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Análise de usabilidade de um curso online de língua inglesa

The usability analysis in a brazilian online english course

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A Secretaria de Estado da Educação de São Paulo lançou em 2012 o curso de "Inglês On-line", criado pela Escola Virtual de Programas Educacionais do Estado de São Paulo (Evesp) e disponibilizado para os estudantes do ensino médio das escolas públicas estaduais. Após três anos, a percepção da Coordenação Pedagógica para Língua Estrangeira Moderna na cidade de Bauru (Brasil) é do aumento da taxa de abandono de alunos e da diminuição dos inscritos na plataforma virtual. Para investigar as causas, o artigo propôs-se a verificar quais os impactos da usabilidade do site, a partir da experiência do usuário principal (Cybis, Bettiol, Holtz, 2007) com voluntários do primeiro ano do ensino médio na cidade de Bauru. A pesquisa sinaliza que não há uma grande rejeição dos estudantes à interface virtual "Inglês On-line". O que leva a considerar que a redução do número de inscritos e a evasão não podem ser diretamente relacionadas com a usabilidade.

Palavras-chave design, ergonomia, interação.

The Department of Education of São Paulo launched in 2012 the course "English On-line", created by the Virtual School of Educational Programs of the State of São Paulo (Evesp) for the high school students from public schools. After three years, the perception of the Pedagogical Coordination for Modern Foreign Language in the city of Bauru (Brazil) is the increased student dropout rate and the decrease in subscribers in the virtual platform. To investigate the causes, the article set out to see what impacts the usability of the site, from the experience of the primary user (Cybis, Bettiol, Holtz, 2007) with students from the first year of the high school in the city of Bauru. The research indicates that there isn´t a great rejection of the students to the virtual interface "English online". What leads to the conclusion that reducing the number of subscribers and evasion cannot be directly related to the usability.

Keywords *design, ergonomics, interaction.*

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1. Introduction

The hybrid society of XXI century makes allusion to the hybrid school where school resources are now resignified in an environment with electronic whiteboard, e-books and tablets connected in a fluid flow, and expanded, as a result of the impact of internet 2.0[1] at a school founded on the values of a collaborative school, where the physical space is expanded and the virtual world becomes a member of the learning environment (Peña, Allegretti, 2012), launching a new challenge for schools and educators with the application of Information and Communication Technologies (ICTs) for development of technological tools (technologies to teaching-learning and knowledge) (Lozano, 2011).

In this new scenario of the transition from traditional formal school to virtual school was launched the elective course "English On-line" in 2012, by the Virtual School of Educational Programs (Evesp) of the Department of Education of Sao Paulo, which is available for high school students of public schools in the state of São Paulo (Brazil) with the proposal to develop the oral and written english communication skills besides the english culture. In the new system students can take the course autonomously and independently at home and in other virtual environments which signals an effort to integrate ICTs. The course has an instrumental bias and tries enlarge the inclusion of future professionals in the labor market, according to the information on the website, and is organized into 8 modules, in a total of 16 weeks, with a workload of 80 hours of content with language colloquial that uses elements of gamification[2] and video to complement mainstream and inclusive education.

The theme of "English On-line" course is essentially business. In the first module, the characters are employees who experience the corporate environment. A male character travels, staying in a hotel and this experience is used as a narrative for the appropriation of vocabulary. Only in the seven module is presented to the student a more cultural content on the carnival and sports events (soccer) in English, which can result a timely context of the World Cup that took place in Brazil in 2014. In this module also appears a character as a foreign student in a exchange program. But in general, the speech and the language of the english course the online Evesp are distant from the public school teenager's daily and do not exercise one of the teaching-learning foreign language skills which is the cultural immersion to an audience of students, that mostly, never left the country and don't has proximity to the daily business world (Magnoni, Silva, 2014).

There aren't updates of statistical information on the number of students enrolled in the course english online in 2015, which is available free to students in public schools across the state of Sao Paulo over the Internet. A perception of the Pedagogic Coordination for Foreign Modern Language in Department Education in the city of Bauru, however, is a decreased interest in fully online course what drives this investigation into the existence of usability problems on the site, created by the Department of Education of Sao Paulo and implemented statewide by MStech company in the city of Bauru (Sao Paulo region). To create the site, the company developers do not opted for one development with the participation of the primary user. There was only one briefing about the expectations and wishes of the students, conducted by Department of Education of Sao Paulo. The concept of usability used in this article is the quality that characterizes the use of a system being interactive. It refers to the relationship established between user, task, interface, equipment and other environmental aspects in which the user uses the system (Cybis, 2007, p. 23).

According to Amaro (2009), whose research is the analysis of three English teaching-learning sites for elementary school students in Portugal, the generations presently attending schools are digital natives (Prensky) or net genners (Tapscott), learning substantially differently from previous generations. The new generations learn through games and they don´t want to be amorphous information repositories, rather, they are mentally active and problem-solving and it is likely that many of them will have jobs that don´t yet exist.

2. Methods

Yin (2001, p.89) says that the protocol of a case study is more than an instrument. He holds the procedures and general rules that must be followed throughout the experiment. Is one of the main tactics to increase the reliability of a case study research. Accordingly, to ensure the effectiveness and best practice while driving the official protocol was held a preliminary pilot test with 4 young adults registering the difficulties during the activity. In this first assessment the proposed activities were performed in accordance with what had been expected and within the expected time.

With the adjusted protocol, six students of the first year of high school, aged 15 years, at the Christino Cabral Public School, located in the middle-class neighborhood of Garden Estoril area in Bauru (Brazil), attracting a population of nearby regions, decided to collaborate with the research to verify the effectiveness, efficiency and quality to be nice of the "English On-line" site, from the perception of the user experience (Preece, Rogers, Sharp, 2005). The four boys and two girls of the volunteer group are not enrolled in the "English On-line" but four of them have already done some English

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[1] Concept that refers to a software versioning, was popularized by O'Reilly Media and MediaLive International as the name of a series of conferences that began in October 2004 referring to the second generation of far more collaborative and interactive content and platforms the Internet (O'Reilly, 2005).

[2] It is the use of concepts and elements of digital games (mechanical, strategies, thoughts) outside the same context, aiming to entice users to action, aiming to help in resolving problems and promoting gains in the educational environment. (KAPP, 2012)

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Figure 1. Room during the test.

Figure 2. Monitored student.

course before. The proposed test was carried out in the computer room of the school in May 20, 2015, a room equipped with multimedia computers with Internet access and individual headphones. But this is not the natural environment used by students enrolled in the course "English On-line", which accesses content from the home, Internet cafes and cultural centers autonomously and independently, after the lessons time at the school. The option for a test in the school occurred for a logistics and limitation of access to the student group. It is also necessary to clarify that the "English On-line" course of Evesp is individual but the collective atmosphere created by the small group of six students in the computer room during the test envisions a fitting backdrop hybridization of public school education without significant impacts on results the applied test. The authors of this article acted as test facilitators, positioning themselves in the room with maintaining a distance that would guarantee the peace for the test which was filmed by a camera positioned at the center of the room. Another camera filmed the reaction of the users during the task. Before the test was performed a prior contact with students in the classroom at the class, with a presentation of the test and delivery to the prospective volunteers declarations of consent and authorization of image use for academic purposes with the authorization of the parents.

The internet access was performing with the personal identification of the students. The site password of the "English On-line" website for the test is a demonstration model, provided by the company developer MStech because the site is restricted and the student volunteers aren't enrolled in the course of Evesp. After the activity, students evaluated eight user experience goals, from the use of semantic differential 5-point scale (ranging from -2 + 2) and answered a short questionnaire with five direct and objective questions.

The task is carried out in Unit 1 of Module 1 in a video scene set in the airport, with no time limit set for the end of the activity. The student watched a video in which a character awaits the arrival of a foreign visitor. The volunteers had the option to watch the video twice but all six students of Christino Cabral public School didn't, they just chose to move on. In the first minutes there was a request for permission for use the text translated into portuguese but the test participants were encouraged to continue with exclusive reading of the text in English. All the six individuals fulfilled the task.

3. Results and Discussion

A navigation problem identified on the site during testing was the existence of two arrows of different sizes on the same screen (Figure 3) that ended up creating an information overload, which left two students confused, not knowing which arrow you click. The colors in earthy tones of the site are not stimulants, are monotonous. Using contrasting colors facilitates the continuity of activities such as for example, to high-light the feature for clicking buttons or arrows. It is also possible that a limitation of the english vocabulary for the two students have hampered the continuity of activity for some students at certain times. Three students did not realize that it was necessary to click the watch button (Figure 4) and a participant admitted to being lost, according to the information questionnaire answered by volunteers after the activity.

Figure 3. Screen with 2 arrows confuses students.

According to Ben Shneiderman, eight gold design rules are pursuing consistency, provide shortcuts provide informative feedback, mark the end of the dialogue, provide simple prevention and error handling, allowing the cancellation of shares, provide control and initiative to the user and reduce the working memory load (Cybis, 2007).

The Amaro research in Portugal about three English learning education websites concluded that the best is the paid danish site *Mingoville* that enhances students learning and it lets to interact, evaluate and monitor their own progress while the british site *LearnEnglishKids* doesn´t have good content evaluated because there is overuse of texts.

Figure 4. Screen with button to watch video.

The difficulties faced should consider however that students did not perform the Module 0 of training which is a tutorial course and during this phase that some actions of the model could be memory. Usability problems occur during interaction and hinder the user in carrying out their task, but have their origin in a problem of interface (Cybis, 2007). Ergonomics is the quality of the adaptation of a device to your operator and the task that it performs. In general, usability problems occur when a feature of the interactive system (ergonomics problem) leads to loss of time, undertakes the task of quality or even forbids their achievement.

Some of the effects of usability problems are perceptual overload (reading disability), physical (driving difficulties) or cognitive (disorientation). And the impacts of these problems faced by the user are barriers (when he does not learn), obstacles (when he misses initially but learns later), or just noise (that cause performance degradation).

We must consider that with new interactive technologies, the individual is but a mere passive assimilative of information to a knowledge asset builder, according to Lopes. Such transition implies a cognitive reordering, a form of organization of thought which presupposes a cognitive subject can process relatively quickly, a wide range of information from numerous information channels.

The qualities tested in the site "English Online" that are more directly related to the site's appearance (liked and don´t like, interesting and uninteresting, agreeable and disagreeable, beautiful and ugly) received only positive or neutral evaluations of the six students of Christino Cabral Public School in Bauru (Brazil).
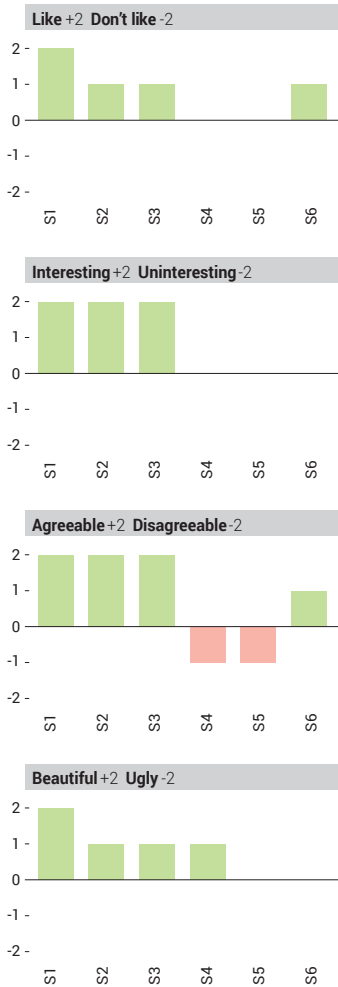
The perception of the user can be heavily influenced by the aesthetic elements of the site most often. The more effective the use of images on an interface, more engaging and enjoyable will be

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Like +2 **Don't like** -2

Interesting +2 **Uninteresting** -2

Agreeable +2 **Disagreeable** -2

Beautiful +2 **Ugly** -2

S 1, S2, S3, S4, S5 and S 6 : SUbjects 1, 2, 3 4 5 and 6
Figure 5. Graphics more directly related to the site's appearance.

Easy +2 **Hard** -2
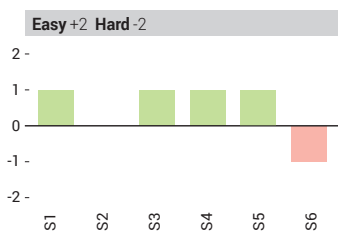
S 1, S2, S3, S4, S5 and S 6 : SUbjects 1, 2, 3 4 5 and 6
Figure 6. Graphic with difficult's perception of the site.

(Preece, Rogers, Sharp, 2005). That's why in general users can tolerate patiently downloading in an aesthetically pleasing site, as an example.

The perceptual evaluations linked the effectiveness of the site which is the ability of systems to provide different types of users to achieve their goals in number and with the required quality, and which referred to the online course efficiency, quality that is respected as the amount of time resources, physical and cognitive effort that systems prompt users to achieve their goals with the second system definition of Cybis, they had in usability testing greater variation in evaluation. Items like easy or hard, liked the story or don't like the story (evaluated as a reference to the narrative of the site), or found clear or found confuse and know what to do or stayed lost received evaluations that focused more on the center of the scale of five points, tending to be neutral to slightly negative, and other markings. Four students found the site easy (+1) but not so easy one maintained neutrality (0) and one of them held a little difficult (-1).

The telling of the story was the item with the highest variation in responses. Two students marked that liked enough (+2) while the other four participants chose 4 points to the negative pole, they did not like the story. The perception of effectiveness of site "English On-line" has not reached its full objectives. Three students chose neutrality in item found clear or found confuse; two of them considered the objective instruction and one not (-1), but even with this realization, all students achieved the objective test and completed the task. Efficiency also registered an increase. Three students know what to do (+2), two did not know quite how to act (+1) and one participant thought he was lost (-1).

The variation in efficiency in the developed activity was evaluated from the mistakes of students in the activity with three questions which should mark type True or False. Also on this screen design is not entirely appropriate and the student loses a few seconds trying to figure out whether to enter T or F or if any other action is allowed, ie, the action is not natural. The use of an informative feedback showing the successes and mistakes of the students would be more useful because students do not click on the item "check answers". In this activity, half of the volunteers (3) had only one error in the activity two had no errors and one of them recorded two errors. The time factor in the task of compliance also had great variation. The shortest time was 4:41 minutes and the student who spent more time on task spent more than twice the time: 9: 50 minutes. With exclusion of the smallest and the most time tested students spent an average of 5:42 minutes, a close time of 5:25 minutes spent in the control test done by an english teacher.

> *Finally, it is very important to remember that each person is unique, unlike other. Thus, usability tests are little systematics. Hardly its results will play at 100% for other users. However, they are 100% valid, that is, the existence of the observed problems can not be denied.*
> (Cybis, Betol, Holtz, 2007, p. 205)

It was concluded that there isn't a great rejection of the students to the virtual interface "English On-line" of Evesp, as we see in the perceptual map generated by the test. Half of the group answered a questionnaire that they would make the online English course. Of the six volunteers, five responded that the course can help in English language teaching and learning and one just couldn't answer. Which leads us to consider that the reduction in the number of students enrolled and evasion in "English On-line" course cannot be directly related to the usability of the interface.

The affective and organic relationship of teenage students with cell phones and the ease of access provided by mobility with wireless internet supply in different places, led this research to the survey on a possible adaptation of the English site online for a mobile v-ersion or even a potential appli-cation for adapting the content because there are limitations for reading and writing related to the size of the screen cell. The current site format using Adobe Flash technology English Online does not allow access by the appropriate cell. During the test, some students did not seem to be familiar through education activity, perhaps because of the interaction habits focused in internet videos and images with continuous flow or mere lack of proximity to a site full of commands (next, etc.). Mobile interaction according Hiltunen is defined by the utility with the added value mobility, the usability, the availability of the service or the possibility of conducting download as with the appli-cations, beyond the aesthetic factor and confidence in the brand, data security and delivery of the service or product (Cybis, Betil, Faust, 2007).

Four of the six tested individuals have smartphone. In another question, three students said they would prefer that the course was a mobile app instead of the traditional web format currently provided by the Department of São Paulo State Education. One was indifferent and two responded negatively. A perception of their English teacher class is that applications like Duolingo is a success with them. In an informal chat, the teacher says that the students of the first year in high school, at the same class where the volunteers of the test study had not asked about the Evesp course "En-glish On-line" which has information posted on the wall at the Public School Christino Cabral. They told the teacher they downloaded the application Duolingo and enjoyed the experience. This timely perception leads us to also consider the emotional experience of adolescents in the digital genera-tion with cell phones and the use of such equipment for the democratization of hybrid education in new educational processes that are not mere transposition of traditional content.

According to Ferraresso (2014) the new learning objects allow designers to build small (relative to stroke size in question) instructional components which may be reused numerous times in different

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Like the history +2 **Don´t like the history** -2

Found clear +2 **Found confuse** -2

Know what to do +2 **Stayed lost** -2

S 1, S2, S3, S4, S5 and S 6 : SUbjects 1, 2, 3 4 5 and 6

Figure 7. Graphics more directly related to the site's effectiveness.

learning contexts. They are generally understood as a digital entities derived from the Internet, and may be accessed and used by any number of people simultaneously.

The usability of the software interface is only part of the mobile experience. The emotional elements of the user experience also play an important role in the interaction. The expert Donald Norman discusses in his book Emotional Design (Norman, 2004) the close relations between usability and beauty, cognition and emotion in interaction. According to Norman, we do not simply use a product but become emotionally involved with him, and this involvement is particularly intense when it comes to mobile phones. (Cybis, Betiol, Faust, 2007, p. 219-220). The mobile phone use enables rapid access to information with convenience and does not require the exclusive attention of the user and can be an effective way and that require little time for foreign language teaching and learning. The new formats and mobile application languages are totally suited to the digital native students and challenge the school system for the appropriation of the new foundations of the cyber culture.

4. Conclusion

The Usability testing with "English Online" site of the primary users leads us to research the "Espanhol Online" Spanish Online) site, which is also provided by the Department of São Paulo State Education in a comparison of the sites used for teaching-learning foreign language in Brazil. The Spanish Online course is 60 hours and consists of six modules. Completion of each module requires 80% accuracy in the module evaluation.

The next challenge for the authors of this article can be created a prototype of a mobile application, a tool that is widely used by children and adolescents and that could interact with students more effectively similar to what happens in Duolingo site.

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