Self-motivational Beliefs that Enhance Self- regulation of Students in Virtual Courses

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Abstract

The present research exposes the way in which eight students selected from virtual environments of a Peruvian institute of higher education perceive their self-regulation processes in the planning stage. The approach is qualitative with a phenomenological interpretative design. Based on the interview of eight students enrolled in the distance learning modality. The main finding is that students have their own beliefs about themselves that help motivate them permanently in the assignments they must complete. Determined by both external and internalfactors, these help academic tasks to be valued in a positive way, so that their completion gives them satisfaction.

Keywords

Self-regulation model, socio-cognitive learning, virtual environment, virtual learning

1. Introduction

Although the digitalization of education is a process that has been taking place since the globalization of the Internet and the cheapening of technology, the way in which students have adapted has not been effective in all cases [1]. As a result, although the pandemic produced by covid-19 occurred at a time when distance education was already taking place in Peru, the adaptation of the vast majority of students did not occur in a pertinent manner. In fact, the educational sector faced great challenges. For this reason, different alternatives have been developed to help promote learning through virtual environments [2]. In this sense, the quarantine context only accelerated the different educational centers to bet on a totality of virtual services where their agents would interact on platforms in a synchronous and asynchronous way [3].

Due to this digital reality, student learning underwent a radical change, as it went from a face-to-face attendance to an entirely digital one, which implies greater weight on independent learning and self-learning [3]. This digitization of educational life implied that the motivation, self-determination and effort of each student changed, since the skills needed to achieve their learning objectives go rather through the self-regulation of which they are capable [4]. Self-regulated learning is defined as the ability to learn and manage one's learning environment through clearly defined objectives [5]. This means that, to achieve effective learning, students must self-regulate their own learning through different strategies, such as task analysis, self-motivating beliefs, self-monitoring, self-observation, self-judgment or self-reaction [6]. For this reason, developing educational practices that are aware of these needs is more urgent, as they were not necessarily exploited in face-to-face environments. Strengthening new learning designs implies improving the environments where students learn, not

only course contents, but also competencies that will later be useful in other fields of their social life. The main objective of this research is to analyze the way in which undergraduate students in virtual environments perceive self-regulation for the planning of their academic work considering Barry Zimmerman's threephase socio-cognitive model [6] [7]. The first planning phase consists of two processes: task analysis and selfmotivational beliefs; the second is execution, analyzed on two elements: self-monitoring and self observation; and self-reflection, separated into the processes of self-judgment and self-reaction.

This paper presents the results of the analysis of the perception that students in virtual environments have of the self-motivational beliefs that are part of the planning phase: self-efficacy, outcome expectations, task value and interest, and goal orientation.

2. Methodology

The research was developed with a qualitative approach to interpret the perception of selfregulation in the planning stage of academic activities in first semester students of the distance learning modality of a higher education institute in Lima. In addition, it belongs to the interpretative phenomenological design since it analyzes the phenomenon of students' self-regulation to start and finish their academic work in virtual environments. Based on interviews, it is possible to describe the way in which they perceive the self-regulation of their learning in the context of the covid-19 pandemic. Thanks to this, it has been possible to understand how they act in this first stage of the elaboration of their academic work.

There is agreement that phenomenological studies focus on describing and understanding the meaning of a given phenomenon for several people [8] and [9]. The population consisted of 60 male and female students of the first semester 2021-1 of various distance learning courses. A non-probabilistic sample was established by applying exclusion and inclusion criteria. In terms of the researcher's objectives, the sample is homogeneous [10]. This type of sample is understood by [9] as a selection that does not depend on chance, but on the meticulous choice of criteria aimed at achieving the objectives set by the researcher. Thus, 13 participants were chosen whose age ranged from 18 to 22 years; 8 of them were interviewed separately.

To carry out the analysis, two instruments were developed. The first is the sociodemographic data sheet with administrative data (semester and career) and personal data (age and sex). The second is a semi-structured interview guide aimed at understanding the perception of self-regulated learning in the planning of academic work assigned to the participants. It is composed of a list of semi-structured questions related to the research objectives, whose organization is arranged in themes and sub-themes, and categories, following Zimmerman's paradigm [6] [7]. The interview contains 35 questions structured by 14 themes; two correspond to understanding the perception of the task planning phase. The first is self-efficacy; the second topic is outcome expectations with two questions; the third refers to task valuation and task interest; the fourth, to goal orientation. The focus group interviews lasted, on average, one hour. For the collection of data from the participants, it was decided to contact them through telephone calls and e-mail exchanges, always emphasizing the protection of their data, as well as the importance of their voluntary collaboration. In addition, respect for data protection will be maintained throughout the research. The platform for the interviews was Meet, prior to the beginning of the interviews, the informed consent document was provided to each interviewee.

The interviews were processed with the Atlas.ti program. The information collected and processed was analyzed with the thematic analysis technique, which consists of segmenting the content into thematic units previously selected from an established theoretical framework [11]. Although this research is part of a larger one whose objective is to understand the phases and processes of student self-regulation through the four phases of Zimmerman's model [6] [7], the results presented here are revealing to understand the first phase: planning. With this, it will be possible to understand how the planning of tasks in virtual environments is constructed based on the self-motivational beliefs held by the students.

3. Results and Discussion

The presentation of results will follow Zimmerman's social-cognitive model [6] [7], assuming as thematic axes the four processes of the self-regulation phase, as categories and subcategories to the findings that this research seeks to propose as a contribution to the model analyzed. This section will show more clearly the dynamics that integrate this composition from the external to the internal part their voluntary collaboration. In addition, respect for data protection will be maintained throughout the research.

4. Autonomy as part of self-efficacy

In the thematic axis of self-efficacy, the category of autonomy was found. Within the interviews, the participants consider that distance education has allowed them to become more autonomous in making decisions that will lead them to good results. [12] points out that self-efficacy is the confidence one has in one's own abilities and the conviction of success when starting a new activity. From this category, three subcategories were found. In relation to (i) proactivity, [13] states that proactivity brings together creativity, planning and control of various activities to succeed in different situations. 14] [15] found that proactivity consists of subjecting processes to constant refutation to seek continuous improvement. The preceding research is in line with the findings of this study, since in the participants' statements it was found that they are constantly looking for different strategies to improve their tasks, as well as to optimize the time it takes to perform them. This is verified in the following testimonies:

"(...) *developing my organization process has helped me to do my activities in less time...*". (Student 1).

In this sense, students in this modality have the need to organize, investigate, create spaces, methods, information channels and support to constantly improve their actions. Therefore, it can be affirmed that distance education influences and increases the student's organizational capacity in their daily activities; it also creates more analytical students with their learning processes and with the time it takes them to develop these processes. In relation to ii) high expectations of results, which are a consequence of the confidence that a person has about the performance that he/she will have to elaborate a certain task [16]. Thus, it has been found that students' statements show that their expectations of the results of a task are high in terms of the recognition of thei own processes. They consider that they will have a good result to the extent that they have taken care of the process of elaborating their task. This is reflected in the following statements:

"...*Because I am confident and sure of my abilities to be able to perform a task of an analyzed and understood kind...*". (Student 2 - interview).

For this reason, it is possible to affirm that the expectations of results are a function of their own performance and that, in this case, they have developed a high sense of expectation, since they perceive that their efforts are greater than those they had in face-to-face classes. Regarding iii) collaborative learning. [17] states that the new technological demands in education have increased sociability and interaction in cyberspace, fostering collaborative work among students. In the same perspective, the study by [16] indicates that collaborative work is that in which there are no hierarchies, the goal is not only to accomplish the task, but also to take care of the organization processes, distribution of activities and care in the processing of information. From what was expressed by these authors, it was identified that students use different learning environments to work together, but, in addition, for them, maintaining communication with their peers is very important, as it allows them to co-evaluate each other and identify what each one is doing and what measures to take so that everyone can advance. This is demonstrated in the following statements:

"...*it works for me to have group meetings, no, in a group I think the task is more efficient, you work less hours for what we have to do...*". (Student 3).

In this sense, there is a need for grouping and a sense of belonging that induces them to collaborate among themselves and actively participate in their groups.

3.2. Intrinsic motivation as an element of outcome expectations

The second thematic axis is that of expectations of results based on the way in which each student conceives his or her performance in relation to the assigned task, which is explained based on three subcategories. In relation to i) commitment to learning, [18] argues that the student searches for information, but does not remain only in the search process, but increases his capacity to understand and interpret the information, enrich it and share it with his peers. In this sense, there is a need for lifelong learning, where technology is a support, but not an end. From what was verbalized by the participants, it can be found that they feel a commitment and responsibility with their own learning, and this motivates them to continue learning. This can be seen in the following statements:

"...*Because I have previously prepared myself through the online classes, although I only feel that these only give me 40% preparation, added to my own research on the subject through books and my own summaries that I take from videos and books on the subject...".* (Student 4).

The subcategory found from the participants' statements represents their sense of commitment to their learning. This goes beyond the fulfillment of the task, but encompasses an individual sense, but at the same time a theme of community and collectivity persists, despite not knowing each other personally. It was identified that distance education students are involved in their learning process and that new challenges are not an obstacle, since there is a predisposition to adaptability; likewise, it is noted that there is a sense of enthusiasm on their part, since they consider activities that require new skills as an opportunity for improvement.

In relation to ii) the challenge of their capabilities, it was identified that distance education students are involved in their learning process and that new challenges are not an obstacle, but rather they are stimulating for them. [19] warns that in distance education the student reflects a lot on how he learns, there is a commitment and iterative reflection on what he does and does not do, his investigative capacity increases, since he needs to nourish himself from different sources to achieve his previously planned objectives and he is not intimidated by new scenarios or in any case he adapts to them easily. This is demonstrated in the following statements:

"*... I am motivated to learn and be informed about topics and research, which I did not know before...*". (Student 3).

This is explained by the fact that there is a predisposition to adaptability to difficulties. There is a sense of enthusiasm on their part, since they see activities that require new skills as an opportunity for improvement. In relation to iii) frustration tolerance, [19] points out that there is frustration on the part of the student in the face of external factors. Based on the expressions of the participants about their experiences in situations that generate frustration or stress:

"*... In my case, it is somewhat negative since I have difficulty with my eyesight and sitting for several hours in front of the monitor somehow or other is detrimental and causes some discomfort....*". (Student 5).

In this sense, there is a tolerance to adverse situations. Distance education students, because it is a type of independent education, need to assume certain negative socio-environmental situations and overcome them as part of their training, especially the tolerance that is needed in the face of problems that arise from technological problems -such as the lack of a good flow of internet is what frustrates students the most-, economic problems -such as the payment for their resources-, even external noises that interrupt their concentration.

4.3. The concrete application of the task in the realization of the value and interest for the task

In relation to the thematic axis of value and interest of the task, the concrete application of the task was found. [20] indicate that, in distance education, students value highly when they perceive that a task can serve them to apply it in their professional lives. Under this premise, it can be deduced that the task is valued to the extent of its usefulness. This is demonstrated by the following testimonies:

> *"...I believe that the value in learning. In the end, it all depends on the student. In the end, if the student wants to learn, he/she looks for more, researches more and complements what he/she teaches the teacher and also converses with the teacher...".* (Student 3).

This research finds that the testimonies are very much inclined to the applicability of learning during the profession. In this sense, it is possible to affirm that there is a concern for learning itself. The student no longer seesthe purpose of passing a semester or a course, but values knowledge from its very essence and from its future usefulness.

3.4. Personal satisfaction with results in relation to goal orientation

Regarding the thematic axis of goal orientation, it was found that there is *personal satisfaction with the results.* From this, it can be affirmed that students remain motivated because they focus on the satisfaction of having donetheir work well. For this reason, they concentrate their attention on a possible subsequent congratulation or recognition. [21] points out that the feeling of success is important within self-regulation, since it allows the studentto have motivational beliefs. Based on the above, the participants' comments verbalize the following:

> *"...my case, to maintain my objectives is to maintain my personal satisfaction, also to establish my mission and to see myself in the future as a successful person...".* (Student 2).

In the research of [22] it was found that students feel more predisposed to have a positive result when an environment of fraternal bonds between teachers and peers is created; likewise, the recognition of their efforts is amotivating agent for them. In the same line, [23] [24] highlights that distance education students perceive themselves ascapable of developing skills that allow them to learn, improve their learning outcomes during their academic andprofessional life. This research is in the same line, since the expressions of the participants are quite clear in indicating that they are interested in obtaining a good grade, but that this is due to their efforts during their learningprocesses. For this reason, the goals are oriented to learning and to the feeling of success that they will experience after obtaining good results, which motivates them to make an effort. This finding implies that recognition of good results is key to students' continuity in distance learning.

5. CONCLUSSIONS

From the review of the results, it is concluded that students in virtual environments have clearly defined self-motivational beliefs that are determined by both internal and external factors. In this sense, the role they play in their learning is modulated by the way in which they perceive themselves as capable, challenged and predisposedto collaborative work for the achievement of their objectives. Thus, the virtual environment is an excellent opportunity for students in this modality to find in the digital environment elements that constantly challenge them,whether in the difficulty of handling extra-academic factors or in the difficulty of the task itself.

Self-efficacy would be regulated by the autonomy that the student is able to show and how this is evidenced inprocesses that reveal proactivity in work organization, high expectations of their results and the way in which theyperceive collaborative work in a positive way.

The expectations of the results are understood by the factor of intrinsic motivation that they carry, which is revealed in the commitment that they have for their learning, when they see their abilities challenged and by the attitude of tolerance to moments of frustration.

The value and interest in the task is revealed in the way they approach the assignment. Similarly, the orientationthey have to accomplish their goals is evident in the personal satisfaction they perceive from the expected outcome.

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