

TEACHERS IN THE DIGITAL AGE: DESIGN AND VALIDATION OF A SOCIAL NETWORK INTERFACE

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Abstract

This work appears as part of a doctoral thesis whose main objective would be to explore new approaches to training and professional development of Portuguese-speaking teachers in the context of the emerging educational paradigm known as Web 2.0. In order to investigate whether social networks can set up as virtual environments for the professional development of teachers, it was established a social network named "Teachers in the Digital Age - PROED", a Ning tool. In this communication we present the network created, the principles underlying the conception and layout of its interface, as well as the results of evaluation performed by four independent experts.

Keywords: Social Networks, Teachers, Sharing, Knowledge, Technologies.

1 INTRODUCTION

According to [1], the use of technology in educational contexts will not solve all educational problems, but if it is used responsibly and with well-defined objectives it would be linked "to the human and professional competence of who is going to make the mediation in the process of teaching and learning: the teacher." This involves the construction of a new identity for the teacher, who in the face of technology should be prepared to act in these new scenarios: a teacher able to rediscover meaning for learning, stimulating the production of collaborative knowledge and its dissemination in the

These criteria may be considered as good practices that should be followed by everyone in the educational context, both nationally and internationally. For this reason, the life-long training of teachers is a topic of great importance in the setting of educational public policies that mobilize the authorities to seek alternatives and ways to qualify teachers, that aim at the improvement of designing and operation of teaching and learning since the initial training is just a phase that precedes the start of the professional activity of teachers, as - initial and life-long - "core components of professional development and change or innovation in curriculum practices" [2: p. 64].

This work appears as part of a doctoral thesis whose main objective would be to explore new approaches to training and professional development of Portuguese-speaking teachers in the context of the emerging educational paradigm known as Web 2.0. In fact, the purpose of education has been increasingly questioned, emphasizing the need to train citizens capable of lifelong learning. Moreover, in the technological scenario, we witness the rapid proliferation of technologies, the case of social networks, which allow people, and also teachers, to interact, exchange ideas, collaborate, customize their training pathways, helping to increase digital literacy and a more fruitful integration of technology in educational settings.

In order to investigate whether social networking could configure as virtual spaces for the professional development of teachers has created a social networking site called "Teachers in the Digital Age - PROEDI", for teachers in the state of Maranhão (331,983.293 km², 6.424.340 inhabitants), located in northeastern Brazil. The idea is to develop and manage a learning community of teachers who are interested in furthering their technology skills through the sharing of experiences.

Its design went through several phases. Initially, we did a study of social web tools available and we opted for the Ning social network as the tool that works like a platform, giving greater freedom in the diversification of different types of media deposited there. Another reason that is important to note is that according to the studies conducted, the network has lately been used by teachers and researchers, which gives it a more academic and professional profile.

In this communication we present the network created, the principles underlying the design and layout of your interface, and the results of the evaluation performed by four independent experts.

2 SOCIAL NETWORKS ON THE INTERNET

According to [3], the Information Technologies and Communication - (ICT) have brought to a large part of the population the opportunity to establish social and communicative links with a larger universe of people regardless of physical or geographic space. This has intensified with the tools of Web 2.0 (paid or free) in particular social networks, which offer a multitude of options for us to interact with people while we build knowledge in a communal perspective, since these various tools and digital media, can act as triggers of multiple learning elements (idem).

There are many theorists who define social networks. We will try here to conceptualize social networks taking as references the ideas of [4], [5], [6] among others. For these authors, social networks reflect a multiplicity of paths that are composed of interconnected nodes through which information circulates. In this type of organization there is no hierarchy and everyone contributes significantly to its development under the principles of collaboration, interaction and knowledge sharing among peers.

3 NING SOCIAL NETWORK

The Ning social network (www.ning.com), created in 2005 by Marc Andreessen and Gina Bianchini, in the United States, is considered an online platform widely used by teachers and educators that allows the creation of online communities and individual groups, where each user can connect to other members according to their interests.

Currently with more than one and half million communities created and 33 million registered users, has been considered an attractive location for discussion at the academic level, with great potential to become an informal space for learning. It is easily configurable and has support for videos, blogs, photos, forums, and other Web 2.0 applications.

It also presents the following characteristics: i) offers over 52 subjects to choose to create the page, but you can fully control the CSS of a Ning network; ii) has privacy option, that is, people need an invitation to join the network; iii) enables communities to create, with the introduction of discussion forums; iv) use of RSS feeds; v) ability to create a blog for each member; vi) share music; vii) synchronous (chat) and asynchronous communication; viii) real-time updating; ix) organization of events; x) has a space where an announcement can be made or promote any activity.

Ning has recently become a paid social network, having 03 plans or versions: Mini, Plus and Pro Ning. The Ning Mini version is perfect for small groups, since its capacity is up to 150 members. Ning Plus have unlimited members capacity and allows more control over the configuration of customization. Pro Ning, besides having the features of the previous one, provides more configuration options and features also allow the accommodation of a greater number of media.

But for users to join one of these plans, the Ning software offers the opportunity to verify if the network has to meet their needs, with a free trial that lasts for 30 days. If the user approves it, he can then make the payment.

Another interesting feature is that the network allows the user to change plans without having to reconfigure the network. This somehow saves us time and work programming the interface in the new version.

4 STAGES OF DEVELOPMENT AND EVALUATION OF THE PROEDI GRAPHIC INTERFACE

4.1 Initial version Subsection

There are many authors who study the usability standards that should govern the construction of computer prototypes, for instance, the case of [7], [8], [9], among many others.

In the case of our web space we refer some of the basic principles mentioned by Nielsen (2000), as being: i) include a slogan and a phrase summarizing our goal; ii) title with good visibility; iii) use images that were related to the subject because, according to the author, the image is a powerful agent of communication, so you should give increased attention on building an environment; iv) type and size of letters; v) color of links; vi) site layout, among others.

The social network "Teachers in the Digital Age - PROEDI" was, as noted above, created on Ning social software tool. Although the software has a default configuration, the user is given the freedom to choose a theme among the 52 models available, having been chosen the Linen model.

The next step was to choose a logo that best characterized the network and that somehow expressed our idea, i.e., to create a shared space where many voices come together in order to achieve an informal learning environment, the result of needs of teachers in acquiring skills and competencies in ICT.

We opted to choose a logo which in our view means the image of two people with different knowledge and that through peer interactions give rise to a collective imagination.

After choosing the theme and logo, the next step was to choose a background image in order to make it as much personalized as possible. Ning has various backgrounds (wallpapers) but it was necessary to create graphics to make give the page a greater visual appeal to new members. Thus, we proceeded to the study of colors and the creation and adaptation of the visual identity, and chose to use the same logo image.

To implement the system of Ning background images, it was first necessary to create the image, to which we used the Photoshop program and then it was hosted in a free image support (www.imageshack.com). From the URL generated by the support, the appearance was set up.

As for the font we chose a model without serifs, because, according to [10], it is the most appropriate model: In the case of our network we opted for Arial type. In the badge option, which is a space that identifies the network members, we chose the colours blue and gray as the background and text colours respectively, maintaining the network in its initial version as can be seen in Figure 1, shown below.



Figure 1: Teachers in the Digital Age - PROEDI (Initial version)

Another interesting factor that we also find interesting concerns the profile questions, which are questions users answer when joining the network. The network already offers standard questions, such as: location and sex.

However, we have the freedom to create as many questions we want. In the specific case of our study, namely the fact that it is a scientific research, thought it would be interesting to create more questions in order to characterize our future sample. The questions were multiple choice and a one line answer, classified as mandatory (users have to answer to become members) and private (the answer are only visible to the network administrator), as shown in Table 1.

Type of Response	Multiple-choice				One line answer	
	Mandatory	Private	N.d.a	Allows to chose more than one answer	Private	N.d.a
Questions						
Gender	x					
Age group		x				
Marital Status			x			
Employment Relationship				x		
Teaching level				x		
City, State, Country					x	
E-mail contact					x	
Participates in other social networks? Which?						x
Member of another virtual community? Which?						x

Table 1: Response Table created to characterize the sample

4.2 Evaluation of the Graphical Interface

We believe that usability evaluation is a process that aims to assess and evaluate if a prototype features a layout and/or standards of acceptable quality to be a visually pleasing site. According to [8], this can be considered the starting point for a Website that is more accessible and, therefore, that can attract more users.

Since this is an application that will be used in a context of academic research, the impact of the interface becomes even more rigorous, because besides being a nice place, it must meet the needs, taste and style of the target public [11; 12].

Once we constructed PROEDI social network, we proceeded to the validation process of its interface by 04 experts, 02 of the area of Graphic Design and 02 of Educational Technology. Clarified the objectives that guided the creation of PROEDI, it was sent to each evaluator a screening system interface constituted by 06 sections: a) identification, b) first impression of the network, c) Interface d) network's appearance, e) profile questions and f) general comment.

In the table below we summarize the comments made by the evaluators with regard to issues concerning c) and d).

Sections of the grid	Some comments from evaluators
Interface	Needs to be standardized, with only two colors.
	Remove the sentence "Your new space of communication", because this kind of slogan does not make much sense in this type of platform. Moreover, the weight it has in the picture is disproportionate as to the relevance of the subject.
	Remove background degrade
	Place the logo menu below the slogan
	The logo in repeat mode as background removes its weight and significance, making it an element of noise and distraction.
Network's appearance	Set the text color in two colours Smaller letters in bold and gray color on every page

Table 2: Comments from evaluators

For the identification section, the evaluators found appealing the creation of the slogan PROEDI, because it synthesizes the network name, making it easier to memorize. Regarding the item that inquired about which was "the first impression of the network," most reviewers have described it as good, since it had an organized layout, covering items of interest and taking into account what were its basic objectives: to promote discussion between members.

Now with regard to profile questions, we found that, unanimously, the evaluators found them to be sufficient to characterize the sample.

And finally, in the section that asked the evaluators a general comment, from 04 assessors, only 01 did not respond. With regard to this section, they commented that in general the network was visually pleasing, easy to navigate and customize.

The next step was to recast the network, which, in its final version, has the layout shown in Figure 2.



Figure 2: PROEDI – Final version

5 CONCLUSION

Nowadays, we witness new ways of conceiving knowledge. This knowledge was once valid for a long period of time, but today it is very volatile. In this context arise several discussion groups that use many applications in the social Web to share experiences and build knowledge.

It was with this objective in mind that we set out to create the social network PROEDI, an online space for open discussion and exchange of experiences among teachers who want to develop their skills in digital literacy. In order to give future users a visually pleasing environment, to clarify visitors quickly on their objectives and purposes and thus create an online space capable of attracting more and more supporters, we conducted an evaluation of the interface by the experts before making it available online. This article summarizes and justifies this evolutionary process that culminated in the final version that can be accessed in <http://proedi.ning.com>.

Of course this is an important aspect but there are others that motivate us even more: we want the network PROEDI to be a Web environment that emphasizes democratic values and the initiative of individual teachers to develop their own educational path, without being connected to the school or training centers. We want to be able to create a Web environment that values the contribution of teachers regarding their training, because it is the main step to create their own identity. According to [13], this could create a sense of belonging and empowerment, which are key elements that help each member to perceive the environment as their own, and thus feel the desire to participate and interact in the discussions generated.

Therefore, we believe that PROEDI may be an environmental trigger of multiple learning that, according to [14], could be developed through a variety of experiences such as problem solving, request for information, search of experience and synergy, knowledge mapping, identification of gaps, construction of knowledge, enrichment and/or improvement of professional practices.

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