



## The Feeling of Self-efficacy of Adult Students in Online Learning Context

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### Abstract

*This paper examines the relationship between the feeling of self-efficacy of an adult learners group in an online learning context with their actual performance. So, the aim of our study is to understand it a) with their performance in a particular course and b) to sociodemographic variables, such as age and sex of these learners.*

*Data collection was taken from a group of 139 students of both genders. The average age is 42. We used the scale of the MSLQ self-efficacy, adapted to the specific content, and to the online environment ( $\alpha = .919$ ).*

*The data was analyzed using descriptive and inferential statistics. The Pearson correlation coefficient was used to see the relationship between self-efficacy and academic performance, and between self-efficacy and age. The T Student test was used to see the relationship between self-efficacy and gender.*

*The analysis of the data indicated that students' level of self-efficacy is high (average=47,3; SD=5,77). Our results indicate a significant relationship between self-efficacy and age, but not between self-efficacy and gender. Also it was not found a statistically significant relationship between self-efficacy and academic performance in a specific unit course.*

*Despite these results go against the studies in this area, we point out as a possible explanation that overconfidence of the students can lead to disinvestment in the learning task because they think they already know their content.*

### 1. Introduction

The need for lifelong learning leads increasingly to what appears to be the return of adults to the education system. Andragogy defines a set of characteristics that define the adult learner [1]. Their motivations associated with long periods of absence of learning contexts, as well as the evolution of these involve questions of diverse nature. The principles of andragogy are based on the fact that the adult learner is motivated to learn, having goals for learning; and on the fact that orientation to learn focus in students' life and in their experience, which plays an extremely important role. Adults are more self-directed students. As can be presumed, individual differences increase with age, since life experience also becomes greater with age [1]. When we are working with adult students all these variables must be taken into account, so that the scenarios and educational proposals are suitable for this sort of public. When referring to planned educational activities, we are talking about distinguish adult education from *adult learning* [2]. This last concept refers to internal cognitive processes that underlie learning. The social and technological changes that occurred over time implied a professional instability, and created a need for requalification and adaptation for the emerging needs. The lifelong learning has gained a new dimension and brought new audiences and new challenges to educational institutions. An adult audience now seeks answers to their formative needs. However, these needs, in addition to the characteristics listed previously, pose other particularities. There are usually people with a professional and personal life that cannot take less care, but they still need to continue their training / requalification.



Due to the constraints of personal, professional and family they found in online learning the way of respond to their educational needs, and overcome their constraints [3]. The elearning gives the student time and space flexibility, allowing a better management that suits their needs in education. In these learning systems, one of the most important roles of the teacher is being the mediator / facilitator. This means that the teacher should aim to provide appropriate educational aid to students' constructive learning [4] (p.29).

In an online education system, with an emphasis on the idea of a learner as a constructor of his own knowledge, aspects related to self-regulation and self-efficacy gain particular relevance.

Self-efficacy determines how people feel, think, motivate themselves and behave. This concept is related to the beliefs that people have about their capacity to complete a specific task. This is constructed from the information arriving from a range of different sources, as it can be seen in Figure 1 [5] [6] [7]. So, judgments of self-efficacy result from previous experiences / accomplishments, from vicarious experience (modeled by others), from social persuasion resulting after training and evaluative feedback, and from the physical and emotional conditions of the subjects.



*Fig.1. Sources of self-efficacy information*

Beliefs about self-efficacy have a significant impact on the definition of objectives, and compliance through the influence they exert on individually choice, motivation, resilience, and on emotional reactions. These, on the other hand, will influence the effort and persistence in performing a given task.

However, when it comes to online contexts, the information sources may have other origins. The variables that influence self-efficacy in online contexts may come either from previous successes in online systems, anxiety towards technology learning, feedback from teacher / trainer or frequency of a pre-training course [8].

## 2. Methodology

### 2.1 Objectives

The objectives of our research are to understand the relationship between the self-efficacy's feeling of an adults group learning in online learning context and:

- a) their performance in a particular course unit
- b) sociodemographic variables, such as age and gender of these learners.



## 2.2 Design and participants

Data collection was made through the scale of the MSLQ self-efficacy adapted. A total of 139 e-learning students participated in the survey, as volunteers; 30% males and 70% females; with an age range between 28 and 62 years old ( $M = 41.5$ ,  $SD = 6,991$ ).

These students were attending a course of professionalization which is mandatory.

## 2.3 Instruments and procedure

The first part of the questionnaire concerned the identification of the sample (age and gender). In second part we used the scale of the MSLQ self-efficacy, adapted to the specific content and the online environment.

The questionnaire is composed by a set of 8 statements and with a response scale ranged between 1 and 7. Students should choose a number between 1 and 7 that best describes their position towards the statements. The number 1 means that the student fully disagrees with the statement, and the number 7 means that the student fully agrees with the statement.

Participants were asked to complete the questionnaire online at their own place. The questionnaire was given once in time at the beginning of the school activities of the course, before they have been requested any evaluation activity, and therefore without having had any evaluative feedback on their performance in that course. However, this course belonged to the 2nd semester, and it had duration of one academic year.

## 2.4 Data analyses

We proceeded to the analysis of participants' responses according to how the questions were asked.

It was the purpose of this research to examine the variables gender and age behavior on the feeling of self-efficacy. It was also our purpose to examine the relationship between the feeling of self-efficacy and the actual performance of this group of students. To analyze the behavior of the variables gender, age, and performance we used the Pearson Correlation. To analyze the behavior of the variable gender we used the T Student test.

## 3. Results

The average score for the 8 items of the MSLQ self-efficacy scale was 47.33 ( $SD = 5.77$ ) and the mode was 49. The reliability statistics of this scale was  $\alpha = .919$ .

### 3.1 Self-efficacy and final classification

As we said earlier, we will now proceed to present the results obtained regarding the relationship between self-efficacy and the final classification.

The 139 students had an average final classification of 12.53 ( $SD = 3.68$ ) on a scale of 0 to 20. Figure 2 represents minimum and maximum range of the scale of self-efficacy (Min = 8; Max = 56), and the average obtained by the students (47.33).

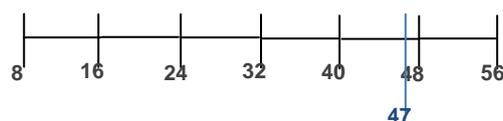


Fig.2. Representation of the average student relatively to the theoretical minimum and maximum values on the scale of self-efficacy



As can be seen the average level of self-efficacy of these students is reasonably high. The same cannot be observed when it comes to the average of final grades. To check the possible relationship between these two variables we used the Pearson correlation coefficient. The result ( $r_{pb} = - .085$ ) indicates an absence of statistically significant relationship between the sense of self-efficacy indicated by these students and their level of academic performance, in this particular course. Beyond this correlation is not statistically significant even has the particularity of being negative.

### 3.2 Self-efficacy, gender and age

We now present the results obtained for these two sociodemographic variables, beginning by analyzing the gender variable. To check if there are differences between men and women regarding self-efficacy we used the T Student test. The results obtained are shown in Table 1.

Table 1. Results for the T test by sex

	Men ( <i>n</i> = 42) Mean (SD)	Women ( <i>n</i> = 99) Mean (SD)	<i>t</i> (139)
Self-efficacy (total score)	46.57 (5.79)	47.66 (5.76)	1.022 ( <i>ns</i> )

The result from applying Pearson correlation test indicates that there are no statistically significant differences between men and women regarding self-efficacy. The results ( $r_{pb} = - .086$ ) in the correlation analysis between the variable gender and self-efficacy indicate an absence of a statistically significant correlation between them.

We are now going to analyze the feeling of self-efficacy considering the ages of the subject of our sample. The results obtained allow us to state that there is a significant and positive correlation between age and self-efficacy,  $r_{pb} = .20$ ,  $p = .019$ . So, this means that a greater feeling of self-efficacy is associated with older students.

## 4. Conclusions

Our aim was, first, to analyze the relationship between self-efficacy beliefs and the performance of a group of students in a particular course in the context of virtual learning. Secondly, to examine these beliefs of self-efficacy based on gender and age. Our results point out to the absence of a statistically significant relationship between the beliefs of self-efficacy and performance. These results seem to go against the studies that usually find out a statistically significant relationship between performance and self-efficacy. However, we know that there are several sources that lead to the construction of the sense of self-efficacy. This is a multifaceted construct. The analysis of the effect of judgments of self-efficacy on behavior, performance, and perceptions of performance in complex cognitive tasks is not fully known [8]. The search for explanations for our results leads us to the sources of information that underlie the construction of the sense of self-efficacy. One of them is related to past performance and its implications in the current results [7]. We believe that a possible explanation may lie in the fact that our sample was very particular. These students are all teachers with a university degree, and many of them have Masters and Phd degrees. Associated to this, they had to make this formation, since it was mandatory, and the contents of this particular course were directly related to their academic experiences as teachers. Therefore, we believe that these factors may have influenced, especially their dedication to the task, leading to a level of overconfidence that compromised their performance [8].

In addition to the content, the context of education also was in question. The course was taught entirely online which involves some challenges to students. These challenges are located at level of the knowledge of the features of the platform, but also in adaptation to this method of learning. It implies greater self-regulation of students. However, the relationship between the level of self-efficacy

in online courses and academic success of students in these contexts has not proved a good predictor, as the other studies had demonstrated as well [9].

Although our results are not according the literature on this subject, we consider that it leads to important considerations. They allow us to reflect on the conditioning variables of performance of students, particularly adult students in online contexts, and as well as the role of both learning context and self-efficacy beliefs.

We also consider important to deepen this theme with a new study controlling other variables related to the degree of confidence of students in their abilities, as well as a way they self-regulate their learning in virtual learning environments.

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