



Students' virtual learning styles in an online context

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Abstract

The objectives of our research were, on the one hand, to identify students' profiles that use virtual space in the online context and on the other hand, to verify if there were differences in those profiles, in terms of gender. Data collection was made through a questionnaire composed of 3 parts. The first concerned the identification of the sample. The second part contained questions to characterize the use made of the Internet. Finally, to identify the users' profile of virtual learning space we applied the questionnaire of Style usage of Virtual Space which is composed by a set of 40 statements. Each subject should select those that best fit their situation. The questionnaire refers to 4 different styles. The collection of information was carried out online and the questionnaires were anonymous. The sample was a total of 62 distance-learning students. In terms of gender, 26% were male and 74% female. The average age is 38 years old.

There were identified 4 styles of virtual learning space usage were identified and the results point out to the predominance of one of the styles – type A -, called participatory use style in virtual space. With regard to gender it was found a similar behaviour in men and women, not having been found significant differences.

Knowing virtual learning space users' profile is very relevant to help us understand the learning processes in these contexts. Furthermore, this knowledge provides us with the information required to structure the pedagogic context and the appropriateness of teaching methodologies.

1. Introduction

Formal learning content involves the aggregation of a set of intrinsic and extrinsic factors to the subject. Learning in online context is a sub set of a more general theory of learning. I.e., adult learning issues that arise in general learning can also be found in an online learning context. Online learning can be seen from different points of view that are interconnected with each other and in accordance with the given emphasis, so are the contributions that it brings to the understanding of this reality. Although there are many similarities in the process of learning, online education has its particularities, challenges and ways to face the pedagogical relationship (students / professor / context) associated with that. The ubiquity that the virtual space provides allows greater flexibility of time and space. This flexibility can be reflected not only in access to knowledge, but also, in the way of structuring the training and in possibility to means and methodologies best suited to the needs and ways to students reach the knowledge (learning styles).

1.1. Learning Styles

The complexity of the learning process lies not only with the nature of content, but also with the system in which this knowledge is transmitted and last, but not least, to factors intrinsic to the student. Research in education have long since been shown that different people have different ways and rhythms to learn. These typical ways of perceiving and processing new information are what in literature is known as learning styles. These are the result of cognitive, emotional, cultural and physiological indicating, in a relatively stable way, as a person perceives, interacts with and responds to the learning environment. In other words, learning styles define the usual form or characteristic way that a person must respond to the learning tasks. The learning environment includes matters, how to teach, support materials to this teaching and the environment where this activity takes place. They

affect not only how people learn, but also act as a group, participate in activities, relate with others, solve problems and work [1] [2].

1.2. Digital and Knowledge's Society

The free and immediate access to a great number of sources, places of information and knowledge, has integrated a network with dispersed nodules for the whole world that was decisive to the globalization of the society.

All these alterations lead to a quantitative increase of the available and accessible information to the great majority of people. However, if organized systems, strategies and abilities to manage all these information didn't exist, this would become disadvantageous and inconvenient.

The formation cannot be based on the simple transmission of information but in the evolution of abilities as critical thought, management of the knowledge and information, learn to learn, among others. For this there are necessary formative strategies based in innovative educative processes that allow more efficient processes of learning.

The digital technologies are tools or resources that allow, beyond storage and transport of information, new forms of access to the knowledge and relationship between contents and actors in the process. With them also grows the necessity of new conceptions of the educative process, the development of new strategies of teaching - learning, new more flexible practical, in terms of time, space, contents and processes [3].

Nowadays, the Internet is a huge repository of information that we can accede in accordance with the inherent necessities to each person, which are linked with individual time, context and characteristics.

2. Method

2.1. Objectives

The objectives of our research were:

- a) to identify students' profiles that use the virtual space in the online context and,
- b) to verify if there were differences in those profiles, in terms of gender.

2.2. Design and participants

Data collection was made through a questionnaire composed of 3 parts. A total of 62 elearning students participated in the survey, as volunteers; all responses were anonymous. 26% males and 74% females had a age range of 25 – 57 years (M = 39.61, SD = 8.02).

2.3. Materials and procedure

The first part of the questionnaire concerned the identification of the sample. The second part contained questions to characterize the use made of Internet. Finally, to identify the users' profile of virtual learning space we applied the questionnaire of Style usage of Virtual Space [4]. It is composed by a set of 40 statements. Participants should only tick the statements that were in line with your style of use of the virtual space.

Participants were asked to complete the questionnaire at their own pace and online.

2.4. Data analyses

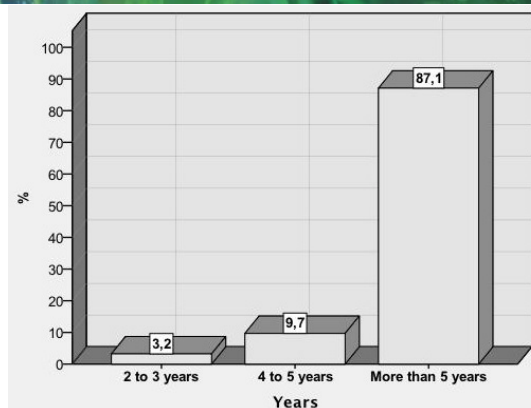
We proceeded to the analysis of participants' responses according how that had been asked.

It was the purpose of this research to examine sex differences. To analyze the behavior of the sex variable we used the T test (t-student).

3. Results

3.1. Internet Usage: Years

The results of Question - *How many years have you been using Internet?* - are in Graphic 1

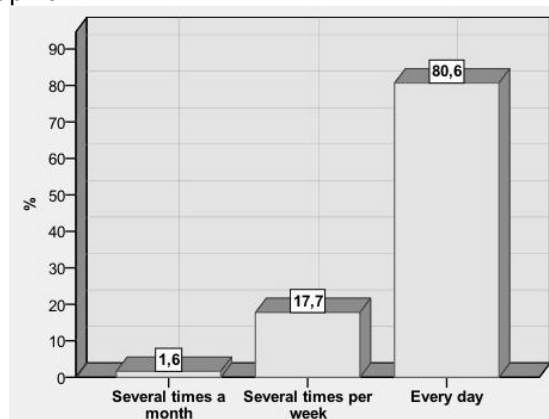


Graphic 1. How many years have you been using Internet?

As can be seen most of the participants have been using Internet for more than 5 years.

3.2. Internet Usage: frequency

The results concerning the frequency with which the participants use the Internet (*Generally use of Internet ...*) are found in Graphic 2.

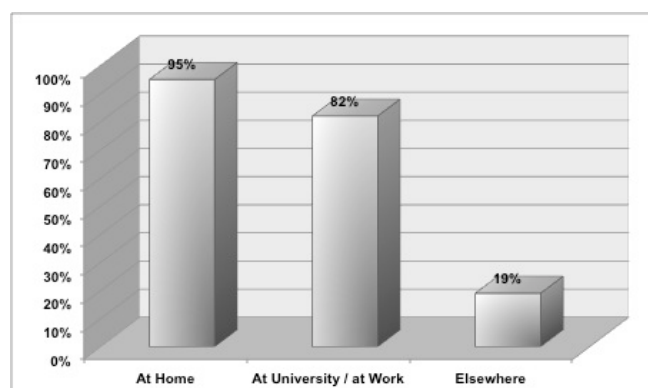


Graphic 2. Generally I use of Internet...

As it can be seen 80.6% of respondents use the Internet every day.

3.3. Internet Usage: Where...

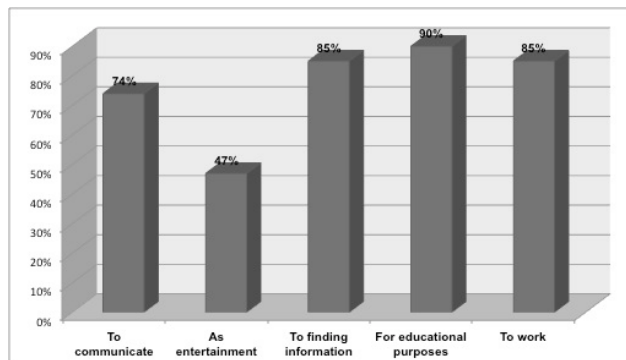
In questions related to spaces in which the Internet is used, participants were allowed to choose more than one option. The results obtained are in Graphic 3.



Graphic 3. Usually I use Internet...

3.4. Internet Usage: For...

The last issue of Part II is linked to why participants are using Internet. Like the previous question, also here was given the opportunity to select more than one option. Results are shown in Graphic 4.



Graphic 4. Regularly I use Internet...

3.5. Part III - Use of virtual space

General results

Analysis of the general questionnaire allows us to identify the responses with the greatest consensus among participants. Thus, Table 1 shows the obtained assertions where results are greater than 50%, regardless of sex.

Statement	%
<i>I have no fixed schedule for Internet access.</i>	88.7
<i>At the time of seeking information on a subject that interests me more than, I look for on more than one web page.</i>	85.5
<i>I seek information on the Internet to reflect and generate own ideas and new ones.</i>	80.6
<i>I look for texts and documents in libraries, magazines and websites online scientific archives.</i>	62.9
<i>I use multiple web pages simultaneously</i>	59.7
<i>I select the web information based on concepts known from everyday life, scientific or private experiences.</i>	58.1
<i>I organize the folders with the documents I have on my computer, in a strategic way.</i>	58.1
<i>I Always analyze the quality of the web site that I access.</i>	51.6
<i>I use the tools that gives me the internet (chat, MSN, Skype) to develop my work and fast communications.</i>	50.0

Table 1. Statements more selected

Results by sex

The results with respect to gender will be analyzed according to the fourth type recommended by the model styles - Type A, B, C and D.

The mean, standard deviation value and the Students T-test, as well as their level of significance are shown in Table 2.

	sex	N	Average	SD	T	S
Type A	Female	46	4.20	1.485	-.888	ns
	Male	16	4.69	2.822		
Type B	Female	46	3.22	1.645	-1.500	ns
	Male	16	4.00	2.191		
Type C	Female	46	2.33	1.550	-.505	ns
	Male	16	2.56	1.788		
Type D	Female	46	2.09	1.658	.701	ns
	Male	16	1.75	1.653		

Table 2. T-student values and level of significance

As it can be seen by the values shown on the table, differences found in each type concerning gender, aren't statistically significant.

4. Discussion

One of the objectives of the research was to identify students profiles that use the virtual space in the online context. The results indicate that most participants, have an almost daily use of Internet. The query is done in the same house or University / Work. These results are consistent with the reasons for their use. The main reasons given for this purpose relate to educational issues, working, looking for information and to communicate.

The most selected statements of our survey point to a type of person who, in general, look for information at any time and in various locations and that can manage diversified information. This information has to help the person generate his own ideas. However, this does not imply that they don't analyze the quality of the sites they access and use criteria to select it. It also uses the tools at its disposal and at the same time, likes to keep the information organized.

The second question was about verifying if there were differences in those profiles, in terms of gender. The results did not indicate statistically significant differences between participants of both sexes. These results contradict other studies that tell us of the existence of significant differences in learning styles [5], [6], [7] and in a different way of behavior of subjects of both sexes in the virtual space [8] [9], [10].

5. Conclusions

The study of impact of learning styles in teaching – learning process remains a topical issue. The environments in which this process occurs are constantly undergoing changes and knowing how they can maximize up to meet the individual characteristics of students which is of extreme relevance in the educational field.

The results of our research showed that there are different ways to use and work with information and resources available on the Internet.

At present the E-learning is used to improve the learning process. In order for this to happen it is necessary to build environments adapted to the needs and characteristics of its users. For a teacher in e-learning, knowledge of the learning style of students is extremely important [11]. The virtual space, by definition, makes possible new ways for students to engage with information and, therefore, new way of learning [4]. It's the job of the teachers working in these environments to help manage these situations. For this knowledge of different styles of use of the virtual space it's a precious help being able to draw learning environments best suited to the needs and styles of use.

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