

Time management and its impact on satisfaction with virtual courses among university students in a Peruvian region

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Abstract– At present, Peruvian universities have implemented the development of virtual courses; although this allows everyone to have access to higher education and to be able to train professionally to achieve better opportunities, there are still certain problems in terms of student performance, which are related to time management that can generate dissatisfaction towards the courses that are taught in this modality; in view of this, this article seeks to determine how time management affects satisfaction towards virtual courses in university students in the Ica region; For this purpose, the methodology was based on a quantitative approach, basic cross-sectional type, explanatory level, being the selected design non-experimental, causal correlational; the population consisted of students from different universities that have a branch within the Ica region, of which we worked with a sample of 139 students selected through a non-probabilistic sampling by convenience; for data collection, a questionnaire on time management and the short scale to measure satisfaction with virtual courses (SVC - S) were applied. Finally, the Nagelkerke coefficient indicates that the proposed variability model is able to explain 52.7% of the satisfaction with the virtual courses.

Keywords- Time management, satisfaction, virtual courses, university students, remote learning.

Abstract – At present, Peruvian universities have implemented the development of virtual courses; although this allows everyone to have access to higher education and to be able to train professionally to achieve better opportunities, there are still certain problems in terms of student performance, which are related to time management that can generate dissatisfaction towards the courses that are taught in this modality; in view of this, this article seeks to determine how time management affects satisfaction towards virtual courses in university students in the Ica region; For this purpose, the methodology was based on a quantitative approach, basic cross-sectional type, explanatory level, being the selected design non-experimental, causal correlational; the population consisted of students from different universities that have a branch within the Ica region, of which we worked with a sample of 139 students selected through a non-probabilistic sampling by convenience; for data collection, a questionnaire on time management and the short scale to measure satisfaction with virtual courses (SVC - S) were applied. Finally, the Nagelkerke coefficient indicates that the proposed variability model is able to explain 52.7% of the satisfaction with the virtual courses.

I. INTRODUCTION

In the university context, efficient time management plays a crucial role in students' experience and satisfaction with online courses. How students manage their schedules and dedicate time to their virtual studies can influence their academic performance and how they perceive the quality of the education received. In this sense, it is essential to understand how time management relates to the overall satisfaction of university students in online courses.

Likewise, teaching based on a virtual modality is a topic that has been explored by numerous institutions around the world. One of the striking qualities of this educational approach is its ability to adapt to different schedules, allowing students to manage their own study times. However, this flexibility can sometimes be limited by certain courses that require online participation at particularly defined times or locations. This can challenge students' autonomy and ability to maintain personal discipline in their study schedules [1].

At the international level, the abrupt changes to which higher education, in general, was subjected began with the health emergency caused by COVID-19 and the confinement policies assumed by the different governments, as in the case of Bolivia, in order to protect public health in the first quarter of 2020, where the teaching-learning process of the careers, which in their curricular design should be taught under a face-to-face modality, suddenly moved to a virtual environment. This fact has caused the traditional university education to undergo a significant change, which led it from face-to-face to a virtual environment; which affected the way of teaching, learning, and interaction, generating cognitive difficulties in understanding and assimilation of the thematic and, essentially, practical content of the subjects [2].

The health crisis not only slowed down quality improvement policies but government efforts were oriented to face the challenge of continuing the educational service of children and young people in remote and virtual education alternatives, bold measures taken in the midst of Internet coverage problems in most countries of South America and the Caribbean [3].

At the national level, most Peruvian universities are unprepared to face distance education challenges. Especially when it was the result of a forced adaptation. Not only it reminds us of the deficiencies of the higher education system, but it is also opportune to reformulate the quality of mental health in the university context and the new complications that the situation that arose with the pandemic brings with it. In recent years, the Pontificia Universidad Católica del Perú has been implementing various pedagogical spaces and virtual tools such as Elab, computer classrooms, Clickers, etc. For the undergraduate level, the virtual modality through the Paideia platform was scarce until the postponement of face-to-face classes due to the expansion of COVID-19 in Peru, with only a few virtual courses [4].

With regard to theoretical support, there are those who affirm that time is a non-renewable resource, but, at the same time, a good ally. The vast majority seems to agree with this statement, which means as much as understanding that, by wasting time, one is uselessly wasting one's life and failing to fulfill the most valuable things for which one lives in the present: goals, objectives, purposes, dreams, projections, personal fulfillment [5].

Time is defined as a measurement scale that allows people to be located on a chronological line, managing it requires certain aspects such as planning, organization, and prioritization of activities to make effective use of it [6].

Time management can be affected by cognition; in addition, students must be able to manage and regulate their time, their study environment, and their context. Time management includes a schedule or timetable, planning, and managing one's own study time [7].

The dimensions of time management are established on the basis of the Time Management Behavior Questionnaire (TMBQ), which evaluates four complementary dimensions: setting goals and priorities, time management tools, preferences for disorganization, and perception of control over time [8].

It is necessary to identify with the student what his or her priority duties and obligations are. What is done when studying, if the time is wasted or spent to the maximum. Also, identify the habits they have and determine if they are good or bad. It is important to reduce to zero the interruptions that you have during study time, such as friends, telephone, or internet connection. It is necessary to manage the balance between speed and slowness, which means that it requires to contemplate the spaces to rest and recover, in order to be effective while studying a subject or a subject [9].

With regard to satisfaction with virtual courses, this variable is defined as the perception of online university studies based on factors such as the role of the learner, the role of the teacher, the virtual course, institutional management, technology, and

connectivity that affect the level of student satisfaction [10].

Student satisfaction has been conceived as the degree of congruence between students' previous expectations and the results obtained, with respect to the learning experience. In addition, student satisfaction is considered a key element in the assessment of the quality of education, since it reflects the efficiency of academic and administrative services: their satisfaction with the learning units, with interactions with their professor and classmates, as well as with the facilities and equipment [11].

The importance of student academic satisfaction lies in its relationship to academic performance, retention of information, and continued effort during learning [12].

Research highlighting satisfaction with online courses and their impact on the advancement of professional, social, and personal areas is becoming more and more frequent. Firstly, the gratification experienced when participating in distance learning contributes to growth in the work or academic environment, facilitating the efficient execution of work tasks. In addition, it emphasizes development on a personal level by encouraging student involvement and interest, regardless of gender, as long as they are adept with technology. This also benefits the student's budget by reducing time and space barriers. Finally, it generates high standards of interpersonal and social skills because it allows instant interaction with a large group of people [13], [14], [15].

Six pillars of student satisfaction in online higher education were proposed, which were as follows:

The first pillar is the valuation of online education; here the level of valuation of online education as a whole is considered, encompassing the planning of the educational process, and activities, as well as the consistency between these with the course materials, as well as the variety of these. It constitutes the perception of the actual service delivery [11].

The second pillar is the student-content interaction; which it considers whether the contents are meaningful for learning, as well as the variety of materials in different formats, in addition to the students' perception of the materials that serve as support to be able to solve the activities proposed in the course [11].

The third pillar is the conditions for online education; which refers to the material conditions of students for academic work in online education: adequate physical spaces, connectivity, mobile devices, and other technological resources [11].

The fourth pillar is the evaluation of online education; it takes into account the evaluation criteria and instruments, as well as the feedback of the activities, and whether there is a correspondence of what has been evaluated with the specific objectives of the course [11].

The fifth pillar is the use of the institutional platform SGA and other digital tools; where the means of interaction represented by the institutional technological platform SGA is evaluated independently since it is considered indispensable in the teaching and learning processes, as well as other technological tools [11].

The last pillar is student-faculty relationships; here it is considered that student satisfaction is determined by various factors that affect their university education, among these factors is the quality of teachers and their teaching for the academic, professional, and human formation of students [11]. The constructivist approach stands out here, which is a learning theory based on the premise that knowledge is built from experiences in the surrounding environment, moments experienced, and interactions with individuals in everyday life. However, the incentive to acquire or form this knowledge must arise from personal need or desire, since this disposition is not uniform in all cases [16]. The connection of this theory with the technological environment, specifically the virtual teaching method, streamlines communication and the relationship between teacher and student. In addition, instant and constantly updated access to information makes it easier for the student to accurately locate materials that foster the construction of knowledge, thus generating a conducive environment. Having a constructivist virtual environment in the classroom will allow for meaningful learning, based on the various information networks that teachers expose in their digital platforms [17].

Likewise, this study responds to the general question: How does time management impact satisfaction with virtual courses in college students?

This study is relevant to carry out due to the problematic situation that was observed in poor time management and how this impacts the student's satisfaction with the virtual courses that are being developed in the universities.

It is theoretically justified by the information analyzed from reliable sources about the variables under study.

On the other hand, the methodological justification with the search and application of validated instruments allowed for measuring the variables.

The social part also plays an important role since the main beneficiaries are the students who, thanks to the results, teachers and authorities can take some actions to improve that they learn to optimally manage time since it is necessary for students to take advantage of their academic activities and have time for various activities.

Therefore, the objective of the study is to determine the impact

of time management on satisfaction with virtual courses among college students.

II. METHODS

The research is framed in a methodology of quantitative approach so that it will work according to statistical packages [18]; being of a basic type so that it is oriented to obtain new knowledge in a systematic way, with the only objective of increasing the knowledge of concrete reality; being transversal in such a way that it is measured only once and it is with this information that we proceeded to perform the analysis, allowing the characteristics of one or several units to be measured in an established time [19]; it corresponds to the explanatory level and non-experimental design in such a way that the researchers neither manipulate nor control the variables; these studies are called influence or evidence studies [20] being exactly a causal correlational one.

The population was composed of university students from the Ica region (Peru), from which 139 students were selected, which were selected through a non-probabilistic convenience sampling, so it was chosen according to the convenience of the researcher, which allowed to arbitrarily choose how many participants could be in the study [21], being selected based on accessibility criteria, and the heterogeneity of the same was ensured by including students from different universities as well as academic programs. On the other hand, participation was voluntary after signing the informed consent form.

As for the instruments applied, these were a sociodemographic card (6 items) which allowed us to know the characteristics of the study sample, and a questionnaire on time management by the author Roblero [7], which consisted of 32 items structured according to the following dimensions: Objectives and priorities (11 items), management tools (6 items), preferences for disorganization (10 items), perception of control (5 items) with response options on a Likert scale ranging from 1 to 5 points; as a second instrument we worked with the Short Satisfaction Scale towards virtual courses (SVC-S), which is composed of four items, being unidimensional [22]. Both instruments were applied virtually, and the identity of each participant was safeguarded.

The ethical criteria that were considered in the development of this study were to respect both international and national regulations that regulate research conducted on individuals; informed consent was obtained from each of the participants. The primacy of benefit, as well as the principle of non-maleficence, the principle of justice, and the principle of respect were taken into account.

For data processing, we worked with the Excel spreadsheet and for statistical analysis with the SPSS software (Statistical

Package for the Social Sciences) allowing the elaboration of tables and figures (descriptive statistics) and testing of hypotheses (inferential statistics).

III. RESULTS

A Descriptive statistics

Table 1.

Sociodemographic data of university students

		Frequency	Percent
Age	18 years	16	11,5%
	19 -25 years	88	63,3%
	26 - 30 years	11	7,9%
	More than 30 years	24	17,3%
Gender	Male	40	28,8%
	Female	99	71,2%
Marital status	Single	123	88,5%
	Married	5	3,6%
	Cohabitant	7	5,0%
	Separated/divorced	3	2,2%
	Widowe Window / Widowed	1	0,7%
Studies Cycle	First cycles	96	69,1%
	Last cycles	43	30,9%
Second career	yes	31	22,3%
	No	108	77,7%
Employment status	Study only	65	46,8%
	Study and work	74	53,2%

According to Table 1, 11.5% are 18 years old, 63.3% are between 19 and 25 years old, 7.9% are between 26 and 30 years old and 17.3% are over 30 years old; as for gender, 28.8% are male and 71.2% are female; 88.5% are single, 3.6% are married, 5.0% are cohabiting, 2.2% are separated/divorced and only 0.7% are widowed; Regarding the cycle of studies, 69.1% are in the first cycles and 30.9% in the last cycles; as to whether this is their second professional career, 22.3% say yes and 77.7% say no; finally, regarding employment status, 46.8% only study and 53.2% study and work.

Table 2.

Time management

	Frequency	Percent
Inadequate	4	2,9%
Moderately adequate	70	50,4%
Adequate	62	44,6%
Very adequate	3	2,2%
Total	139	100,0%

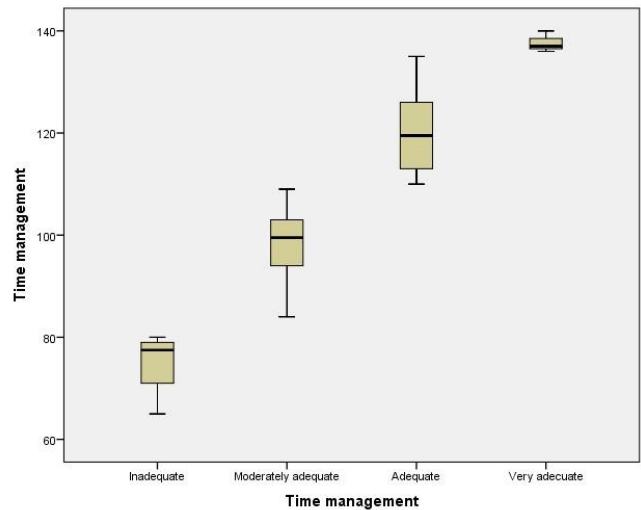


Figure 1. Time management

Table 2 and Figure 1 shows that 2.9% consider their time management to be inadequate, 50.4% moderately adequate, 44.6% adequate, and only 2.2% very adequate.

Table 3.

Dimensions of time management

Level	Objectives and priorities		Management tools		Preference for disorganization		Perceived control	
	f	%	f	%	f	%	f	%
Very inadequate	1	0,7%	8	5,8%	5	3,6%	1	0,7%
Inadequate	9	6,5%	26	18,7%	61	43,9%	6	4,3%
Moderately adequate	58	41,7%	51	36,7%	65	46,8%	72	51,8%
Adequate	52	37,4%	30	21,6%	8	5,8%	47	33,8%
Very adequate	19	13,7%	24	17,3%	0	0,0%	13	9,4%
Total	139	100%	139	100%	139	100%	139	100%

Table 3 shows the results obtained for the dimensions of time management; for the dimension of objectives and priorities presented by university students, 0.7% consider that it is very inadequate, 6.5% inadequate, 41.7% moderately adequate, 37.4% adequate and 12.8% very adequate; with respect to the dimension of management tools, 5.8% indicate that it is very inadequate, 18.7% inadequate, 36.7% moderately adequate, 21.6% adequate and 17.3% very adequate; for the dimension preference for disorganization, 3.6% of the university students indicate that it is very inadequate, 43.9% inadequate, 48.6% moderately adequate, 5.8% adequate; finally, for the dimension perception of control, 0.7% of the university students indicate that it is very inadequate, 4.3% inadequate, 51.8% moderately adequate, 33.8% adequate and 9.4% very adequate.

Table 4.

Satisfaction with virtual courses.

	Frequency	Percent
Dissatisfied	33	23,7%
Satisfied	106	76,3%
Total	139	100,0%

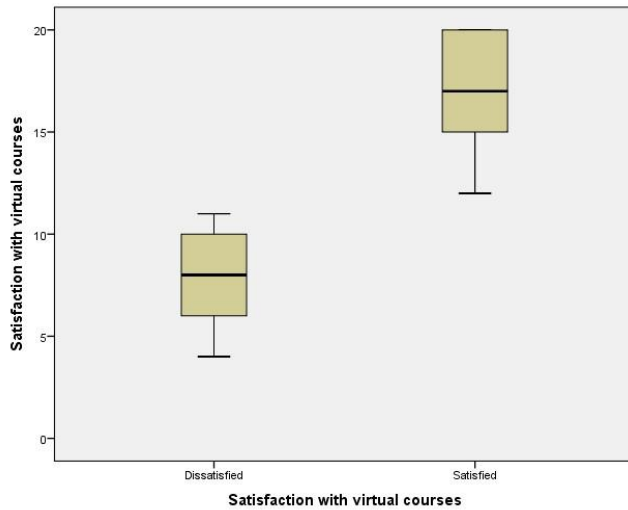


Figure 2. Satisfaction with virtual courses.

Table 4 and Figure 2 show the results of satisfaction with the virtual courses, where 23.7% of university students are dissatisfied and 76.3% are satisfied.

Inferential statistics

To test the hypothesis, the normality test was performed with the study variables

H_0 : The data have a normal distribution.

H_1 : The data do not have a normal distribution.

Significance level: $\alpha=0.5$ (type I error) (possibility of rejecting null hypothesis being true).

Table 5.

Normality test of Kolmogorov-Smirnov

	Kolmogorov-Smirnov ^a		
	Estadística	gl	Sig.
Time management	,051	139	,200*
Satisfaction with virtual courses	,147	139	,000

For the normality test, Kolmogorov-Smirnov was used because the sample was larger than 50 (139 sample subjects), according to the values obtained, which were greater and less than the significance value ($\alpha=0.5$), it is affirmed that the data have a nonparametric distribution, so for the hypothesis test, Ordinal Linear Regression was used.

General hypothesis

H_0 : Time management does not significantly impact satisfaction towards virtual courses in university students.

H_1 : Time management significantly impacts satisfaction with virtual courses in university students.

Significance level: $\alpha = 0.05$

Table 6.

Information on the fit of the Impact model of time management on satisfaction towards virtual courses.

Model	Log likelihood logarithm -2	Chi-cuadrado Chi-square	gl	Sig.
Intersection only	556,218			
End	453,071	103,147	55	,000
Liaison function: Logit.				

In Table 6, the results obtained from the model fit test of the impact of time management on satisfaction towards virtual courses are observed, having obtained a Chi-square value of 103.147; likewise, the p-value is equal to $0.00 < 0.05$, so that the likelihood ratio shows that the logistic model is significant in determining this incidence.

Tabla 7.

Pseudo R-squared model of the influence of the time management variable on satisfaction with virtual courses.

	Result
Cox y Snell	,524
Nagelkerke	,527
McFadden	,144

This table shows the variability obtained for the satisfaction towards virtual courses as a function of the predictor variable: Time management, The Pseudo R-squared value of Nagelkerke is equal to 0.527 which is highlighted in comparison with the value of Cox and Snell (0.524) and the value of McFadden (0.144); the Nagelkerke coefficient indicates that the proposed variability model manages to explain 52.7% of the satisfaction towards virtual courses.

IV. DISCUSION

There is very little literature on time management and satisfaction with virtual courses as a whole, so this study contributes to the scientific community to continue developing research on these two variables. Through inferential statistics, it has been possible to determine that time management has a

significant impact on satisfaction with virtual courses in university students, having obtained a p-value = 0.000

In terms of time management, 50.4% of university students in the study sample were in the moderately adequate category, so it is necessary to provide students with the tools to improve it, according to studies such as that of Morillo [23], the positive repercussions of time management not only in the academic field but also in the personal sphere can be pointed out, achieving projection in their personal wellbeing; time management in university life is an element that allows the willingness to learn and is associated with elements of cognition regulation [24].

There is research such as that of Quiroz [25] who conducted his study in a private university (Peru) where he found that 71.5% of students always make use of adequate time management; however, there are other studies where the results are contradictory, as in the case of Gayoso [26] where 62% of his participants from the Universidad Señor de Sipán (Peru) are located within the category of regular, which coincides with another study conducted in the same country by Baño [27] where 52% of his participants were located within the moderate level.

Regarding satisfaction with the virtual courses, 76.3% are satisfied, a result that coincides with the research of Valdez [28] where 55.6% of students have a high level of satisfaction with the virtual courses; along the same lines is the study of Vasquez-Pajuelo [29] where 78.7% of students are satisfied with the way these courses are developed; the virtualization of career courses and the current courses offered by the university have a high level of satisfaction [30], Gómez and Macedo [31], point out the importance of virtual programs within the dynamics of higher education, especially in the methodological and didactic aspects, since they consider that this has allowed the incorporation of web tools, which captivate students in a certain way with their new ways of learning.

Time management has a significant impact on satisfaction with virtual courses in university students, due to the p-value obtained which is equal to $0.00 < 0.05$, explaining 52.7% of satisfaction with virtual courses.

Regarding time management, 50.4% of university students have fallen into the category of moderately adequate, so they still do not know how to organize their time to develop their academic activities, which may cause them not to have adequate development within their university life.

In the satisfaction variable towards virtual courses, 76.3% are satisfied; although there were already universities that had a virtual modality, these classes were held asynchronously, currently, there are a series of platforms that allow students to

receive their classes synchronously, which makes the class more interactive.

In summary, it is clear that effective time management is a determining factor in the experience of university students in virtual courses. The balance between the appropriate allocation of time for study, participation, and other responsibilities directly influences their overall satisfaction.

Colleges and universities should recognize this link and provide resources and guidance that help students develop time management skills.

Doing so can significantly improve the quality of online education and undergraduates' satisfaction with their virtual academic experiences.

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