

FINANCIAL EDUCATION IN BRAZIL: AN INTRODUCTION TO THE STUDY OF SUBJECT

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Abstract

This article aims to warn about the importance of the Financial Education and to the risks that the citizen is exposed when he/she has no information related to the consumption and control of his/her finances. The text deals with Financial Education definitions from the point of view of different authors and presents the scientific literature about the subject in Brazil and abroad. Considerations are made about the personal and family debt and the contribution of the financial education of citizens for the economic development of the country. Stressing the importance of this kind of learning, it is concluded that financial education is important to prevent the population to consume with no need and fall into the traps of the financings, compromising and reducing part of their income with the interest payments, with credit card, overdrafts, installment plans, consigned loans and thereby generating the negative debt. Some methods are also addressed to promote financial education at several levels, teaching the individuals to use their resources in an intelligent and planned manner.

Keywords: Financial education, Financial control, Individual debt, Personal finance, Economic crisis, Brazil

INTRODUCTION

From the second half of the 1990s, the junction of some factors, such as the inflation control, the monetary stability and the economic growth, became crucial to the growth of the internal consumption. The population, which does not have before financial conditions to buy their consumer goods, now has as strong allies the financing and the installment plans.

Brazil is the largest country in South America, with an area of 8,515,767.049 km², as published in the Diário Oficial da União (Brazilian Diary of the Union) on 12/08/2015, and a population of over 204 million inhabitants. Discovered in 1500 and colonized by the Portuguese, it achieved its freedom in 1822, and became a federative republic in 1889. In Brazil, much diversified regions in socio-economic terms coexist. The southern and southeastern states, inhabited mostly by European descendents, present better socio-economic conditions, while in the northern and northeastern states, they are worse, with high poverty rates. Aiming at overcoming the difficulties faced by most part of the Brazilian population, the promotion of financial education at all school levels is thought as a good measure.

According to the Brazilian Banks Federation (FEBRABAN), the banking institutions have become big 'dreams promoters', although this represented a cost that reached 150% of interest per year. Alongside these transformations, a new term was suggested by Domingos (2008) to define the people who did not obtain financial education: the 'financial illiterates'. A timely inference in this regard highlights that only mathematical knowledge and the knowledge of electronic spreadsheets are not enough to determine a financial knowledge.

Because there is no reference to the financial education in the national curriculum guidelines (PCN) or in the curricula of our schools, the problems related to the financial lack of control are detected, over the life of Brazilians, especially among those who are heads of the family or micro-entrepreneurs.

According to the Stephani (2005), when the individual reaches the school age, he or she already carries the views of his/her family, the concepts built in his/her neighborhood, and region, as well as the concepts that were built under the influence of the media. When they enter at the higher education, young people begin to have easier access to credit, because the banks offer, in an attractive way, the opening of the first bank account, overdraft, credit card and other types of credits, besides having exemption of the collection of common rates charged from other customers. However, the lack of financial education, which could have been offered to students from the base of their formation, favors the debt at this stage of life.

Alves (2007, p.15) reports that people financial problems, arise from the lack of financial education, based on the lack of planning. In a highly consumerist society, the greater the family income, the higher the expenses and, consequently, the higher will be the debt. Tolotti (2007, p.

51) reports, that the price to maintain a high status is too heavy for most people. According to this author, in a society where having is more important than being, people seek to be accepted by purchasing branded products and objects that aim to reduce the anguish and the social discredit that affect them. The consumer can get into debt due to several factors: unemployment, wage delay, uncontrolled expenses, personal financial difficulty, reduction of the income, illness, bad faith, and all of these factors are aggravated in time of economic crisis in the country (FIORENTINI, 2004).

This article aims to clarify the concept of Financial Education, presenting it as a resource to guide people to the planning, use and proper exploitation of their financial resources.

FINANCIAL EDUCATION CONCEPT

To make clearer the concept of financial education, it is convenient to use the broad sense of Education and Finance, basic terms to substantiate such concept. According to Houaiss (2001), education refers to the action of developing psychic, intellectual and moral faculties: the education of the youth; result of this action, knowledge and practice of social habits; politeness. The Education word derives from the Latin *educare*, and in the formal sense, it's all continuous process of training and teaching-learning that is part of the schools' curriculum, whether public or private.

For Jacob, Sheryl and Malcolm (2000), the term education in the finance field means knowledge of financial market terms, the ability to use financial mathematics to interpret financial data and the ability to make decisions about the use of money. The term also covers the knowledge of rights, social norms and practical experiences.

The word Finance, according to Houaiss (2001), refers to the science that is the activity of the management of money or securities that represent it; the set of revenues and expenses. Gitman (2004, p.4) believes that finance can be defined as the art and science of money management. He notes that the financial planning begins in the elaboration of long-term plans, which, in turn, guide short-term plans and budgets. The same term, according to Lucci et al. (2006, p.4), "refers to the activities related to money in people's daily lives, such as budget control, use of credit cards, checks, and investment decisions".

Savoia, Saito and Santana (2007) point out that in 2003, the OCDE created the *Financial Education Project*, which aimed to a greater awareness of the individuals about financial products. According to these authors, the program has the purpose to analyze the real impact of the demanded initiatives in the countries, developing techniques that allow the comparison of the programs to provide a set of recommendations that effectively improve the implemented actions.

Lucci *et al.* (2006), addressing the meaning of the "financial education" term, claim that it refers to the concepts and attitudes focused on financial actions, therefore indicating the set of activities, such as daily control of expenses, credit card, financings, loans. These authors show that financial education is important from many perspectives, for example, the personal well-being and the socially oriented actions. The consequences of financially bad decisions can financially disorganize the personal life of an individual, and compromise his/her professional career.

According Gallery *et al.* (2011, p.288), financial education is "the ability to make intelligent judgments and effective decisions regarding the use and management of the money." For Lelis (2006), financial education is important because it covers the information about how to increase the income, reduce expenses and manage funds.

For the *European Commission* (Fin-Focus, 2008), the financial education would be used for better management of financial risks, allowing a greater awareness in decision making. It can be inferred that in European countries, especially those affiliated to the European Economic Community, the financial education has been considered support for economic survival. According to Frankenberg (1999, p. 31), it refers to the personal financial planning, as the one that establishes and follows a precise strategy, "deliberated and directed to the accumulation of goods and values that will form the heritage of a person and his/her family ". This author believes that the financial planning should be focused on the short, medium or long term, and it is necessary to make periodic corrections and reviews.

In short, the financial education is used as a tool for people manage their own money. The financial knowledge

[...] can be classified into two areas: personal and professional. From a personal point of view, it is linked to the understanding of the economy and how the family decisions are affected by economic conditions. It also includes topics of resource management, such as: budget, savings, investment and insurance. In the professional scope, the financial knowledge is linked to the understanding of financial reports, cash flows and the corporate governance mechanisms of the companies (WORTHINGTON, 2006 cited by SAVOIA; SAITO; SANTANA, 2007, p.1130).

To Braunstein and Welch (2002), in addition to the personal benefit, the financial education healthily develops the financial market, since encourages it to offer better services:

[...] informed participants help to create a more competitive and efficient market. Conscious consumers demand for products consistent with their financial needs of short and long term, requiring that the financial providers create products with features that best meet these demands (BRAUNSTEIN, WELCH, 2002, p 445.).

The financial education, according to Hill (2009), can be defined as the ability that people have to make appropriate choices when managing their personal finances during the course of their lives. Thus, in 2005, the OCDE defined financial education as a process that allows to the consumers and investors better understand the concepts and financial products, and evaluate the risks and financial opportunities. Through the information, instruction and / or objective advices, consumers and investors develop skills and gain confidence that enable them to make grounded decisions, which, in turn, would contribute to their financial well-being.

More objectively, Medeiros (2003) and Lelis (2006) understand that the financial education is a subject in which is discussed the importance of the money, how people should manage it, earn it, spend it, spare it and consume it consciously. According to these authors, in face of this need arises the 'financial education' theme. Analyzing the concepts presented so far, it is concluded that the financial education is a resource that guides people to avoid the inadequate use of the money and the unconscious spent, thus preventing the debt.

It is worth mentioning that there are two types of debt, passive and active, that are addressed by Faria (2006) as:

[...] the passive debt happens when there is an increase in debts as a result of some unexpected situation, i.e., unforeseen circumstances that may have several generators factors. The active debt is characterized by debt amounts, and the majority of these debts are misguided, constituting a result of poor financial management (FARIA, 2006, p.01).

One of the main factors of personal debt is the facility with which the credit is offered. According to Horta and Carvalho (2002), installment plans, financings, loans and credit cards are some of these types of credit offer. Generally, the lack of money to buy an asset causes the individual to be attracted to the installment plans, failing to take into account that the interest rates can be quite high. It is understood, therefore, that the debt is the use of third-party resources for consumption purposes. When the individual gets this resource, he or she establishes a commitment to return, in a pre-established date, the amount, normally plus interest and monetary adjustment (MARQUES; MONK 2003).

A debt can be positive if the goal is the increase of income. As an example, it can be mentioned a financing for the purchase of a machine, which is input to the performance of an activity that will generate profit. This can become a positive debt because the acquisition serves to the increase of the income. However, if the purchase is made for own consumption, with no prediction of return, or it is simply the acquisition of a luxury good, the debt is considered negative (TOLOTTI, 2007).

When it comes to debt, first it is necessary to know some concepts, such as the credit concept, which for Sandroni (1999) is,

[...] a commercial transaction in which the buyer immediately receives a good or service purchased, but will only make the payment after a certain time. Another factor is the lack of planning in the personal or family budget (SANDRONI 1999, p.11).

For Jacob, Sheryl and Malcolm (2000), the financial education expression is applied to a wide range of activities related to money in people's daily lives, ranging from the control of the check to the management of a credit card, from the preparation of a monthly budget to the realization of a loan, the purchase of an insurance or an investment.

Furthermore, financial education demands the knowledge of terms, practices, rights, social norms and attitudes necessary to the understanding and the functioning of these vital financial tasks. This also includes the fact of being able to read and apply basic mathematical skills to make wise financial choices (JACOB, SHARYL, MALCOLM, 2000, p.8).

It is understood that the concept that more represents the Brazilian reality about financial education is as follows:

the process by which individuals and societies improve their understanding of the financial concepts and products, so that, with clear information, training and guidance, they acquire the values and skills necessary to become aware of the opportunities and risks involved in them, and then make well-informed choices, know where to seek help, adopt other actions to improve their well-being, thus contributing consistently for the formation of responsible individuals and societies, committed to the future concept of financial education defined by OCDE in 2005, adapted to the Brazilian reality (BRAZIL, 2010).

Hogarth (2002) identifies common features in various financial education definitions and found that individuals who are "financially educated" have a better understanding of: (a) to obtain knowledge and be educated and informed about money and assets management issues; (b) to understand the basic concepts of money and assets management; and (c) to use the knowledge and the understanding to plan and implement financial decisions. This author also states that the program evaluations have shown that the knowledge about financial education leads to a change in behavior and, therein, there is a financial gain.

This work takes as reference the concept of financial education defined by the OCDE in 2005, which was adapted to the Brazilian reality, and describes FE as "[...] the process by which individuals and societies improve their understanding of the financial concepts and products [...]" (BRAZIL, 2010) and which serves as support for a greater awareness of the individuals about financial products.

THE SCIENTIFIC LITERATURE ABOUT FINANCIAL EDUCATION

The financial education is a subject present in the daily lives of companies and people; even if still little discussed in the business environment, it has proved to be a matter of concern for all, because it has been reflected directly in the personal and family life, in a negative way.

Among the surveyed works, it is quoted the work done by Pinheiro (2008), which emphasizes the importance of the financial education for the complementary pension field. The author discusses the experience of OCDE, the precursor to boost the financial education and organize an educational guide of principles and instructions directed to the complementary pension. The article states that Brazil follows the international trend, including the financial and pension education, in the work agenda. According to the data of Pinheiro's (2008) survey, the Brazilian population, as well as the worldwide, need more knowledge about the pension product, and may thus have implications for the socio-economic development of Brazil.

Therefore, it was possible to note that educational measures are tools that need to be promoted and boosted by the government and the private action. Lucci *et. al.* (2006) discuss the importance of the financial products knowledge, and claim that people need to be prepared to deal with increasingly difficult circumstances when they purchase a good or service. The research conducted a data analysis that showed that the knowledge level about the financial concepts and products is related to the financial education level applied by people in their daily lives. It was concluded that the knowledge about finance acquired at the University, positively influenced the decision-making related to financial products.

Matta (2007) conducted a survey whose purpose was to check the alignment between the information supply of the Central Bank of Brazil Financial Education Program (PEF-BC) and the search for information about personal finances performed by the university students of the Federal District. It was concluded that there is a partial alignment between supply and demand of the examined information, i.e., only a part of the demand is fulfilled by the information supply of the PEF-BC. This research was important for demonstrate the need for financial alphabetization of people, demonstrating that when there is course offers about "financial education", there is a significant demand.

In addition to the formation of a critical mass in varied audiences, it is possible to see, day by day, during the presentation of mathematical concepts and their consequences, the behavior of the individuals in practice. This approach to the Financial Mathematics happens through the use of one of the Mathematics Education perspectives, aimed at the construction of the citizen, understanding that the mathematical knowledge can become an indispensable tool for overcoming the dichotomy between the school education and the daily routine, critical to the citizenship exercise (MATTA, 2007).

Hereafter is presented the list of researches identified in the websites Scielo, Academic Google and Capes:

Table 1. Authors researched on search websites

Author	Year	Title	Journal	Objective	Abstract
Lucciet <i>al.</i>	2006	The Influence of financial education in consumption and investment decisions of the individuals	USP	In the world of numerous and varied financial products, people must be prepared to deal with increasingly complex situations when they wish to purchase a good or service.	The knowledge level of the financial concepts is directly proportional to the level of financial education, with respect only to the number of disciplines related to the finance field performed in graduation.
Savoia; Saito; Santana	2007	Paradigms of financial education in Brazil	Public Administration Journal (RAP)	To discuss the financial education in Brazil, in order to assess the stage of actions related to the subject at the national context and suggest initiatives for promoting them.	Five actions that assist in the engagement of public and private actors in the financial education program are proposed: evolution, objectives, approaches, risks and results.
Pinheiro	2008	Financial and social security education, the new frontier of pension funds	Pension Fund and Capital Markets Book	To discuss the relevance of the financial education, as public policy, for the complementary pension segment.	It is emphasized the importance of financial education for the complementary pension segment. It discuss the promotion of educational practices as (i) improvement of the pension funds, (ii) to change cultural habits, (iii) to face the consequences of the demographic transition and the longevity risk, (iv) to allow that the individual carry out appropriate financial choices to his/her profile and (v) to assist the activities of the supervisory government agency of pension funds.
Mata	2007	Supply and demand for personal financial information: the Central Bank of Brazil Financial Education Program and the University students of the Federal District	UNB	To check the alignment between the information supply of the Central Bank of Brazil Financial Education Program (PEF-BC) and the demand for information about personal finance by the University students of the Federal District.	It is observed that efforts aiming at the financial education of people are rare in Brazil. The studies focused on the theme are almost nonexistent. Given this shortage, a survey was developed involving one of the few existing programs in the country supported by a public agency focused on the financial education of the population.

Financial Education in the world

The financial education has been implemented in many countries, which have created institutions for its promotion. Analyzing available studies on the visited websites, it was possible to elaborate the Table 2 below:

Table 2. Financial Education in some countries

Country	Promoting Institution	Objectives
USA	Treasury Department – Financial Education Office	<ul style="list-style-type: none"> • To promote access to financial education tools to make wise decisions about personal financial management; • To coordinate the actions of the Financial Education and Instruction Commission.
England	Financial Services Authority (FSA)	<ul style="list-style-type: none"> • To keep market confidence; • Promoting public understanding of the financial system, the consumer protection and reduce financial crime; • To develop guidelines for teaching financial education in English schools.
Portugal	ConsumerInstitute (CI)	<ul style="list-style-type: none"> • To act as a consumer protection agency; • To promote education initiatives, training and production of didactic and pedagogical means.
Japan	National Institute for Consumer Education(NICE)	<ul style="list-style-type: none"> • To sustain effective and comprehensive promotion of the consumer education.
Canada	Office of Consumer Affairs (OCA)	<ul style="list-style-type: none"> • To operate in the monitoring system of the market and consumption; • To act as a source of economic and financial information for the Canadian population.
New Zealand	<i>NZ RetirementCommission</i>	<ul style="list-style-type: none"> • To introduce programs to encourage the retirement plan, ensuring to the elderly people the quality of life they expect; to work in youth education.
Spain	<i>National Commission of the Stock Market (CMNV) and by Bank of Spain</i>	<ul style="list-style-type: none"> • To improve the financial culture of the adult population; • To insert disciplines that developing the financial education in schools.

Source: Adapted from Matta (2007).

According to Saito, Savoia and Petroni (2006), in the United States of America, not only the elementary schools offer financial education, but also the government institutions like the *Federal Reserve* and the *National Endowment for Financial Education* (NEFE). It is noteworthy that 98% of the American banks are involved in some way in this process, being 72% to capacitate young people. The authors cited above claim that up until the year 1985, among the 50 American States, 60% already had included the financial education as a compulsory content in secondary schools.

In the UK, unlike the USA, schools are not forced to offer financial education, but there is a content discrimination by other disciplines such as moral and civic education, mathematics, among others. The Financial Services Authority (FSA) is an independent agency that operates in the United Kingdom as responsible for the regulation of the financial services. The mathematical questions were not seen as dynamic themes or addressed in the context of the citizen. In fact, the no obligation is understood by the logical thinking that when people think about the use of mathematics and its many applications, it is understood that it is present in all aspects of the society and the cultures (MATTA, 2007).

In Portugal, the Consumer Institute, in addition to acting as a consumer protection agency, promotes activities of educational, training and production of didactic and pedagogical means. In Japan, the National Institute for Consumer Education also develops actions aimed at consumer education, but does not mention a school program for this purpose. In Canada, the financial education of the population is offered from the start of the children education (MATTA, 2007).

In New Zealand, a committee advises people preparing for retirement and still works in the financial education of young people. Willis (2009), in his work at the University of Pennsylvania - United States of America (USA) says that every day financial products have become more complex and thus, the consumers have difficulty in understanding them. Willis (2009), who is against the financial education, recommends its replacement by a search for more adequate policies to the consumers. The author considers inappropriate the inclusion of financial education in the alphabetization process and states that the methods for the realization of the consumer preparation could almost be the same as those used in schools: classroom, self-study, materials, informative websites, interactive games and counseling. Although the programs vary in content and methodology, all of them aim to bring welfare to the consumer in decision making related to the use of money.

In Spain, there is a movement to include financial education in the school system. Holzmann and Miralles (2005) argue that financial education should be inserted in the

curriculum without the need to be a new discipline; it may be addressed in disciplines that create the opportunity to financially educate children and adolescents.

The effectiveness of the financial alphabetization as a policy tool cannot, therefore, be empirically validated, and one of the possible explanations for this refers to the fact that the educators have not found yet the right way to perform this type of education (HOLZMANN, MIRALLES, 2005). However, it is necessary to think about the education of the citizens, and mathematics is presented as one of the most appropriate disciplines in this process, because it is through it that, with or without the use of technology, it can be interpreted the facets of the Real.

According to Bernheim and Garrett (2003), the studies already performed as support for the financial education model suffer, however, some weaknesses, such as the development of financial education programs that use data collection techniques using self-assessment to demonstrate that this education is effective. With regard to Brazil, a study of consumer financial education using self-reports about the benefits of savings account admits that the education can affect the communication (what people say), rather than affect the behavior (how the person directs his/her actions) (BERNHEIM; GARRETT, 2003).

The number of financial education programs has grown rapidly in the United States in recent years. A research conducted at the University of Illinois in order to measure the effectiveness of these programs showed that they did not keep the expected results. This is mainly because to a disagreement between financial professionals about how to measure the impact of these programs. The research concluded that the results of financial education programs are far from being considered satisfactory. In fact, just recently, some studies have tried to present the impact of the program in the context of a theoretical framework (SHOCKEY, SEILING, 2004).

When evaluating the programs and seek a relationship between financial education, knowledge and change of behavior, there are in the literature the work of Braunstein, Welch (2002); Hogarth (2002), Hilgert, Hogarth, and Beverly (2003); Fox, Bartholomae and Lee (2005); and Lyons (2004). Highlighted the fragility of the assessment tools for these studies, the findings still not confirmed the significant influence of financial education on the consumer change of behavior.

In 2005, the OCDE published a report entitled *Improving financial literacy: Analysis of issues and policies*. Through the obtained results, it was found that the surveyed countries are adopting population training policies regarding the concepts of credits, investments and insurance instruments, and it demonstrate concern with the young population. One of the biggest obstacles to the success focuses on the lack of awareness of the population regarding

the benefits that financial education brings. In a survey conducted by the OCDE (2005), for those who are not affiliated to the organization, were presented some principles and recommendations that are listed in Table 3.

Table 3. Principles and recommendations of financial education – OCDE

Principles and recommendations of financial education – OCDE	
1 -	The education should be promoted fairly and without bias, i.e., the individuals' development of financial skills needs to be grounded in appropriate information and instructions, free of particular interest.
2 -	The financial education programs should focus on the priorities of each country, that is to say, to adapt themselves to the national reality, and they may include in their content, basic aspects of a financial planning, such as the decisions about savings, debt, insurance contracts, as well as elementary concepts to assess the status of the pension plans, requiring to act properly to defend their interests.
3 -	The financial education process should be considered by the administrative and legal agencies of a country, as an instrument for economic growth and stability, being necessary to complement the role played by the regulation of the financial system and the consumer protection laws.
4 -	The involvement of financial institutions in the financial education process should be encouraged, so that they adopt it as part of their relationship practices with their customers, providing financial information that encourages the understanding of their decisions, especially in long-term businesses and those that significantly compromise the current and future income of their consumers.
5 -	The financial education should be a continuous process, following the evolution of markets and the increasing complexity of information that characterize them.
6 -	Through the media, should be conveyed national campaigns of incentive to the understanding of the individuals about the need to seek financial training and knowledge of the risks involved in their decisions. Also, it is necessary to create specific websites offering information of public utility and free access.
7 -	The financial education should start at school. It is recommended that people enter early in the process.

8 - The financial institutions should be encouraged to ensure that the customers read and understand all available information, in particular when they are related to long-term businesses or to the financial services with relevant consequences.

9 - The financial education programs should focus, particularly, in important aspects of the personal financial planning, such as savings and retirement, debt and insurance contracts.

10 - The programs should be directed to the construction of financial competence, adapting themselves to specific groups, and they should be elaborated in the most personalized way possible.

Source: SAITO; SAVOIA; PETRONI, 2006.

It has been found that the financial education generally provide positive data. Specifically regarding the financial counseling, the studies indicate that the customers show significant improvement in the understanding of financial products. According to Staten, Elliehausen and Lundquist (2002), individuals who received counseling were able to reduce their debt, improve the credit card management and reduce their default in payment. Hiran and Zorn (2001) found that borrowers who participated in the own home pre-purchase had a default in payment rate of 90 days 19% lower than those who did not made counseling. Although there is a consensus that the financial education positively promotes financial results, it is important to recognize that the results are not conclusive yet. There is great inconsistency in the final results. According to Lyons (2004), many of the inconsistencies come from a lack of understanding of what it really means to be "financially educated", as well as the lack of understanding of the process by which a person becomes financially educated.

FINANCIAL EDUCATION IN BRAZIL

It is not possible to talk about financial education in Brazil without consulting and analyzing some laws that govern this Republic, as the Law of Guidelines and Bases of the National Education - LDB - (Law No. 9.394, of December 20, 1996), which reports how the principle of education is an obligation of the family and the State. According to this law, the education is a duty of the family and the State, and, inspired by the principles of freedom and the ideals of human solidarity, has as purpose the full development of the student, his/her preparation for the exercise of the citizenship and his/her qualification for work (BRAZIL, 1996).

The full education requires intellectual, moral and physical training, also including in it the training to deal with finances. In this sense, Carvalho (1999) points out that the school is the

ideal place to establish a new financial culture. The author, supported by the Consumer Protection Code, in the market research and the mathematical knowledge involved, believes that it can be created activities that guide students in choosing between buying in spot price or installments, and also guide them to make use of their rights, including when they pay in advance an installment that has embedded interests. The National Curriculum Parameters (PCN) that define the guidelines for the pedagogical proposal of the several courses offered by the Brazilian schools, suggest the need to work daily routine topics in the classroom (BRAZIL, 1998).

Citing the text of the National Curriculum Parameters, it can be seen the following comment, with regards to the need to financially educate the students, in face of the emergence of a new economic framework, both in the world and in Brazil:

[...] with the constant creation of new needs turning luxuries into vital goods, the acquisition of goods is characterized by consumerism. Consumption is presented as a method and objective of life. It is essential that our students learn to critically position themselves on these issues and understand that much of what is consumed is the product of work, although not always we think in this relationship at the time we purchase a commodity. It is necessary to show that the object of consumption, be a tennis or a brand clothing, a food product or electronic device etc., it is the result of a long work, carried out under certain conditions. When it can be compared the cost of producing each one of these products with the market price, it is possible to understand that the rules of the consumption are governed by a profit maximization and precariousness of labor valuepolicy (BRAZIL, 1998, p.36).

Corroborating the Carvalho (1999) ideas, the same text of the National Curriculum Parameters (BRAZIL, 1998) adds the aspects linked to the consumer rights, which also need mathematics to be better understood: for analyze the composition and quality of the products and evaluate their impact on health and the environment, or for analyze the ratio of the lowest price / greater quantity, for example.

In this case, supply situations such as, buy three, pay two, are not always advantageous, because they are usually made for products that are not selling so much; therefore, there is no need to buy them in large quantities. It may still be that the products are with the expiration dates next maturity. Getting used to analyze these situations is critical for students to recognize and create forms of protection against misleading advertising and marketing strategies that potential consumers are submitted (BRAZIL, 1998, p.21).

According to the National Curriculum Parameters (BRAZIL, 1998, p. 64): "if the school wants to be in line with the current demands of society, it is necessary that it deal with issues that affect the lives of the students; issues with which they are confronted in their daily life". Also

according to the National Curriculum Parameters, the issues related to the globalization, the scientific and technological changes and the necessary discussion about the ethics' valorization in the society, present to school the huge task of equipping young people so that they participate of the culture, and the social and political relations. By positioning in this way, the school opens up the opportunity for students to learn about topics usually excluded.

However, even after more than a decade of promulgation of the LDB and after the term and concepts of financial education have been introduced in the country, it can be observed that there is still a lack of academic research that can substantiate the issue in question, as it was found in the consultation to the specific websites already mentioned in this work (BRAZIL, 1998, p. 47).

In relation to the financial education of young Brazilians, it is observed that the subject has not been treated with emphasis by the national official documents that establish the educational policies in Brazil, including the National Curriculum Guidelines for Education (DCN) and the National Curriculum Parameters(PCN). Saito (2007, p.7) states that: "[...] there is no specific works about the implementation of the Education in Personal Finances in national curricula". Regarding to the financial education, Saito (2007) warns that despite the relevance of the subject, Brazil does not have educational planning focused on the economic socialization process.

In Brazil, some projects and actions have been developed by government agencies and private companies. Saito (2007) cites the following institutions: Central Bank of Brazil, which has the Financial Education Program (PEF), a proposal of orientation to the society about economic issues; the Brazilian Securities Commission (CVM), that promotes lectures and provides booklets and a website with the purpose of guiding people about investments; the BOVESPA BM&F, that created the BOVESPA Educational Program in order to discuss the importance of the Stock Exchange in a country and the functioning of the stock market; the Brazilian Federation of Banks (FEBRABAN), that provides information about the use of financial products offered by banks; the Centralization of Banks services S/A (SERASA), that created the SERASA Guide of Citizen Orientation, seeking help the financial resources management; The ITAÚ Bank, that offers the Conscious Credit Guide to provide guidance about the formulation of a family budget, in addition to discuss the use of loans and financings.

Among the public initiatives, in 2007, the Brazilian government created a program called National Strategy for Financial Education (ENEF), in order to foster the financial culture in the country. Such program is made up of a working group with representatives of the Central Bank of Brazil, the CVM, the Supplementary Pensions Department and the Superintendence of Private Insurances (SUSEP). According to Brazil (2010), the program's goal is to develop a

proposal of National Strategy for Financial Education, prevising the promotion of a national inventory of financial education projects and actions in the country, as well as a survey that maps the degree of financial knowledge of the population. In addition to the actions intended to the target audience for adults, the ENEF previses actions for schools, following a worldwide trend. This organization has as main objectives to promote and foster the financial education culture in the country, to increase the understanding of the citizens so that they be able to make conscious choices regarding the administration of their resources, and contribute to the efficiency and soundness of the financial, capital, insurance, pension and capitalization markets (BRAZIL, 2010, p. 2).

The ENEF program also provides guidance to the financial education of adults, presenting the objectives and concepts related to the subject. The guidelines should be transmitted in the simplest way possible, noting the ability to understand of each individual, according to the item "a" of the § 1 of the 5^oart., of the Resolution No. 03 of the Settlement and Supervision Committee of the Financial, Capital, Insurance, Pension and Capitalization Markets (COREMEC), which reports:

[...] a) target audience to be reached, establishing proper segmentation, as suggested priority: by age groups (children, young people, adults and seniors), by education (primary, secondary, higher and postgraduate), by income (economic class), by activity (small and medium entrepreneurs, workers, teachers, market professionals, bank managers, judges, public prosecution members etc.) or by region (BRAZIL, 2010, p.15).

Some target audiences, themes and actions have been selected by ENEF:

- Target audience: military; public servants; formal and informal workers; liberal professionals; University students; housewives; unemployed people; retired people; rural workers; social programs beneficiaries; Brazilians living abroad and others.
- Themes: financial inclusion; consumer protection; personal finances; economy notions; notions of the national financial system; credit and microcredit; conscious consumption; social security; preparation for retirement; investments; insurances; capitalization and others.
- Actions: portal; lectures; publications and booklets; seminars; regional meetings; contests; call centers; advertising campaigns; courses; television programs; radio programs; fairs; cultural spaces; scheduled visits and others.

The ENEF, according to Brazil (2010), proposes a short, medium and long-term plan of actions about financial education. This plan should contain at least the following actions:

- a) Training of tutors and multipliers to leverage the strategy actions, being fundamental to train a large numbers of people who can multiply the financial education knowledge for several audiences;
- b) Creation of tutorial groups will be formed to work in the training and monitoring of these multipliers, answering questions, taking part in discussion forums and in the assessment process of the performed actions;
- c) Constitution of virtual forum and development of space in the ENEF portal, with the primary aim of promoting discussions between tutors and multipliers about topics of interest of financial education, clarifying doubts and identifying improvement points of the ENEF;
- d) Promotion of courses about financial education issues and development of classroom and distance learning courses about specific topics of financial education, according to the target audience.

The pilot project was implemented in 891 volunteer high schools, training 1,200 teachers and reaching 27,000 students with ages ranging from 14 to 17 years. This project was conducted in partnership with the World Bank between May 2010 and December 2011, considered the largest study done in the area by the bank. It was performed an evaluation of the pilot project before and after the material application. Two questionnaires were applied to the students, one questionnaire to the teachers and other to the parents or legal guardians. The instruments are designed to provide measures about: Financial education; Financial autonomy; and Intention to save.

Baseline tests were carried out in August 2010, and the follow-up was done in November of the same year. The qualitative monitoring showed that teachers, before the program, had little interest in the subject, and feared the overwork, the lack of training and the fact that this would be imposed by the government. After the Module I, there was a setback in this scenario, and the teachers showed consciousness of the importance and the urgent need to work with the theme. There were disputes to be part of the program, and the contributions with ideas to work with families were several (BRAZIL, 2010).

Initially, the students, like the teachers, showed the same lack of interest on the subject. They had little or no control of their expenses, saw no importance in financial issues and were in a hurry to consume immediately.

After Module I, they showed much interest on the subject and actively participated in the classes. As a result, it was found that they managed to save a little money, have developed greater consideration for small amounts and exchanged financial experiences with their peers.

Based on the test, a financial proficiency index ranging from 0 to 100 was calculated for students. At baseline, the average score of the control and treatment groups was 50. In the next research, the financial proficiency was significantly higher in the treatment group (60) than in the control group (56). Besides that, the self-reported knowledge about interest rates, loans and financings, insurances, income tax and minimum payment in credit card bills, was more than 10% higher in the treatment group than in the control group. The attitudes and behavior also revealed differences between the treatment and control groups. The financial autonomy (46) increases two points in the treatment group compared to the score of 49 points in the control group.

The intention to save [measured on the basis of the Reasoned Action Theory of Ajzen and Fishbein (197347, 198048)] in the treatment group was 5% higher than in the control group. This intention reflected in real behavior of saving, since the treatment group saved 10% more than the control group. Moreover, a larger portion of the treatment group elaborated monthly lists of expenses, negotiated payment methods and sought similar models or brands before buying, and a smaller fraction made purchases by installments.

Thus, the FE program increased the financial knowledge of the students, brought improvements in the financial attitudes and changed the financial behavior of the participants, since it became more likely that students in the treatment group have smarter financial behaviors, talk to their families about financial issues and help in the organization of the household budget.

It can be highlighted the release of several books that address the sense of a financial education, finding in the literature, articles and books ranging from generic to those aimed at specific audiences. For women, is cited: (DSOP) - What women want to know about personal finances (VEIGA, 2007); Women & Money (ORMAN, 2008). Nice girls don't get rich (Frankel, 2005). Stay rich guiltless: get rid of bad habits that deplete your life (Trueman, 2007); The laws of money for women (Bussinger, 2008). Women value: awaken the wealth that is in you (VILLAS BOAS, 2007).

Another means of dissemination of financial education is through the learning in schools. In Sao Paulo there is a post-graduate course in the financial education area named Postgraduate in education and financial coaching, in partnership with DSOP and the Management Sciences Faculty of Jundiaí (FCG), offered by Getúlio Vargas Foundation (FGV).

Also in Rio de Janeiro, the School of Financial Education, which runs in the Vila Isabel neighborhood, offers a course by FGV, a private institution.

The Brazilian government started in 2011 a pilot project with 450 public high schools of São Paulo, Rio de Janeiro, Tocantins, Ceará, the Federal District and Minas Gerais. The objective is to insert concepts of financial education in Portuguese, mathematics, sociology and history classes, using specific educational materials about the risks and advantages of cash purchases, among others. According to Marchetti (2011), despite identifying the efforts triggered to implement a financial education project in Brazil, no results were found with these programs. This is probably due to the fact of being isolated initiatives, not always assumed by the educational managers, and by the lack of disclosure of the monitoring of this experience managed by the Brazilian government.

A research made by the World Bank and the BM&F BOVESPA in 2010 about the Financial Education Project Impact Assessment in Schools in Rio de Janeiro, revealed that this education positively affects the knowledge of the Brazilian youngsters on the economy. Researches as the SPC Brazil about Financial Education (2013) and SERASA EXPERIAN, show that higher income does not improve the financial behavior of the Brazilian people (2013); The Trade Federation (FECOMERCIO) addressed the Consumption, Debt and Financial Education habits of young people in Belo Horizonte (2012); among others, with the purpose to investigate the consumption and debts habits of people, worth mentioning the studies of Savoia, Saito and Santana (2007).

As previously reported studies, it was understood that the mathematical issues should be seen as dynamic themes, being addressed in the citizen context, exploring its logic and concepts and generating new knowledge. The activities should not be developed as a way of solving a list of exercises, but through appropriate activities at the students level and contextualized in order to become exciting and compatible with the social context. These activities can be performed in various ways, as for example, in the form of projects, which allow the participation of the students, the use of different materials and data which stimulate the thinking about the importance of using mathematics in the interpretation of reality. Thinking in solving concrete problems, these activities lead the students to look, through the books and the teacher, grants to develop their reasoning on different situations.

Especially for the development of this type of activity, it is possible to think in the use of the mathematics in many ways, because it is present in all aspects of society and it is found in all cultures. For Bishop (2001), is precisely the cultural aspect of the mathematics that allows that researches be done attempting to imitate some activities related to the mathematical

knowledge, leading students to experimentation, investigation and to the writing communication of their experiences.

FINANCIAL EDUCATION METHODS

As a relatively new field in the educational sphere, the models and techniques used to disseminate the financial education are different and use, most of the time, the expertise and the tools of the experts in the field and of those who take the defense of the inclusion of this discipline in the educational system.

One of the methods used in Brazil is the CROWN, which aims to teach financial principles to the Christians. The Crown aims to teach 300 million people worldwide by the year 2015, to handle with money according to the biblical perspective. In Brazil, the desired range is 10 million people (CROWN, 2014). The Crown (2014) method is taught in small groups, which may vary from ten to twelve participants, including leaders or facilitators. The duration is twelve lessons referred and administered on a specific day of the week, during twelve consecutive weeks, with the duration of two hours per lesson. The applied methodology is to study the daily lessons and tasks which will then be shared within the group. Therefore, it is used the book *Your Money*, by Howard Dayton, the same author of the method. Anyone can take the course, since the person is literate. The participants can be in couples or individually, whereas: a) married people should attend the course together with their spouses, b) the individual participation is restricted to people who are single, separated, divorced or widowed.

Another method that has been widespread in Brazil is the Diagnosing, Dreaming, Budgeting and Saving (DSOP), created by the financial educator and therapist, Reinaldo Domingos. Founded in 2008, the DSOP has led the financial education to different audiences: from childhood to adulthood. When creating this method its author tried to cover all the principles to financially educate. The methodology is applied to individuals of different ages, and each group has a specific educational material.

There is also a course of Postgraduate in Education and Financial Coaching in partnership with UBS business school (DSOP, 2014). The goal is to educate for a sustainable consumption, allowing the inclusion of behaviors aimed at the training of thinking, critical and independent people, able to devise and carry out individual and collective projects, seeking to live today without forgetting tomorrow, meeting the basic needs and saving to ensure their financial autonomy.

Currently, DSOP has a network of over 200 financial educators and business franchises throughout Brazil, who share the mission of disseminating financial education, to break the cycle

of people with financial imbalance, and build new generations and families financially sustainable (DSOP, 2014).

Based on DSOP (2014) method, it is understood that people can develop skills to make purchases more consciously, deciding whether it is better to buy in cash or in installments, whether there is the need to take a loan or not, and if so, what would be the best way to negotiate it, to do it and where to look for other options; if excess funds in the monthly budget, what can be done with the possibilities, opting for an application in short, medium or long term, etc. Furthermore, it is with the Financial Mathematics that can be encouraged the entrepreneurship among students, because in the case of an investment in own business, it can be taught how to calculate the value of a product to be sold so that the price fits to the needs of the customer, while meeting the need of the business compensation.

Table 4. Stages of the Trans-theoretical method of change (TTM)

Stage	Period	Characteristics
Individual precontemplation	The individual is not ready to act and change behavior in the next six months.	The individuals at this stage will rarely seek help and use information.
Individual contemplation	The individual is preparing to take action and intends to change behavior in the next six months.	Individuals at this stage are open to the educational processes.
Individual preparation	The individual is ready to act and want to change behavior in the next 30 days.	The individuals at this stage will seek supporting information, but, often, they have concerns that the process of change can be difficult and they cannot succeed. Small steps toward the goal.
Individual action	Behavior change. The individual did not change in the period of six months.	The individuals need to believe that they can change, that they may be able to control the stimuli that trigger their relapse toward old behaviors, and create a support system to help them in challenging times.
Individual Maintenance	The individual openly has changed his/her behavior and this has lasted for more than six months.	Stage where the individuals often have relapses. They must be committed to the overcoming of the temptations to take a new behavior. Become permanent. Individuals at this stage have to be able to assess the relapse conditions.

Source: Elaborated by the author from Prochaska and Di Clemente (1983).

There is also a small but growing group of people who analyze the financial instruction through the Transtheoretical method of change (TTM). The method is based on the work of Prochaska and Di Clemente (1983) and integrates the main psychological theories on a behavior change theory. The model was initially used in health area (SHOCKEY, SEILING, 2004).

It is understood that with this method, the provided education must be bound, in an organic and integrated way, to the consumerist behavior, and must be related to the social practices. Thus, it is expected that the individual has a formation that enables him/her to develop different skills and abilities, and then be integrated in the community where he/she is inserted. This formation would lead to a change in the individual's consumption behavior, since he/she would be endowed with autonomy and critical thinking (PROCHASKA; DI CLEMENTE, 1983). This method has five stages of change as presented in Table 4.

It is wanted also, to prepare the person and guide him/her to the labor market, so that the developed skills enable the individual to monitor the social, cultural and economic changes, whereas, according to his/her interest, he or she be able to continue his/her ethical and professional training. It can be said, therefore, that this method follows the needs and demands of today's world, proposing that is practiced an education that allows the student to interact with the environment in which he/she live.

CONCLUSIONS

The meaning of Financial Education adopted in this text is the same adopted by authors such as Lucci et al. (2006), according to whom this type of education entails concepts and attitudes related to financial actions, including, therefore, activities related to the daily control of expenses, financing, loans and others involving money. In this sense, the goal to be achieved is personal well-being and socially-oriented actions, since financial education would enable individuals to make wiser decisions as regards to the use of money: organization to earn it, manage it, spend and save it, conscious consumption.

The Financial Education concept highlights the competences necessary for people to become aware of the opportunities and risks in the use of money and make choices that will improve their well-being, thus consistently contributing to the shaping of responsible individuals and societies, committed with the future.

The survey of scientific production on the theme showed that the most developed countries in the world - England, the United States, Canada and others – have been developing programs designed to promote Financial Education for a long time, involving schools of all levels and even governmental institutions. However, in Brazil, it can be observed that that the theme has not been treated with distinction by the official documents that establish the

educative policies, as is the case of the Diretrizes Curriculares Nacionais para a Educação (DCN) (National Curriculum Guidelines for Education).

Since the middle of the first decade of the 21st century, some programs have been developed by financial institutions such as Banco Central do Brasil (Central Bank of Brazil) and the Stock Market. In addition, the Brazilian government has created a program named Estratégia Nacional de Educação Financeira (ENEF) (National Strategy of Financial Education), aiming at fomenting the financial culture in the country.

In the past 15 years, the solution found by the governments to combat poverty and improve the population's socio-economic conditions has been more of the welfarist type, offering help to the poor through family allowances, rather than establishing a development perspective for the people. At the time this text is being produced, the country is living a recession never experienced before, and the authors of the present article consider that the solution to promote development is to invest in Financial Education for all population groups.

In view of the economic crisis the country is living at the moment and the need to prepare people to deal with financial resources, the authors consider important to give relevance to a wide financial education program. So, we suggest other researches must be done about: School education X financial education; New studies about finances in Brazil; Academic finance formation; Children economic education.

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