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FINANCIAL EDUCATION AND ANIMATION: LESSONS LEARNED FROM A CASE STUDY IN PERU*

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A REVIEW OF LESSONS LEARNED THROUGH EDUCATIONAL ANIMATIONS

Various initiatives are using animations¹ for education, through platforms or software that are freely available on the Internet. Platforms include Auto Tutor (Intelligent Tutoring System) and its new variations, which have been evolving and expanding their content (analyzed by Graesser et.al. 2001). This initiative consists of animated digital tutors that explain diverse content related to Internet use, physics concepts, critical

reasoning, biology and even ethics. Although digital tutors still exist, another type of educational platform has now been developed to offer courses or explanations of topics or concepts using animated videos aimed at kindergarten, primary or secondary school students and the general public. Examples include Brain Pop² (since 1999) and Explania,³ although there is a more extensive offering of these types of platforms.

Explania includes financial education videos that explain financial concepts such as shares, currency, inflation, etc. “Scruples” Youth Financial

1. By animation, we mean an entire sequence of images that, viewed in succession, give the illusion of movement. It is now known that the use of animation to accompany an audio presentation is beneficial for various types of educational strategies.

2. <<http://www.brainpop.com/>>.

3. <<http://www.explanía.com/en/channels/money>>.



Education Animations Videos,⁴ based in the U.S. state of Connecticut, in coordination with the Department of the Treasury, is a similar initiative. “The Basic Economic Terms Animated Cartoons” (2006) is a financial education initiative implemented by the Central Bank of Poland in coordination with the Knowledge and Science Foundation in Warsaw. The latter has designed 36 animations, which are available to schools and Internet users.

Why work with animations?

Factors that make animation a useful learning tool include:

- The ability to transmit more information than static graphics and allow viewers to process the information more easily, resulting in greater motivation for the learner.
- When teaching processes, animated graphics can transmit more information, especially intermediate micro information between the steps of a complex process (Tversky, Morrison and Betrancourt, 2002). When viewers are novices in the material being taught, the use of animation helps them visualize new processes that otherwise would have been difficult to imagine (Betrancourt, 2005).
- Encouraging the short-term retention of information (Mayer and Moreno, 1998), reducing the cognitive cost of understanding certain processes or dynamics to which the learner is exposed for the first time (Betrancourt, 2005). The effort to better understand the key message is optimized, making the learning experience successful with less effort.

- Motivating viewers to become more involved with the content being transmitted, because the experience itself is entertaining and attractive (Mayer and Moreno, 1998).

Nevertheless, it is important to keep in mind that the use of animation is not necessarily intrinsically superior to the use of static images. Possible disadvantages related to its use include extracting only superficial information from the videos and forgetting the information in the medium term. When viewers know little about the topic being presented, they tend to retain only the most superficial content of an animation (Mayer and Moreno, 1998). In some cases, this leads to erroneous inferences, because when the content is only superficially understood, there is a greater likelihood that the conclusions drawn from it will be incorrect.

The use of animation helps viewers understand and imitate processes more easily. It is also known that these learnings are forgotten more quickly than those attained through the study of static images. Although animation is conducive to faster learning, it does not necessarily remain in the person's memory longer than material learned in a more traditional way (Palmiter and Elkerton, 1993).

The use of animation for educational purposes may also involve common errors in the design of an educational strategy. The most common errors include overloading the viewer with information (Betrancourt, 2005) or presenting images that create confusion and do not express the information clearly (Lowe, 2001). It is therefore important to keep in mind that educational animation, in and of itself, is not free from possible design errors.

Taking all of these points into account, this “In Brief” presents the results of a financial education

4. <http://www.state.ct.us/ott/FL_youth.htm>.



initiative in Peru that used this type of animation. These results are analyzed to determine whether the use of animation was efficient for transmitting basic financial education content or if it was not as productive as expected.

“AL DÍA CON TUS FINANZAS”: THE EXPERIENCE IN PERU

In mid-2013, the Practical Money Skills area of VISA Int. produced five financial education videos in collaboration with the Corporate Communications area of the Banco de la Nación (BN). Technical assistance for this initiative was provided by the Institute of Peruvian Studies (*Instituto de Estudios Peruanos*, IEP) through Proyecto Capital.

The videos, known as “Al día con tus finanzas” (“Your Finance Update”) were produced using computer animation and are being distributed through BN branches nationwide to educate their users on topics related to finances.⁵ The BN transmits the videos in Quechua or Spanish, depending on the geographic location of the branch, because there are areas in which customers speak only Spanish (on the coast and in the northern highlands) or Quechua (in the southern and central highlands).

Each video lasts about one and a half minutes and addresses issues such as a) general savings, b) household budgeting, c) bank savings, d) use of a debit card for making purchases, and e) security measures for using a card at a store or in an automated teller.

5. In many geographic locations in the country, the BN is the only bank, as well as the institution serving as the platform for payments from the country’s social protection programs (i.e., JUNTOS and PENSIÓN 65). The bank’s customers have diverse socio-economic profiles.

To assess the receptiveness of BN customers nationwide to these videos, six thematic areas were analyzed (i.e., satisfaction, usefulness, difficulties in comprehension, familiarity with financial practices and a personal evaluation) with an evaluation that used quantitative and qualitative instruments.

EVALUATION METHODOLOGY

The study was carried out in six BN branches in Metropolitan Lima (district of Puente Piedra), Lima Provinces (district of Lunahuaná), and the departments of Cusco (districts of Wanchaq and Anta) and Ancash (districts of San Marcos and Caraz). The branches were selected in collaboration with the BN.

For each branch, the goal was to analyze receptiveness to the videos among four types of BN customers: pensioners, occasional customers, and users of two social programs, JUNTOS and PENSIÓN 65.

These four types of customers’ receptiveness to the videos were evaluated through surveys and focus groups. A total of 720 surveys were carried out in the six branches (meeting quotas for each type of customer). Each survey respondent had the opportunity to evaluate one of the five videos, which was transmitted while they waited to be served at the bank office. Twelve focus groups with the various types of customers at the same six branches were also done; they were shown all five videos for evaluation.

RESULTS

In general, the five videos were well received by the bank’s customers, as the information was

new to many and was presented in a way that was didactic and practical.

They're reaching people who have no information. For example, this was the first time I heard that I should save. It helps me. It encourages me to do it or to prepare a budget. These are things I might not do, so it helps me.

Occasional customer, Anta

Very good. One, because it is better for me. Second, because it is done well. Third, it shows step by step, from the beginning, how [to do] things. And finally, it is new for young people and for children; it can motivate them to save.

Pensioner, Puente Piedra.

They are good, because they let me update myself more, and I have learned new things. They're providing more guidance, so we will have more security.

JUNTOS user, Anta

Very good; it helps us a lot to know that we should save some money so we can spend it later.

PENSION 65 user, Anta

(Translation from Quechua to Spanish and Spanish to English)

Many of the participants expressed satisfaction with the graphics in the videos, saying that the use of animation was attractive and ensured that different types of users who visited the bank (senior citizens, people with less formal education, young people and children) could understand the message. This is consistent with the assertions of Mayer and Moreno (1998), who note that animation serves as a motivator in learning processes. Most participants also said the videos were easy to understand, and that their duration was appropriate for the time the customers waited to be served by a bank teller.

Nevertheless, there are groups that are older, have less formal education or speak Quechua as a first language that are not entirely satisfied; many are users of the two social programs mentioned

above and therefore are, in part, customers who are excluded or self-excluded from the financial system. Reasons for dissatisfaction include discontent with the language used—various forms of Quechua are spoken in the country, and some customers said they did not understand what was said in the videos—and the short duration of each video, considering the quantity of information being provided.

There are times when people don't understand Spanish and it would be better for each program to use our dialect. The department of Ayacucho has one form, the department of Cusco has another, Huaraz has another. The video should use the right form in each department.

JUNTOS user, San Marcos

There are people who don't understand [the video]. It would be better... for the video not to go by so fast, for it to be a little slower. That way people will understand it, older people.

Occasional customer, Lunahuaná

As noted, fairly complex ideas are presented in a very short time, resulting in information overload for the viewer, which is one of the most common errors committed when using this type of tool (Betrancourt, 2005).

Nevertheless, a large percentage (83.2 percent) of respondents demonstrated a satisfactory understanding of the main message of the video they had watched. Only 16.8 percent had difficulty understanding the message; that difficulty was associated more with level of formal education than with age. This finding is encouraging, considering that Peru's illiteracy rate is 7.1 percent nationwide, although it stands at 17.4 percent in rural areas and 12.7 percent in the highlands (INEI, 2011). Although this indicator does not necessarily reflect the adult population's ability to understand abstract messages, we can infer that as illiteracy rates decline, the population will be

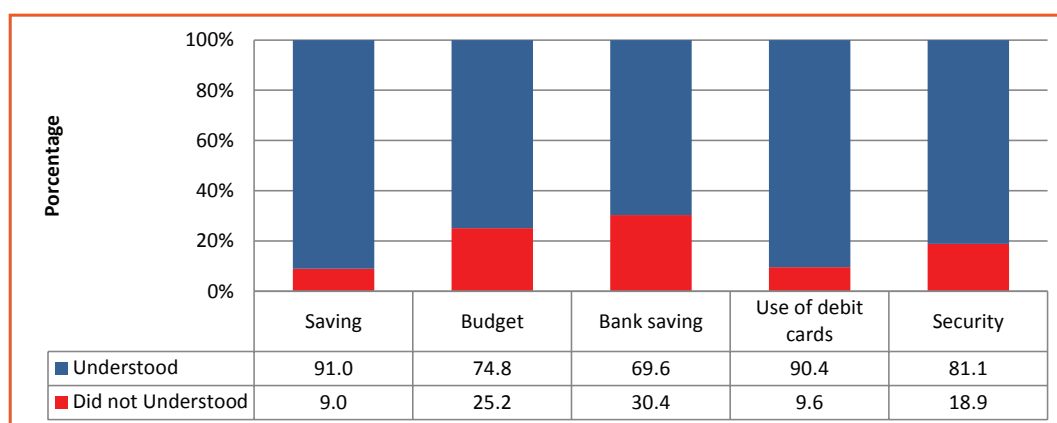


more educated and better able to understand abstract and complex concepts and content, such as those related to financial topics.

More than 60 percent of those surveyed showed that they had understood the main message of

the video to which they were exposed. This does not mean that some have had more difficulty than others in understanding it. The videos with the highest rate of difficulty in comprehension included those about bank saving and budgeting.

Understanding by video - all respondents



Compiled by authors⁶

This greater difficulty with comprehension appears to be related to the fact that many participants in the study did not know about or have a savings account. Similarly, not all were familiar with the idea of budgeting, because it is not something they all practice regularly. So although they were viewing new material, the use of animation was not necessarily beneficial to all when it came to visualizing unfamiliar processes (Betrancourt, 2005). The possibility of presenting images that express more clearly the information to be transmitted could be evaluated (Lowe, 2001).

In addition, because not all bank customers have bank cards from the institution, the videos promoting use of the cards and related security measures were frustrating, because the content referred to a tool that the viewers did not have.

They teach us about saving, but afterward you have questions, like 'What do I do to save? How do I do it? What do I have to do? Whom do I ask?' There isn't more guidance. The video really should guide us, but if there's no more information, to whom do you turn? You don't have other information.

Occasional customer, Puente Piedra

Customers were not aware of procedures related to opening a savings account, the conditions for having one, or the functioning of the financial system. That, however, does not mean they

6. Results are presented for all survey respondents, because the behavior was similar among occasional customers, pensioners, JUNTOS users and PENSIÓN 65 users.

were not extremely interested in receiving more information about how the banking system functions, fees charged for each type of account (maintenance, use of ATMs), interest rates for savings accounts, or how to apply for loans and other services offered by the Banco de la Nación.

I think it lacks some information, because normally when I talk with people about why they don't keep their money in the bank, they say it's because they charge maintenance fees, they charge to withdraw money using the machine, they charge for ... and many things. So people prefer not to keep their money in the bank. I think they should indicate that when you take money out using the machine, they don't charge you anything, right? They should provide more information.

Occasional customer, Wanchaq

They should also provide information about the interest rates you will receive, about transactions, about the money you have deposited, if you take out a loan, for how much time you should take it so as not to jeopardize your income, because sometimes the bank does promotions for loans and things. Perhaps you could send us messages about these things, motivate those who repay on time.

Pensioner, Puente Piedra.

These gaps in information indicate that although the videos used are well received, there is still a percentage of customers who have many doubts to which this type of initiative still cannot respond. These concerns should not be ignored, and it is important to find ways to provide this information to those who need it in a way that is short, easy, pedagogical and didactic. A complementary strategy should include the development and distribution of printed graphic material that fills the gaps that have been mentioned, to keep users from becoming frustrated.

LESSONS LEARNED FROM THE USE OF ANIMATION FOR EDUCATIONAL PURPOSES

The use of animation alone does not guarantee greater access for the most excluded users. Customers appreciate initiatives such as the one described, because they consider the use of animated videos as tools that make financial topics attractive and can explain processes more simply. The following recommendations could help to take full advantage of initiatives such as the one described, helping to reach all types of audiences with the messages:

- a. For videos with complex information, it is suggested that the information in each video be communicated slowly, giving the viewer time to assimilate the content.
- b. Simple messages should be used in each video to present specific ideas. Ideally, only one idea should be transmitted per video.
- c. The duration of each video should be appropriate for the complexity of the information being presented; if the video is to be short, the ideas must be more succinct, and if more complicated ideas are being presented, the time allotted for explaining them should be greater.
- d. It is important always to be explicit in presenting important concepts (i.e., always enunciate the elements being presented on the screen, such as *debit card*, *POS*, *voucher*, etc.), especially if the viewer is not familiar with them. This will help keep customers from filling in gaps in the information with erroneous ideas.



CONCLUSIONS

Although the use of animation in this case has been well received and can therefore be considered a good initiative, some areas could be improved. It is important to remember that the people who use a financial institution have diverse profiles and are not necessarily fully included in the financial system; these types of initiatives therefore must not lose sight of the need to ensure that useful information is communicated in the way that is most appropriate for all.

As suggested, strategies complementary to the delivery of media content could be considered, such as the use of brochures or a spokesperson trained to respond to customers' questions about the financial system, or even the ongoing development of other videos along the same line. The development of more precise, slower-paced messages should be considered, especially when targeting users of social programs who are older or have less formal education.

Nevertheless, one interesting point is that this initiative was implemented by the private sector (Visa Int.), the public sector (BN) and academia. There is a willingness to work together, and there is room to develop attractive tools for customers of banking institutions, as long as they are guided and evaluated by academic entities. It is possible to work on the development of aligned financial concepts, which facilitate more solid interventions, even when they are implemented by only one of those three types of entities.

One pending question is how to resolve the information gaps mentioned by the customers. These actions will make it easier for customers who have little contact with the system to

become more involved, through the transmission of messages backed by transparency and the strengthening of trust in a system that is generally underappreciated.

Finally, similar initiatives that take into account the recommendations presented here should always be evaluated after implementation, to continue to determine which aspects facilitate learning among excluded populations and should be refined to reach users more effectively.

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