Abstract

In this article, we present the qualitative research carried out in Adult and Youth Education that aimed at the production of meanings and the decision-making of individuals-consumers at EJA (Adult and Youth Education) in consumption situations-problems. Our theoretical references were Zigmunt Bauman to treat of the consumer society, Romulo Lins to ramming methodological and production of meanings through the model of Semantic Fields, Maria da Conceição Fonseca and Maria Celeste Souza to the EJA and gender-related themes. The results of our investigation allowed us to develop an educational product with problem situations of economic-financial nature that can be used by teachers in math classrooms in the Adult and Youth Education (EJA).

Keywords: Consumption, Gender, Decision-making, Adult and Youth Education.

Resumo

Neste artigo, apresentamos o percurso de uma pesquisa qualitativa efetuada na Educação de Jovens e Adultos que objetivou a produção de significados e a tomada de decisão de indivíduos-consumidores da EJA em situações-problemas de consumo. Nossos referenciais teóricos foram Zigmunt Bauman para tratar da sociedade de consumo, Romulo Lins para embasamentos metodológicos e produção de significados por meio do Modelo dos Campos Semânticos, Maria da Conceição Fonseca e Maria Celeste Souza para os temas relativos à EJA e Gênero. Os resultados de nossa investigação nos permitiram a elaboração de um produto educacional com situações-problema de cunho financeiro-econômicas que pode ser utilizados por professores em salas de aula de matemática na EJA.

Palavras-chave: Consumo, Gênero, Tomadas de Decisão, Educação de Jovens e Adultos.
Introduction

In this article, we present the paths and results of our Master research conducted in the Graduate program in Mathematics Education at the Federal University of Juiz de Fora. This work is inserted into the research group GRIFE - Group of Financial-Economic Investigations in Mathematics Education – of this postgraduate program, the advisor was Prof. Dr. Marco Aurelio Kistemann Jr.

This group enables us to deepen our knowledge through discussions and readings that we performed in our meetings about a variety of topics, that covers the financial education theme and the decision-making of individuals-consumers, subjects that pervade the consumer society in the 21st century severely marked by actions and individualistic postures (KISTEMANN Jr., 2011).

This article consists of four moments.

At first, we will detail the context in which our investigation took place, as well as our motivations for choice of topic, research question and topic relevance. In a second moment, methodologically, our research and feature, we describe its course on field research, showing the context in which it was developed and our subjects of research. On the third point, we present some assumptions of the model of Semantic Fields (MCS) that supported our investigation and it has also our main informers for the theoretical issues that we address, such as consumption, the gender and youth and adult education (EJA). Finally, at the last moment, we present the results of our investigation, as well as the educational product resulting from our research, during the period from 2011 to 2013.

Moment One

The situation of our country, in this beginning of the 21st century as far as economic, social, cultural and political is quite complex. The current capitalism favors the consumer society that reconstructs the human relations from the relations between consumers and the objects of consumption. Bauman (2008) states that there was a major change in our society, the "society of producers", oriented to the buildup of durable, resistant and immune to time, where the satisfaction lay in the promise of "long-term security, not enjoy immediate pleasures" (BAUMAN, 2008, p. 43).

Faced with this reality, we investigate how a couple of youth and adult education, of a municipal school in Juiz de Fora, took their financial and economic decisions facing situations of
consumption, through the reading of plausible meanings produced by them, from the interviews and the problem situations that we proposed to the subjects of research, having guided us for the question guideline: "What students of the EJA has to tell us about their actions and financial-economic decision-making everyday".

As our investigation with the participation of an individual male and another female, we seek through the plausible reading of their lines, check whether there were differences in financial-economic decision-making of these individuals with respect to gender and, if so, in what way occurred. The main objective of our research was to develop an Educational Product that could address financial and economic situations; they could compose a material support to school teachers of Mathematics of adult and youth education, with regard to financial education theme.

We would like to clarify that at no time had the pretension of "teaching" our students (individuals-consumers) of adult and youth education (EJA) to become rich or to take "best" financial-economic decisions in their actions, to talk about the financial education theme in our research. Thus, similar to Campos (2012) presented in his research, we also important to clarify our concept of financial education in school Mathematics of adult and youth education, which involves:

- investigate the different modes of production of meaning to the actions of consumption;
- inquire about the financial-economic decision-making for problem situations involving several consumer actions;
- problematize and plausible reading of everyday problem situations linked to financial-economic issues, taking as tools to mathematics and financial mathematics.

We believe that a possible contribution of our work for the mathematics education lies in the possibility of placing the individual-consumer (students of EJA) on situations of consumption that experience in their daily lives, without most of the time, learning to operate with financial instruments. We highlight that there are few works in mathematics education that works with the EJA, their subjects and idiosyncrasies.

An important aspect about our investigation is that, it allowed the discussion of financial-economic themes with the audience of the EJA, since that the topic financial education is still beginning in our country, and especially in this mode of teaching. We understand that, when a financial-economic issue is addressed in the school environment, and it is presented in the content of financial mathematics, we note that is still little proposals geared to decision-making, consumer actions, but it is not still to worry in combining theory to practice
Moment Two

Our research was conducted in two stages and in different contexts. The first step of research occurred in the second half of 2011, in the class of phase VIII (9th grade) of a municipal school in Juiz de Fora, which offers the EJA at night. The school had four classes of elementary school during this period. The reality of this school, at night, was no different from that found in the literature available, i.e. a school with high level of school dropout, school space inadequate to meet the needs and specificities of an audience with features and the most peculiar demands, weariness on the part of some students who worked all day, demotivation and disinterest of others. Some students went to school to gain new "customers" (drug users).

Beginning our research, we conducted through informal conversations, a diagnosis on how these individuals-consumers in this class took their financial and economic decisions in some situations. After this diagnosis, we developed a material containing some financial mathematics topics as percentages, operations involving discounts and extras, simple and compound interest. We also have proposed some problem situations related to the daily life of these students, to observe the modus operandi of their choices, for example, the forms of payment for a given product and the reason why you chose to do it that way. We conducted semi-structured interviews with students, and students who were recorded in order to know them better, through their school careers and experiences facing situations of consumption that permeate daily life.

In the first moment of our investigation, we count with the participation of all students frequent in the phase VIII, because both the interviews as the problem situations were held during school hours of these individuals-consumers. As we mentioned earlier, our field research occurred in different contexts. This happened due to the fact that these individuals-consumers have completed elementary school in December 2011 and no longer be a part of this municipal school, because this school does not offer high school for the continuity of their studies. The second stage of our fieldwork with the participation of two students of this class (no more students in this school, because they had completed elementary school), whose pen names are Lucia and Newton. These two individuals-consumers were the only consumers of 19 students from phase VIII (2011), in this school, which wanted to continue participating in our research. Thus, we meet monthly with these two individuals-consumers, individually, from September 2012 until February 2013. However, during this period, Newton can not participate in our research activities, because his hours of work greatly increased, especially in the period of Christmas, and we have also realized that Newton was not more comfortable in reporting his financial life-points during our economic meetings.
During this period, we continue to conduct interviews on the most varied situations of consumption and we have also asked that our research subjects to perform other problem situations. We have also asked those two individuals-consumers who report, in writing, the steps performed for the purchase of a product or service, in which should specify, when there were the reasons that led them to purchase such product or service well, price search, third-party indications, among others. As already mentioned, Newton should not partake of all the proposed activities, in this second step of our investigation.

We emphasize that all material produced in these two stages of field research contributed, so we could do the reading of plausible meanings produced by these two individuals-consumers, on the interviews and the resolutions of problem situations.

**Moment Three**

In this moment, we explain our theoretical assumptions on which we based on, namely the Model of Semantic Fields, Gender, Consumption and Youth and adult education.

**A Brief words about the Model of Semantic Fields (MCS)**

The Model of Semantic Fields (MCS) is an epistemological model that allows us to understand some aspects of the production process of meanings in mathematics and, in our case, in financial education.

According to Lins (1993), the term semantic field which gives its name to the theory, is a body of knowledge whose justifications are related to the same nuclear model. Semantic Fields are ways to produce meanings; views constitute knowledge (LINS, 1994). Produce meanings means producing justifications for faith-affirmations. When producing justifications connects a belief-statement to the core, in which operations can be performed. The core of a semantic field is composed of local stipulations, namely, absolute truths of the subject that this does not need to justify them. As the MCS, the knowledge is defined as a belief-statement followed by a justification; understand a little more about the concept of justification. They play a dual role which is to make the statement acceptable to stakeholders and form objects. A statement is produced for interlocutors. The enunciation is the most common way of producing justifications. When they produced the justifications are made up of objects that make up the second role of justifications. The language becomes constituent part of knowledge. The lines of individuals-consumers interviewed were understood as a production of meanings to each of them and they came to us like the enunciation waste. A residue of enunciation is something I encounter, and I believe I have been told by someone (LINS, 2012, p. 27).
The concept of Plausible Reading is presented by Lins (1999), which says that "any attempt to understand an author must pass through the effort of looking at the world through the eyes of the author, to use the terms that he uses in a way that makes all of his text plausible" (LINS, 1999, p. 93). Therefore, we hope to present a plausible reading of the consumer practices of the two individuals-consumers of EJA and, through it, explaining some actions and decisions of these individuals-consumers.

Look at the way the two individuals-consumers do, it help us to detect obstacles and epistemological limits in their learning. These obstacles/limits, in the perspective of the model, can be understood in two different ways. The individual is facing an epistemological obstacle when could produce meaning for a specific question and does not produce. On the other hand, the individual finds facing an epistemological boundary at the time that can not produce meaning to a residue of enunciation due to the way that is operating (CAMPOS, 2012).

A Brief words about the Genre

The math was formed historically as a male field since it was considered as a science. For many centuries it was allowed only to men the deepening in that area of knowledge, while women were intended for biological and social reproduction (FERNANDES, 2006).

In classical antiquity, the Mathematics was considered, as well as Philosophy, a "male" activity. It is through the feminist movement in the 20th century, which come a new history for women, such as the right to vote and the integration of women at universities and the labor market. In this way, "one of the goals of feminist scholars is to make visible the exclusion and the historical contribution of women, who had been hidden". (FERNANDES, 2006, p. 39). In our investigation, we believe that adopting the gender as a category of analysis in Mathematics Education requires our attention to "the fact that the genre is produced in social practices, which convert to masculinizing practices and feminizing" (SOUZA and FONSECA, 2010, p. 29).

As well as Souza and Fonseca (2010), when we choose to analyze the gender issue, we try to avoid myths as: "men are better than women in mathematics" or "math is produced as own male" (2010, p. 13), i.e., we do not want to "label" our subjects of research. Therefore, adopting as a category of analysis the genre, "assumes and makes it possible to break with the essences and universalities, which are always exclusive" (SOUZA and FONSECA, 2010, p. 31), whereas in the EJA, are individuals with life experiences, dreams and very specific realities and, understanding this reality is very important for the construction of a fair and democratic education.
A Brief words about the Consumption

Bauman (2008) describes the consumption as an inseparable activity of daily life and human that can be compared to a condition or permanent aspect and irremovable. According to the sociologist, currently social relations are being mediated by the consumption, but consumption not only products, but also of people, habits, values and appearances, in which social networks are reporting as the most new channels of this mediation, which in the past was the responsibility of other media, such as newspapers, radio and TV. In this context, the individual-consumer ceases to be part of a society that was betting on prudence, durability and safety and he will be a member of a society, that is not conducive to planning, investment and long-term storage: liquid-modern society.

Liquid-modern is a society in which the conditions which its members act in a changing time shorter than that required for the consolidation, in habits, routines, of ways of acting. (...) The conditions of action and reaction strategy age quickly and become obsolete before the actors have a chance to learn them effectively (BAUMAN, 2007, p. 7).

On the assumption that our students have already witnessed and/or experienced several situations of consumption of goods and services, which generated pleasure and displeasure, happiness and unhappiness, satisfaction and dissatisfaction (BRAZIL, 1998), we can state that these may contribute to the enrichment of the math class to use this knowledge extracurricular, seized in an informal way, in that we would like these individuals,

A Brief words about the Youth and adult education in Brazil

The adult and youth education is recognized as a public law of Brazilian citizens, from 15 years, who did not have access to school, or who for some reason were unable to continue their studies or who were forced to leave school early. In section V of the Law Guidelines and Bases for National Education (LDB) nº 939496, in its article 37, it is defined that "the education of youth and adults will be destined to those who did not have access or continuity of elementary and high school studies at age" (BRAZIL, 1996). It is through this law that the EJA is how basic education mode.

However, there is much work has to be done by adult and youth education in Brazil. It is unfortunate that education has still contributed to the formation of a person that is able to read words without understanding what they mean, the so-called functional illiterates. Many projects have been implemented in our country with the goals of promoting the progress of education and eradication of illiteracy.
However, many of them were exchanged before it has even known if they would work or not. Throughout the history of adult and youth education in our country, there was also the existence of a teaching strategies of infantilization students, which differs from the current times, whereas the EJA curriculum in many schools have still elaborated through cutouts of Basic Education and the classrooms, that meet this public, are permeated by materials intended for children or prepared by them.

We would like there to be an involvement of the whole population, including researchers, teachers and EJA students, so that each one can contribute, in their own way, to the improvement in quality of teaching mode in our country, so that the same pass to constitute as a right and not a favor by Governments or entrepreneurs.

**Moment Four**

At this time, we present the analysis of the readings and plausible considerations of the two stages of problem situations and some interviews conducted with individuals-consumers. These individuals-consumers chose the following aliases: Lucia and Newton.

The enunciation was made by these two individuals-consumers, from the interviews and problem situations that they have done create the possibility, that we made some conclusions on the partial all investigated in this work, contributing so we could suggest some guidelines in our Educational Product, to the problematization of themes concerning financial education on youth and adult education (EJA).

Leaving these enunciations, we made the plausible reading of the same, seeking to identify their beliefs and opposing legal rulers with regard to its decisions, in their actions. Thus, thirteen categories of consumption emerged, similar to that Kistemann Jr. (2011) held in his thesis, as presented below.

**Five Categories of analysis**

1) **About pay down**

Actually, in this category has emerged a quite curious fact. During our pilot, held in a municipal school in Juiz de Fora, when Newton was asked about the method of payment, either in interviews or in problem situations, he mentioned only performed pay down, for paying less than the value in installments and for not liking to pay taxes.

However in the second part of our research, which occurred at his residence, he told me that "he always has to finance the product, or he does not have the possibility to pay. Pay down, there's no way no, ok? ". We asked him what he would do if his wardrobe ruined suddenly, for
example, and he replied: "ruined, you have to go to the store and buy another that fit in that (referring to the physical space of the room intended for old mobile), and store the fund, and that fits in my budget" (emphasis added).

We noticed a contradiction in this individual-consumer told us when he operated with math at school and in his daily live. Faced with this reality, we can suggest that Newton does a separation between what he experience in his classroom and his reality. It may also have occurred because of problem situations, proposals in the classroom; it is not art of his reality. That happening brings us the interview that he gave us in his residence. We asked him what took into consideration when he is going to consume certain products such as, appliances, clothing, shoes, and furniture, among others and he has always got the following response: I am not in need of any of these products. The purchase of these products was not part of his reality, so he has already had what he needed and it was not really the idea that someday, they would give some sort of defect or problem and should be replaced, or for new products or for "second hand". "If you have the product at home, why am I going to buy another?"

Lucia stated that prefer payments pay down, though with some restrictions,

"while we can pay down, we are winning, because there is no increase in product". "Look, a lot of things I buy and pay down, others I may do, possibly, an installment, but when I can, can... pay down, it is much better. You have bigger discount, you have to program your money buying and pay down, do you understand? Because the money that is not used, you can see what you can do and what you can not. Now, the installment does not make you .....free, because as you can program something; remember that you have those installments to pay. Then, if something happens, what should I do? If your money has to be pay all the installments. So the advantage of buying in pay down is that. You have how to make more plans, huh? ".

And it reveals an interesting fact: when her purchases exceed the value of R $500.00, she prefers to pay in cash:

"I would rather pay down. Because in addition to the discount is greater, is a big purchase, and a great purchase you can not have many installments, because it is too much... because then you pay two, three times that product, because there will greatly increase in installments. Then, if a purchase spend of R$ 500.00, I do not like the installment, I like to collect the money and pay down".

We suggest that it is legitimate for Lucia does not have installments of her purchases with above values of R$ 500.00. And she reveals that has already prefer to use installments when she is buying clothes, "sometimes buy clothes ... that interest me so much, sometimes, you do not have the money to buy those clothes ...".
2) About if you plan to consume

Newton reveals that when he needs to purchase a product, research prices in several stores before buy it "I research a lot in many stores ... that same product, that same model, that thing I am in need". Emphasizing that the need moves the buy; everything "depends on the need". If I do not have the need I do not buy. How am I going to buy something unnecessarily?"

He reports the need of the installment does not compromise his monthly budget "then I have to study the budget to analyze whether I am going to buy this one (product) and whether it fits within the budget. If it does not fit in the budget, there is no way to buy ".

Lucia saves to buy, especially when the value of the product that she wishes to purchase is greater than R$ 500.00. She will save money over a period of time as us reveals through three purchases that took place in 2012. It is legitimate to Lucia save her money, "If I have the money, because I have already known that it is a big job that the dentist will do ... I know this is going to get expensive, because I want something good, I want to move at all, ok?. So, a good result of the way I want, I am sure, it will get more than R$ 2,000,00. Then, if a purchase spend over R$ 500.00, I do not like installment, I like to save money and pay down. For being an expensive treatment, when I pay down, it will have a good discount ".

3) About hiring the extended warranty

The extended warranty is a secure, that is paid by the consumer and regulated by SUSEP (Superintendence of Private Insurances), which consists in maintenance of the purchased product after the expiration of the legal warranty (90 days) or contractual warranty (deadline stipulated by the manufacturer). The Procon warns that consumers pay attention to the terms of the warranty, so that it can answer your needs.

There are many ways which the sellers try to "hook" consumers to purchase this warranty. In an interview, which we conducted with a salesman in a department store in Juiz de Fora, he told us that 60 of customers opt for this insurance. According to the seller, he convinces his customers claiming that is a greater peace and security for them. However, clarifies that, in the event of a product defect within the period of extended warranty, the customer has only 80 of the product value compensated. The sites have also found ways to persuade the customer to opt for this insurance, according to one of them: "be quiet any longer! With the extended warranty you protect your product for 12 or 24 months beyond the manufacturer's warranty period, during which time the product is subject to more defects ".

In chapter I of book "math can change your life" by James d. Stein, titled "the most valuable chapter you will read in your life", the author warns that: "the next time you go to buy an electronic device and the seller offer a service contract, do not think even in buy it" (p. 6). The
author brings, among many examples, the purchase of a refrigerator for R$ 400.00, with a service contract for R$ 100.00 and asserts that when searching a site search by typing "refrigerator repair rate", he found that among eight refrigerators, one needs fixing in the first three years of use. Through this and other examples that brings, Stein mentions that a person, not to use the service contract offered by the shops, it will profit in the long run.

In addition, the consumer may be acquiring a product or service without knowing, it is called tie-in that during the year of 2012 had an increase of almost 20% in the number of complaints, according to Procon.

According of this fact, we asked to our two individuals-consumers whether they are opting for the extended warranty when buying certain products

Newton says that no, he does not prefer to spend money on the extended warranty, because if the product fails, he will have "wasted" their money. According to Newton, if the product fails, he sends fix or buy another one, depending on the occasion.

Lucia would make the option for extended warranty, revealing that, faced with the situation-problem proposition, with the economy that she would pay down the TV set regarding the payment installments, then she would purchase the extended warranty by two years. In his speech, Kistemann Jr. (2011) called marketing and sales strategy, which once again deceive the individual-consumer using the value of "mini-installment" that fits in the budget.

Through reading of their speakings, we suggest that as Lucia as Newton understand that the extended warranty come into effect, as soon as they acquire a particular product, so there is no mentioned about the existence of legal and contractual guarantees and also, who believe that the same may solve any defects that arise in products purchased.

4) On the issue of gender in consumer decision-making

As regards the decision-making situations of consumption of Newton, that predominates the necessary for him at that time and if the value of the installments will not harm the family budget on a monthly basis. However, some issues related to the fact that he is "man", that are inherent in some shopping that performs. For example, I asked if he would buy a pink shirt and he quickly replied "no" and that "I do not like to use", he thinks that only women should wear that color.

Lucia had to take over the "reins of home" the principle alone, as she became a widow with her children. Currently, she has with their help, including financial, especially the daughter who resides with her.
According to Lucia, women spend more and buy more trivia than men and that they are safer and determined to buy.

"The woman buys things more superfluous. Man is safer to buy things, are more certain, buy things of necessity, wife spend more with superfluous things, "he says. And, when the man goes out to buy "he buys a few things, but it involves a large purchase (Referring to a purchase more expensive). He likes to buy a car, that draws a lot of attention to a man, the woman likes, but it is not so much like man... ".

When questioned if there are differences between what draws the most attention of men and women before buying a car or an apartment, she told us that there is. For her, "look, in my case, I think it would be the same… The same observations, because both observe the quality, value, something that will satisfy you ...”

Lucia also states that in general women spend more than men, but that "the man when you can be cocky he spends ...(laughs). But I think in general women spend more ..."

5) On the use of the credit card

Newton also did not take part in this stage of our investigation.

Lucia produces the following meaning for credit cards: a way to control her spends. She tells us that will accompany the entries in her invoice and when is close to closing, she stops to buy. She justified who does not like "walk" with the money in the stock market and that "Watch" her credit card.

As we have already said, Lucy prefers to settle pay down her consume actions, however recognizes that with the credit card, the equality of values when pay down and by installment influence her decision to do an installment, at most three times as the price remains the same: “When they tell me so, cash or in installments is the same thing, no discount, so I use installments, at most three times, something like that”.

In her speech, we realize that Kistemann Jr. (2011) calls monetary illusion, in which the equality of values when pay down and by installment ultimately attract the individual-consumer by means of a proposal for a zero interest.

Lucia also considers advantageous to use a credit card to collect points, they are called dotz, which can be redeemed for products in the partner networks and the annuity rate card. “And I do not pay tuition, because everything I buy generates points in card and then I make a reservation for the annuity, the dotz”.


Conclusion

Through research that we conducted, we realized that most of the work (articles, dissertations and theses) which discusses the financial education theme, consider this important issue and that should be inserted into the school curriculum to the individual-consumer (student or pupil) take better financial and economic decisions, in the most varied situations of consumption and, often, consider as a solution to the most financial problems in our country, such as, indebtedness, for example.

In our research, conducted with two individuals-consumers of adult and youth education (Lucia and Newton), we can see that in their actions of the consumption experience gained through attempts-error-right, is a determining factor.

The interviews revealed that these two individuals-consumers use only the four fundamental operations to define a consumer action. Then, the interviews and the financial-economic problem situations that we carry out with individuals-consumers of adult and youth education in revealed that decision-making can be different for the same situation of consumption, which are closely related with the experience, need and financial-economic conditions of the individual-consumer. These decisions can have different meanings for individuals-consumers and the model of Semantic Fields allows us to do a reading of plausible and the various financial-economic meanings that are produced.

An important consideration about our investigation is that it allowed the discussion of financial-economic themes in the audience of the Youth and adult education, because as we have already said, the financial education theme is still recent in our country, and especially in this mode of teaching. We understand that when a financial-economic issue is addressed in the school environment, is presented in the content of financial mathematics, which still meets proposals little decision-making focused on the actions of consumption and it is not worry about combining theory to practice.

We would like to emphasize also the relevance of our Educational Product for Mathematics Education. In it, we present what we would not like to find in textbooks of Elementary School Mathematics and regular Youth and adult education, suggesting some problem situations involving problem situations of financial-economic measures as an additional resource to be used during Math lessons on teaching mode of EJA.

Finally, we understand that there is still much to be explored in financial-economic context regarding the proposals for financial education, mainly in the Youth and adult education.
ON CONSUMPTION, GENDER AND EDUCATION OF YOUTH AND ADULT: INVESTIGATING THE PRODUCTION OF MEANINGS AND THE DECISION-MAKING OF INDIVIDUALS-CONSUMERS

Resende, Kistemann Jr.

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