to financial literacy resources [6].

2.4. The Kakeibo Method

A viable student saving method that could be applied in Ecuador is the Kakeibo method, originating in Japan. This system, developed by Hani Motoko in the early 20th century, is based on the detailed planning and recording of income and expenses to encourage saving. Kakeibo encourages students to reflect before spending, classifying expenses into essential and non-essential categories. A study by Lusardi and Mitchell [1] highlights that structured financial planning methods, such as Kakeibo, can significantly improve young university students' saving habits by promoting discipline and informed

financial decision-making [1]. The implementation of this method in Ecuador could be carried out through educational programs and mobile applications that facilitate its adoption and monitoring.

3. Methodology

The study adopts a quantitative approach, as it seeks to analyze the impact of financial education on the saving habits of university students in southern Guayaquil through the collection and analysis of numerical data. Quantitative research allows for objective and measurable results, facilitating the identification of financial behavior patterns within the studied population.

Additionally, the research is descriptive in nature. It is classified as descriptive because it aims to characterize the level of financial education and the saving habits of university students [32]. This type of study is useful for understanding how financial knowledge influences young university students' management of economic resources.

The research is also classified as explanatory, as it seeks to analyze the impact of financial education on student savings and determine the factors influencing this relationship [33]. Explanatory research not only describes the phenomenon but also examines the possible causes and effects of financial education levels on students' money management.

This research level allows for inferences regarding how financial knowledge can influence young people's saving and consumption behaviors [34]. Through the analysis of collected data, it will be possible to identify whether there is a significant relationship between financial education and the saving behavior of university students in southern Guayaquil.

To conduct this study, the deductive method will be used, as it starts from general theories on financial education and saving, which will then be tested against data collected from university students in southern Guayaquil. This method enables the analysis of predefined variable relationships and determines whether the empirical results support or refute the proposed hypotheses.

The study is also based on the analytical method, as it examines, in detail, the data obtained from the research instruments, such as surveys, to identify trends and correlations between financial education and saving [32]. By applying this approach, it will be possible to evaluate the influence of financial knowledge on students' economic decision-making.

3.1. Population and Sample

The study population consists of 670,373 individuals, representing a key segment for analyzing the impact of financial education on savings. According to data from the National Institute of Statistics and Censuses INEC [24] this area of the city hosts a significant number of higher education institutions, allowing for a representative sample of students from various academic programs. To determine the sample, a stratified probabilistic sampling method will be applied, dividing students into strata according to their academic level and university of origin [33].

Sample Formula

$$n = \frac{N * z^2 * p * q}{e^2 * (N-1) + z^2 * p * q} \quad (1)$$

Where:
n: Sample size
N: Population size
Z: Desired confidence level
p: Proportion of the population that has the characteristic being studied.
q: Complementary proportion to p (q = 1 - p)
e: Desired margin of error in decimal form (in this case, 0.05)

Substituting the values, we have:

$$n = \frac{670{,}373 * 1.95^2 * 0.50 * 0.50}{0.05^2 * (70{,}373 - 1) + 1.95^2 * 0.50 * 0.50} \quad (2)$$

Additional Notes:

Sample Size Calculation: The formula used is a common one for calculating sample size when you have a large population and you're estimating a proportion.

Confidence Level: The value of Z (1.95) is likely to correspond to a confidence level of 95%. This means that if you were to repeat the study many times, 95% of the samples would give you a result within the margin of error.

Population Proportion: The values of p and q (both 0.5) indicate that the researchers are assuming the population proportion is 50%. This is often done when there is no prior knowledge about the true proportion.

A survey was used as the data collection tool, as it allows for direct information gathering on the level of financial education and saving habits of university students in southern Guayaquil. The sample consisted of 384 individuals, a representative number of students, ensuring the validity and reliability of the results. The finite population sampling formula was applied, with a 95% confidence level and a 5% margin of error, guaranteeing that the collected data accurately reflect the general trends of the studied group [32].

This technique is suitable for quantitative studies, as it facilitates the collection of structured data and the measurement of specific variables. The surveys will be administered to the selected students through structured questionnaires with closed-ended questions and a Likert scale, allowing for an accurate analysis of respondents' financial perceptions and knowledge.

The questionnaire will include questions on basic financial knowledge, saving habits, the use of banking products, and financial planning.

4. Results

The survey used in this research is designed to collect information about the level of financial education and saving habits of university students in southern Guayaquil. The questionnaire consists of closed and multiple-choice questions, organized into sections that address basic financial knowledge, savings planning, use of banking products, and economic decision-making. A Likert scale is used to measure the respondents' perceptions and attitudes toward managing their personal finances. To ensure the validity and reliability of the instrument, a pilot test was conducted with a small group of students, allowing adjustments and improvements to the clarity of the questions before the final application.

Table 1.
Formal financial education in university students.

Detail	**Frequency**	%
Detail	178	46%
Yes, in a specific subject	89	23%
Yes, through workshops or talks	85	22%
No, I have never received training	32	9%
Not sure	384	100%

The results show that 69% of students have received some form of financial education within their university, either through specific subjects (46%) or workshops and talks (23%). However, 22% have never received training, and 8% are unsure. This indicates that, while most students have had access to financial knowledge, a significant proportion has not been exposed to this key information. Financial education is essential for making responsible decisions about saving, investing, and borrowing, so universities should expand their efforts to include all students in these programs.

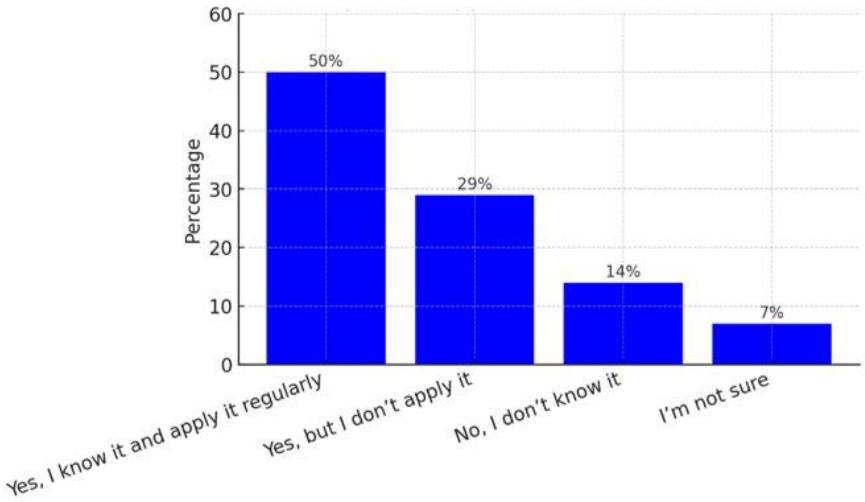

Figure 1.
Personal Budget.

The concept of a "personal budget" is known and regularly applied by 50% of students, while another 29% are familiar with it but do not apply it in their daily lives. 14% are unaware of the term, and 7% are unsure. This result shows that, although most students understand the importance of planning their finances, there is still a sector that does not use it effectively. This could lead to issues with controlling expenses and managing income efficiently. The lack of application of this concept may be due to underdeveloped financial habits or the absence of proper tools for its implementation.

Table 2.
Importance of Implementing Financial Programs.

Detail	**Frequency**	**%**
Very important	264	69%
Important	106	28%
Not very important	12	2%
Not important	2	1%
Total	384	100%

According to Table 2, 69% of respondents consider financial education in universities to be very important, while 28% consider it important. Only 4% see it as somewhat or not relevant. This shows a broad consensus on the need to improve financial education in the university setting.

Table 3.
Educational Interests.

Detail	Frequency	%
Yes, definitely	229	60%
Maybe, depending on the topic	134	35%
No, not interested	14	4%
No, no time	7	1%
Total	384	100%

The data analysis presented in the table reveals that the majority of respondents (60%) are definitely interested in participating, indicating a high level of engagement. Thirty-five percent express conditional interest depending on the topic, suggesting that the relevance of the content is a key factor for their participation. Only five percent (the sum of those not interested and those with no time) completely rule out the possibility of involvement. This reflects an opportunity to attract a wide audience if suitable and engaging topics are chosen.

Table 4.
Pearson correlations.

Variable	Financial Education	Saving
Financial Education	1	0.990
Saving	0.990	1
p-value	0.0095	0.0095
Statistical significance	$p < 0.05$	$p < 0.05$

The Pearson correlation between financial education and saving habits shows a coefficient of 0.518, indicating a moderate and significant positive correlation ($p < 0.01$). This suggests that students with greater financial education tend to develop better saving habits. In this study, the number of observations was 384 for the dependent variable (saving habits) and 65 for the independent variable (financial education knowledge). The identified relationship highlights the importance of financial education in personal economic decision-making, demonstrating that greater familiarity with financial concepts may lead to better saving practices.

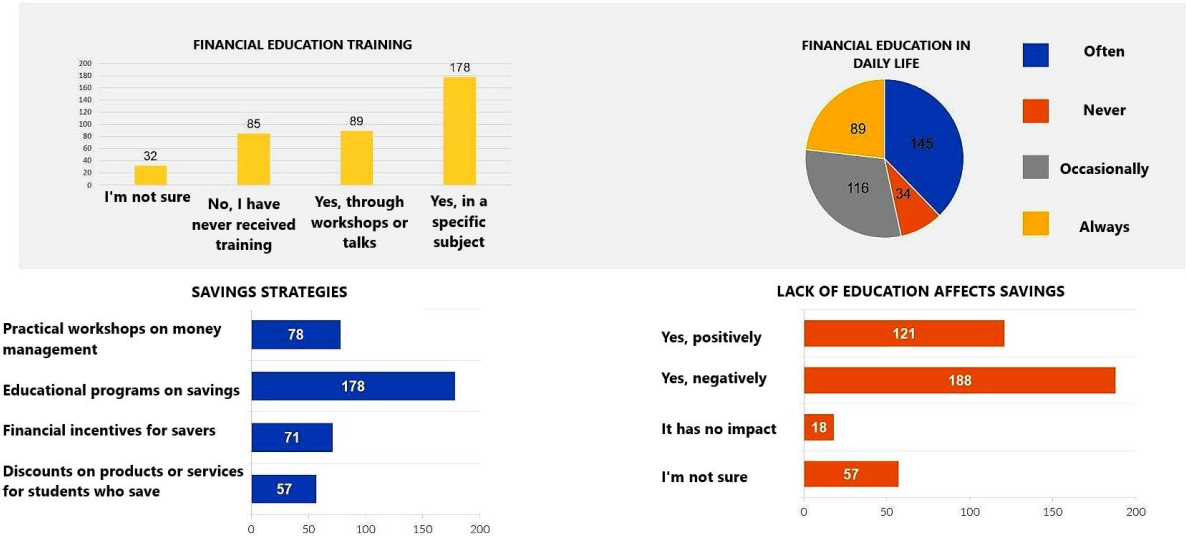

Figure 2.
Financial Education and Savings.

According to Figure 2, the data collected shows that 178 students, the majority have received financial education as a specific subject, while 89 have attended workshops or talks. However, 85 students have never received any training, indicating a gap in financial education, and 32 students are unsure whether they have received any training.

Additionally, 145 respondents often apply financial concepts in their daily lives, and 116 do so occasionally. Meanwhile, 89 students always apply these concepts, while 34 never do. This indicates that although a significant portion has financial knowledge, there is still a percentage that either does not use it or applies it sporadically. The consistent application of financial concepts may be linked to better planning and expense control.

Regarding savings, 188 respondents indicate that their spending habits are negatively affected by the lack of financial education, while 121 mention using their knowledge positively. On the other hand, 75 students report no impact or are unsure whether it has affected them.

Based on this data, saving strategies can be suggested to improve spending habits. Educational programs are preferred by 178 students, 78 prefer practical workshops on money management, 71 favor financial incentives for those who save the most, and 57 respondents prefer discounts on products or services for students who save. This suggests that structured financial education is essential to promoting saving among university students, especially younger ones.

5. Discussion

Financial education plays a crucial role in individuals' economic decision-making, especially among university students. According to Lusardi and Mitchell [1], a higher level of financial education is directly associated with better saving practices, as individuals with financial knowledge have a greater ability to plan for their economic future and avoid impulsive decisions that may affect their financial stability [1]. In this regard, the correlation between financial education and saving serves as a key indicator for assessing the impact of educational programs in universities.

On the other hand, Atkinson and Messy [18] argue that while financial education is essential, its impact on saving habits also depends on external factors, such as access to appropriate financial products and the economic conditions of the environment [18]. In other words, merely acquiring knowledge does not guarantee an increase in savings; it must be accompanied by opportunities and tools that facilitate the practical application of this knowledge.

In a more recent study, Kaiser et al. [35] conclude that well-structured financial education programs generate a positive change in young people's financial behaviors, increasing their propensity to save and improving their ability to manage economic risks [35]. However, they emphasize that the effectiveness of these programs depends on the methodology used and the level of participant engagement. Project-Based Learning (PBL) enhances financial analysis education by integrating practical tools like Excel and Word. This approach improves student engagement, skill acquisition, and interpretation of financial statements in real-world contexts [36].

Finally, Fernandes et al. [21] argue that while financial education impacts saving, its effect tends to diminish over time unless reinforced with continuous learning and practice strategies [21]. According to their findings, educational interventions should be accompanied by real-life experiences that allow students to apply their knowledge in everyday contexts, strengthening healthy financial habits.

6. Conclusions

The research on the impact of financial education on the savings behavior of university students in southern Guayaquil has yielded key findings that highlight the importance of incorporating this training into the academic curriculum. A positive correlation has been confirmed between the level of financial knowledge and the ability to save. Students who have received financial education tend to adopt better saving practices, allowing them to achieve greater long-term financial stability.

Additionally, various factors influencing young people's saving and spending habits have been identified. Among these, the economic pressure stemming from educational costs and limited access to appropriate financial products represents significant barriers to developing a strong saving culture. Likewise, social and psychological factors, such as impulsive spending and lack of planning, negatively impact their financial decisions.

Therefore, the implementation of educational programs focused on personal financial management is essential to improving students' financial well-being. Evidence suggests that initiatives such as the Kakeibo method can be highly effective, as they promote disciplined saving habits by encouraging reflection on expenses and prioritization of savings.

Finally, this research has implications not only for students at an individual level but also underscores the urgent need for public policies that promote financial education in educational institutions. A comprehensive approach that includes both academic training and access to financial resources can help build a generation better prepared to face future economic challenges and contribute to the country’s sustainable development.

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