Ambiente Virtual de Aprendizagem e seu uso Durante a Pandemia: Percepção e Desempenho dos Discentes
Virtual Learning Environment and its use During the Pandemic: Perception and Performance of Students
Entorno Virtual de Aprendizaje y su uso Durante la Pandemia: Percepción y Desempeño de los Estudiantes

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RESUMO
Dado a situação ocasionada pela pandemia gerada pelo COVID-19, o Ministério da Saúde recomendou uma série de medidas preventivas, que culminou com a suspensão das aulas presenciais e a migração para o ensino remoto emergencial. O objetivo geral da pesquisa foi analisar a percepção e o desempenho dos alunos frente ao Ensino Remoto Emergencial e a utilização do Ambiente Virtual de Aprendizagem dos cursos de Administração e Ciências Contábeis de uma Instituição Federal de Ensino Superior. É classificada como quantitativa, aplicada, exploratória e um estudo de caso quanto aos procedimentos. A amostra foi formada pelos graduandos dos cursos de administração e contábeis da UFMS. Utilizou-se ainda, a escala Likert de cinco pontos na elaboração do questionário dividido em duas partes: 1ª Parte (Pandemia da Covid-19) e 2ª Parte (Ambiente Virtual de Aprendizagem – AVA). As questões foram realizada utilizando-se o Google forms sendo enviado por meio de link para os participantes por emails e grupo de What Sapp. Os resultados obtidos mostrou que a maioria dos entrevistados

concordam que o isolamento social era necessário, bem como, dizem estar satisfeitos com as ferramentas utilizadas na utilização do AVA, em que a disponibilização de aulas previamente gravadas e disponibilizadas no sítio eletrônico da Instituição foram bem avaliadas tais como as conferências, seminários, avaliações, atividades e até o uso do aplicativo KAHOOT. A pesquisa mostrou que mesmo com as dificuldades impostas pela pandemia, o índice de aproveitamento dos graduandos por meio desse método foi positivo, tanto nos itens avaliados pelos alunos, quanto no índice de aprovação dos participantes que compuseram a amostra.

Palavras-chave: Ambiente Virtual de Aprendizagem; Pandemia COVID-19; Ensino Remoto Emergencial; Escola de Administração e Negócios.

ABSTRACT

Given the situation caused by the pandemic generated by COVID-19, the Ministry of Health recommended a series of preventive measures, which culminated in the suspension of face-to-face classes and the migration to emergency remote teaching. The general objective of the research was to analyze the perception and the performance of the students in relation to the Emergency Remote Teaching and the use of the Virtual Learning Environment of the courses of Administration and Accounting Sciences of a Federal Institution of Higher Education. It is classified as quantitative, applied, exploratory and a case study in terms of procedures. The sample was formed by undergraduates from the administration and accounting courses at UFMS. The five-point Likert scale was also used in the preparation of the questionnaire divided into two parts: 1st Part (Covid-19 Pandemic) and 2nd Part (Virtual Learning Environment - VLE). The questions were carried out using Google forms, being sent through a link to the participants by emails and the What Sapp group. The results obtained showed that most of the interviewees agree that social isolation was necessary, as well as, they say they are satisfied with the tools used in the use of the VLE, in which the availability of previously recorded classes and made available on the Institution's website were well evaluated. such as conferences, seminars, assessments, activities and even using the KAHOOT app. The research showed that even with the difficulties imposed by the pandemic, the rate of use of undergraduates through this method was positive, both in the items evaluated by the students, and in the approval rate of the participants who composed the sample.

Keywords: Virtual Learning Enviroment. COVID-19 Pandemic. Emergency Remote Learning. School of Administration and Business.

RESUMEN

Ante la situación provocada por la pandemia generada por el COVID-19, el Ministerio de Salud recomendó una serie de medidas preventivas, que culminaron con la suspensión de las clases presenciales y la migración a la docencia a distancia de emergencia. El objetivo general de la investigación fue analizar la percepción y el desempeño de los estudiantes en relación a la Enseñanza Remota de Emergencia y el uso del Ambiente Virtual de Aprendizaje de las carreras de Ciencias Administrativas y Contables de una Institución de Educación Superior Federal. Se clasifica en cuantitativo, aplicado, exploratorio y de caso en cuanto a procedimientos. La muestra estuvo formada por estudiantes de las carreras de administración y contabilidad de la UFMS. También se utilizó la escala Likert de cinco puntos en la elaboración del cuestionario dividido en

dos partes: 1ª Parte (Pandemia Covid-19) y 2ª Parte (Entorno Virtual de Aprendizaje - EVA). Las preguntas se realizaron mediante formularios de Google, enviándose a través de un enlace a los participantes por correos electrónicos y el grupo What Sapp. Los resultados obtenidos mostraron que la mayoría de los entrevistados están de acuerdo en que el aislamiento social fue necesario, así como también, dicen estar satisfechos con las herramientas utilizadas en el uso del VLE, en el que se destaca la disponibilidad de clases previamente grabadas y puestas a disposición en el sitio web de la Institución fueron bien evaluados, como conferencias, seminarios, evaluaciones, actividades e incluso el uso de la aplicación KAHOOT. La investigación mostró que aún con las dificultades impuestas por la pandemia, el índice de uso de los estudiantes de grado a través de este método fue positivo, tanto en los ítems evaluados por los estudiantes, como en el índice de aprobación de los participantes que compusieron la muestra

Palabras-llave: Entorno de aprendizaje virtual. Pandemia de COVID-19. Aprendizaje mando a distancia de emergencia. Escuela de Administración y Negocios.

1. Introduction

According to the World Health Organization (WHO) Covid-19 is a disease caused by the SARS-CoV2 virus, popularly known as Coronavirus, having the first cases identified in December 2019 and spreading around the world in a few weeks. In February 2020, the number of cases, mainly in Italy, was already drawing the attention of the world, as well as the speed with which cases increased, along with deaths (WHO, 2021).

Also in February 2020, the first case was identified in Brazil, in São Paulo. A few days later, in March, the World Health Organization (WHO) defined the outbreak of the disease as a pandemic and the Ministry of Health (MS) confirmed the first death caused by the disease in Brazil (SANARMED, 2020). One of the main methods of preventing the disease, according to the WHO, is social isolation.

In view of this, the general recommendation was to suspend activities that generate crowding, including in-person classes. Thus, at the end of April, the National Education Council (CNE) approved an opinion with rules on education during the pandemic, including authorization for remote activities to be considered as school days. An alternative was then needed to continue classes in a non-presential manner, as the initial forecast was for isolation for 2 months, which could be extended, as it ended up happening (MEC, 2020). This alternative was called Emergency Remote Teaching.

In this context of the remote access teaching method, technology-mediated learning gained emphasis due to the social distance imposed by COVID-19, and opened space for differentiated interactions through the Virtual Learning Environment (VLE), as it was already used in fully distance learning courses and, to a lesser extent, in face-to-face courses.

Thus, with few adaptations by the teachers, the face-to-face classes were adjusted for remote access, making it possible to make available and organize all the material on the platform, with the advantage of being available at any time of the day, increasing the possibilities for graduates while social isolation is maintained, avoiding risks to everyone's health.

In view of the above, the question is: what is the opinion of the undergraduates of the Administration and Accounting Sciences courses at ESAN/UFMS regarding the use of the Virtual Learning Environment during the COVID-19 pandemic and, consequently, their respective performances in the disciplines addressed in the search?

In order to answer the research question-problem, the general objective was determined to expose the position of undergraduates from the Administration and Accounting Sciences courses at ESAN/UFMS on the COVID-19 pandemic, the use of the VLE and their respective actions. in the subjects covered in the research.

This work is justified by its social relevance, as the theme is intrinsically linked to the concerns of researchers, who are professors and students at ESAN/UFMS, who seek through this research to improve the VLE, a tool used to increase distance learning.

From an academic point of view, there is a need to understand how the pandemic impacted education during the second semester of 2020 and what was the perception of students in relation to the method used with the VLE in the subjects studied, mainly due to the scarcity of studies with this focus.

As for social relevance, the research is justified because it is a remote learning tool, the VLE, used to build knowledge in a non-presential way, fulfilling measures of social distancing in order to reduce contact between people and, consequently, to control the transmission speed of the virus in these times of the COVID-19 worldwide pandemic.

The main motivation to support this research article lies in the importance that the topic has for today's society, being considered a classic theme and also the continuity of the COVID-19 pandemic that lasts until the moment of the conclusion of the research.

2 Literature Review

2.1 Overview of the Coronavirus Pandemic

According to the WHO (2021), a pandemic is the worldwide spread of a new disease. The term is used when an epidemic - a large outbreak that affects a region - spreads across different continents with sustained person-to-person transmission.

For the Ministry of Health (2021), the COVID-19 pandemic is classified as a respiratory pathology that affects the immune system of human beings and, consequently, can cause, from mild symptoms to a Severe Acute Respiratory Syndrome - SRAG, especially in people characterized as risk groups such as the elderly, hypertensive patients, diabetics and patients suffering from chronic diseases.

The pandemic, which had the first recorded cases in December 2019, but only began to attract the world's attention in late January 2020, is caused by Coronavirus, a biological agent that causes severe acute respiratory syndrome (SARS), being considered as of great relevance to public health (ROTHAN & BYRAREDDY, 2020).

According to the Ministry of Health (2021), the first case of infection by the new Coronavirus, SARS-CoV2, was identified in Wuhan, China, in December 2019. Since then, cases have started to spread rapidly around the world, first by the Asian continent and then by Europe. In February 2020, the transmission of Covid-19, the name given to the disease caused by SARSCoV2, in Iran and Italy drew attention to the rapid growth in the numbers of new cases and deaths, causing the Ministry of Health to change the definition of suspected case to include patients who have been in other countries (WHO, 2020).

In Brazil, the Ministry of Health published Ordinance No. 188/MS, in which it declared an Emergency in Public Health of National Importance, due to human infection by the new Coronavirus. Subsequently, on March 11, 2020, the Declaration of the World Health Organization recommended isolation and social distancing on all continents affected by the pandemic (MS, 2021).

Scientific studies on Covid-19 continue to grow in Brazil and worldwide, being led by Chinese scientists, who were responsible for carrying out approximately 37% of the research. Covering several areas of knowledge, researchers seek to understand the form of disease origin and progression, as well as specific treatments, including studies on the mental health of isolated individuals and the impacts on the world economy (WHO, 2020).

Faced with this difficulty in containing COVID-19, it was necessary to adapt several services to meet the needs of the population, one of these needs being the continuity of teaching at all levels of education. With that, the Coronavirus (COVID-19) brought a new meaning to education, never before imagined.

The pain caused by the loss of people, the distance, social isolation, caused a disruption in the regular and on-site education system. The health crisis is bringing a pedagogical revolution to face-to-face teaching, the strongest since the emergence of contemporary information and communication technology.

Thus, Ordinance No. 343 of March 17, 2020 of the Ministry of Education was launched in order to guarantee the replacement of classroom classes by classes in digital media, while the new Coronavirus pandemic situation lasts. The social consequences of the pandemic will last for months or years (MEC, 2020).

To combat the virus, several procedures are used, such as the use of a protective mask, compliance with respiratory etiquette, hand hygiene, cleaning and disinfection of environments and objects, and, above all, social isolation.

2.2 Virtual Learning Environment (VLE)

The Covid-19 pandemic forced educational institutions around the world to suddenly use long-available technological tools to create remote learning content and learning for students. Educators from all areas are experimenting with new possibilities of use - and this is a great advance for one of the most resistant sectors to change and the adoption of new technologies (WHO, 2021).

According to Meirieu (1999), teachers are well aware that learning has an increasing tendency to escape from the classroom. Therefore, the distance teaching method and learning mediated by remote technology gained emphasis due to the social isolation imposed by COVID-19, opening space for differentiated interactions through the Virtual Learning Environment (VLE).

The evolution of these technologies and new media resources, even at a distance, provide, according to Simão Neto (2010), use of knowing, knowing how to do, knowing, knowing how to live and knowing how to be, these being the fruits of processes of dialogue, collaboration and the exchange of experiences through technological resources of the Virtual Learning Environment (AVA) through distance learning.

In turn, Moore and Kearsley (2010) conceptualize distance learning as a communication process that takes place through various communications. It is characterized by the possibility that the actors involved are not sharing the same physical space at the same time. dents improve their intellectual performance, there is technology learning, which results in a “cognitive residue”, which implies new skills and new strategies for thought, with effects for the academic and professional life of the student, obtained in the collaboration process.

In turn, the VLE, in the opinion of Santos (2003), is the process of network communication between human beings, from digital interfaces, in which any and all signals can

be produced and socialized in and through cyberspace. Based on this concept, websites, blogs, forums, as well as 3D interactive environments and virtual communities, are considered VLEs.

Waquil and Behar (2009, p. 151) state that the VLE gives "space for the development of collective intelligence, which emphasizes circuit messages, distributed in a network, in which the subjects participate as authors in a collective/individual construction."

According to Haguenauer and Cordeiro (2010), the VLE is a tool with a pedagogical dimension, in which the teacher makes several resources available to the student, such as texts, classes, schedules and exercises remotely.

As for Valentini and Soares (2005), it is a social space, made up of cognitive-social interactions on or around an object of knowledge, in which people interact mediated by hypermedia language, aiming at the teaching-learning process.

Silva (2006) states that the VLE represents the online classroom, it is a set of interfaces, tools and structures that are decisive for the construction of interactivity and learning. It is important to emphasize that the VLE favors interactivity and the connection of open webs that form the fabric of relationships.

In Almeida (2004)'s opinion, virtual learning environments are computer systems available on the internet that allow the integration of different media, languages and resources, presenting information, developing interactions, producing and socializing productions, regardless of the time and space of each participant.

The expression Virtual Learning Environment, according to Almeida (2004), is related to computer systems, assistance to support learning activities mediated by information and communication technologies.

According to Caetano, Moraes and Zanin (2014), it arose from the need for professional and cultural qualification by people who cannot attend an educational institution in person.

For Nascimento, Silveira and Pinheiro (2008), the VLE can be divided into three types of environments: instructional, interactive and cooperative. The instructional environment is centered on content, which can also be printed, and on tutorial support provided by monitors who are generally not the authors. Interaction is minimal and online student participation is virtually individual.

This environment is the most common and represents the traditional instructional course where information is transmitted as in the face-to-face lecture. In the interactive environment, participation is essential. The materials are developed throughout the course based on the opinions and reflections of the participants.

The development of activities can be organized according to topics of interest and external professionals can be invited to conferences. The cooperative environment, on the other hand, is characterized by the objective of collaborative work and online participation, there is a lot of interaction between participants, construction of research, discovering new challenges and solutions. The VLE, therefore, would be the main mediating instrument in a distance learning system that combines unprecedented possibilities of mediated interaction (teacher/student and student/student) and interactivity with good quality materials and great variety, using various tools, such as : emails, lists and discussion groups, conferences, websites and blogs, in which texts, hypertexts, videos, sounds 5 and images are present, bringing together the flexibility of human interaction with independence in time and space (BELLONI, 2007).

In Brazil, the legislation that deals with the subject has a concept of distance education that reflects international theoretical references. According to paragraph 1 of Decree No. 9057/2017: For the purposes of this Decree, distance education is considered to be the educational modality in which the didactic-pedagogical mediation in the teaching and learning

processes occurs with the use of means and technologies of information and communication, with qualified personnel, with access policies, with compatible monitoring and evaluation, among others, and develop educational activities by students and education professionals who are in different places and times.

Finally, undergraduate students in Brazil had many difficulties in adapting and also the lack of internet access, a suitable place to study at home and the lack of contact with teachers. In addition, the lack of dynamics in the classes that would allow the groups to align the tasks among their participants, the delivery deadlines and the evaluations were made more flexible, when compared to the planning of the face-to-face classes, which facilitated greater freedom for the students to customize their rhythms of studies.

3 Methodological Procedures

For Silveira (2009), the methodological procedures explain, mainly, the methods and procedures that were used in the research, allowing to increase the understanding of the study carried out and ensure scientific replication. Krul, Rhoden and Poyer. (2001) state that all scientific research follows a scientific methodology which, in turn, is guided by methods, procedures and techniques.

3.1 Search Classification

The classification of research by type is considered quantitative. Quantitative research is a method of social research that uses quantification in the modalities of information collection and its treatment, through statistical techniques, such as percentage, mean, standard deviation, correlation coefficient, regression analysis, among others (MICHEL, 2005).

According to the proposed objective of the research, which was to expose the position of the undergraduates of the Business Administration and Accounting Sciences courses at ESAN/UFMS on the COVID-19 pandemic, the use of the VLE and their respective performances in the disciplines covered in the research , being classified according to the nature it is applied.

In this, according to Barros and Lehfeld (2014), the researcher is driven by the need to know for the immediate application of the results. It contributes to practical purposes, aiming at a more or less immediate solution to the problem encountered in reality. In applied research, the researcher seeks practical guidance for the immediate solution of concrete everyday problems. As for the objective, it is classified as an exploratory research and is generally used by researchers who have little knowledge about the researched subject.

The purpose of this type of study is to look for patterns, ideas or hypotheses. The idea is not to test or confirm a given hypothesis, but to make discoveries (CERVO and BERVIAN, 2011). It is also classified as a survey of technical procedures.

According to Collis and Hussey (2005), it is the research carried out for the knowledge and description of behaviors and characteristics of individuals through questions directly asked to the individuals whose behavior one wants to know.

3.2 Population and Sample

According to Silveira (2009), the population is understood as a set of elements that have the desirable characteristics for the study. In this case, all ESAN students from the Administration and Accounting courses enrolled in the 2nd semester of 2020 in the subjects of 6

Advanced Accounting, Tax Accounting II, Corporate Accounting II and Introduction to Accounting were adopted as population. The sample is a chosen part, according to representativeness criteria, of the population (COLLINS & HUSSEY, 2005). It was composed of undergraduates who answered the questionnaire prepared and sent by personal institutional email and through WhatsApp groups from the subjects belonging to the population. Table 1 provides important information about the research population and sample.

Table 1 - Population and Survey Sample

Subject	Population	**(f)**	**Sample**	**(f)**
Introduction to Accounting	181 Graduating	56,4%	62 Graduating	48,1%
Tax Accounting II	52 Graduating	16,2%	29 Graduating	22,4%
Corporate Accounting II	56 Graduating	17,4%	21 Graduating	16,3%
Advanced Accounting	32 Graduating	10,0%	18 Graduating	13,2%
Total	**321 Graduating**	**100%**	**130**	**100%**

Source: Elaborated by the authors based on the research (2020)

Based on the data contained in Table 1, it can be seen that close to half of the sample participants, about 48.1%, belong to the Introduction to Accounting discipline. This occurred because the referred subject was taught to two classes of the administration course.

On the other hand, in the Advanced Accounting discipline, only 13.2% of undergraduates who participated in the survey answered the questionnaire. Data collection was carried out through the application of a questionnaire containing questions aimed at undergraduates at UFMS/ESAN, who were enrolled in the Administration and Accounting courses and who participated in remote access classes in the aforementioned disciplines.

The link to the questionnaire prepared on Google Forms was sent by institutional email and also to the WhatsApp groups of the subjects that are part of the population. According to Gil (2017), accessibility sampling allows the researcher to obtain only the elements to which he has more access, assuming that they can effectively represent the population in an adequate way.

The closed questions were elaborated in two parts: Part 1 – Pandemic (COVID-19) and Virtual Learning Environment (AVA). The composition of the parts contained five propositions with scaled answers in Likert format, in the following options: Strongly Disagree (DT), Disagree (D), Indifferent (I), Agree (C) and Strongly Agree (CT). In turn, the open questions allowed answers in the form of sentences or small text prepared with the respondents' own words.

Finally, the performance of the undergraduates participating in the research was carried out by monitoring the activities (Assessment, Seminars and Tasks) in the subjects of Introductory Accounting, Advanced Accounting, Corporate Accounting II and Tax Accounting II.

3.3 Data Collection

Data collection was carried out through the application of a questionnaire containing questions aimed at undergraduates at UFMS/ESAN, who were enrolled in the Administration and Accounting courses and who participated in remote access classes in the aforementioned disciplines.

The link to the questionnaire prepared on Google Forms was sent by institutional email and also to the WhatsApp groups of the subjects that are part of the population.

According to Gil (2017), accessibility sampling allows the researcher to obtain only the elements to which he has more access, assuming that they can effectively represent the population in an adequate way.

The questionnaire was previously elaborated and divided into two parts: Part 1 – Pandemic (COVID-19) and Part 2 - Virtual Learning Environment (AVA). The composition of the parts contained five propositions with scaled answers in Likert format, in the following options: Strongly Disagree (DT), Disagree (D), Indifferent (I), Agree (C) and Strongly Agree (CT).

4 ANALYSIS OF RESULTS

4.1 Positioning of Graduates on the COVID-19 Pandemic

According to WHO (2020), a pandemic is the worldwide spread of a new disease. The term is used when an epidemic (large outbreak that affects a region) spreads across different 7 continents with sustained transmission from one person to another.

As a result, people's routines were quickly transformed, as was the case with the undergraduates who participated in the research. Thus, they were asked about the absence of in-person classes, friends, leisure, family, physical activities and work. Table 2 shows the participants position on what was lacking in the period.

Table 2 - Undergraduate students' opinion on absence during the COVID-19 pandemic period

Opinion	*Absolute Frequency (F)*	*Relative Frequency (f)*
Classroom Lessons	*44*	*33,8%*
Friends	*37*	*28,4%*
Leisure	*27*	*20,8%*
Family	*8*	*6,2%*
Physical Activity	*8*	*6,2%*
Work	*6*	*4,6%*
Total	***130***	***100%***

Source: Elaborated by the authors based on the research (2020)

Based on According to the data in Table 1, undergraduates felt absent from classroom classes (33.8%) during the research period and from friends 28.4% being the most relevant. On the other hand, physical activity (6.2%), family members (6.2%) and work (4.6%) have a low frequency and are not so attractive.

It is understandable that most undergraduates feel the absence of in-person classes, as it is the time when they interact with each other, strengthening new friendships. Another fact to be observed concerns the results with little importance for undergraduates.

Family members, physical activity and work were probably influenced by the age group of the majority who still live with their parents, and that one of the groups has classes in the morning. In the following topic, the topics of isolation and social encounters will be addressed.

For WHO (2020), social isolation is the behavior where a person or a group of people, voluntarily or involuntarily, move away from social interactions and activities, in addition to being a procedure that is being effective in combating the virus responsible for the spread of COVID-19.

In turn, ara Rothan and Byrareddy (2020) state that social gatherings are meetings held

between friends and family that generally allow communication and interaction in a vital space. However, in this period of pandemic, due to the barriers put in place by the authorities in order to avoid the contamination of the virus, there are difficulties in holding these meetings.

In Table 3, there are answers that show the perception of ESAN undergraduates about isolation and social encounters.

Table 3 – Isolation and Social Encounters during the Pandemic Period

	Social Isolation		*Social Meeting*	
Opinion	*Absolute Frequency (F)*	*Relative Frequency (f)*	*Absolute Frequency (F)*	*Relative Frequency (f)*
I totally agree	*64*	*49,3%*	*40*	*30,8%*
I agree	*52*	*40,0%*	*59*	*45,4%*
Indifferent	*5*	*3,8%*	*8*	*6,1%*
I disagree	*5*	*3,8%*	*20*	*15,4%*
Totally Disagree	*4*	*3,1%*	*3*	*2,3%*
Total	***130***	***100%***	***130***	***100%***

Source: Elaborated by the authors based on the research (2020)

It is observed that the majority of the sample (89.3%) totally agrees or agrees that social isolation is efficient in combating Coronavirus. It is a relevant fact, as academics recognize that social isolation is efficient in combating the spread of Coronavirus.

In turn, the majority of the sample (76.2%) totally agrees or agrees that social meetings are important in combating the pandemic. In addition, the percentage of 30.8% corresponding to participants who fully agree with this statement.

On the other hand, just over 24.7% of the sample are indifferent, disagree, and or totally disagree that avoiding social gatherings helps prevent COVID-19. It is noticed that there is a contradiction in the results presented, since they are totally opposite procedures.

While in social isolation people are forced to separate from their loved ones, social gatherings are the opposite, that is, there is a need to socialize. This moment in which the pandemic is experienced, society is obliged to reflect on individual faith, strengthening itself, regardless of religion, to experience spirituality more intensely, aiming to seek a spiritual peace that helps to reflect on how to fight the virus responsible for the pandemic.

According to Ferrari (2005), reading books daily brings several benefits such as stimulating creativity, reducing the stress that triggers different parts of the brain, improving knowledge, evolution in writing, the development of critical thinking, in addition to favor empathy. Table 4 shows the position of undergraduates on these topics.

Table 4 - Spiritual Reflection and Book Reading

	Spiritual Reflection		*Book Reading*	
Opinion	*Absolute Frequency (F)*	*Relative Frequency (f)*	*Absolute Frequency (F)*	*Relative Frequency (f)*
I totally agree	*25*	*19,2%*	*49*	*37,7%*
I agree	*42*	*32,3%*	*55*	*42,3%*
Indifferent	*28*	*21,5%*	*23*	*17,7%*
I disagree	*27*	*20,8%*	*2*	*1,5%*
Totally Disagree	*8*	*6,2%*	*1*	*0,8%*
Total	***130***	***100%***	***130***	***100%***

Source: Elaborated by the authors based on the research (2020)

It is noticed that 51.5% of respondents in the sample agree or totally agree that spiritual reflection on life and especially faith, depending on religion, becomes important in this pandemic

period.

On the other hand, 48.5% are indifferent, disagree and totally disagree that spiritual reflection does not help in this period of pandemic. As for reading books, 80.0% of the respondents in the sample agree or totally agree that reading is an effective measure to fight the virus in this period of pandemic.

It is important to emphasize that daily reading creates an excellent opportunity to expand knowledge and perspective on the simplest things in everyday life, creating a better and more detailed perception of living in society. Finally, the WHO (2020) states that containment measures were adopted by health authorities at the beginning of the epidemic to prevent contagion to the world population, seeking to eradicate the virus.

The main containment measures adopted in Brazil by health authorities, especially the Ministry of Health (2020), are: hand hygiene, social isolation, identification, use of masks and monitoring of suspected or confirmed cases.

It is also noteworthy that the recommendations determined by the authorities, especially regarding people who are returning from na international trip, the recommendation is to spend seven days isolated at home and pay attention to the symptoms of Covid-19. Table 5 shows the position of undergraduates on these topics.

Table 5 - Containment Measures and Authorities' Recommendations during the Pandemic Period

	Social Isolation		*Social Meeting*	
Opinion	*Absolute Frequency (F)*	*Relative Frequency (f)*	*Absolute Frequency (F)*	*Relative Frequency (f)*
I totally agree	*49*	*37,7%*	*14*	*10,7%*
I agree	*51*	*39,2%*	*43*	*33,2%*
Indifferent	*7*	*5,4%*	*18*	*13,8%*
I disagree	*15*	*11,5%*	*39*	*30,0%*
Totally Disagree	*8*	*6,2%*	*16*	*12,3%*
Total	***130***	***100%***	***130***	***100%***

Source: Elaborated by the authors based on the research (2020)

The result shows that about 76.9% of the sample agree or totally agree that the containment measures are efficient in combating COVID-19. In contrast, 56.1% of the sample participants are indifferent, disagree or totally disagree that the recommendations imposed by the authorities are being effective in combating the virus. In the following item, the participants' position on the Virtual Learning Environment (VLE) will be discussed.

4.2 Positioning of Undergraduates on the Virtual Learning Environment (VLE)

The VLE is an “environment” that encourages students to build their knowledge according to their way of learning, without the need to be in person in a classroom. Thus, it is up to the professor to organize it according to criteria adopted based on the menu of each discipline.

In this research, the AVA was organized by items as follows: Tasks, Recorded Classes, Seminars, Link Meetings, Assessments, Recordings of classes via remote access, scientific articles as supplementary reading and the content of the subjects on the slides, according to the syllabus of each discipline. In this item, the opinions of undergraduates who were part of the sample were also taken into account.

Thus, it was stated that the "Activities" made available in the AVA whose objective is to allow undergraduates to carry out the accounting practice, according to the content of the

discipline, and also, facilitating the interaction between the teacher and students in real time via Google Meet, contributed positively to the students' learning. Table 6 shows the position of undergraduates participating in the research.

Table 6 - Available AVA Structure and Activities

	Available VLE		*Structure and Activities*	
Opinion	*Absolute Frequency (F)*	*Relative Frequency (f)*	*Absolute Frequency (F)*	*Relative Frequency (f)*
I totally agree	*61*	*46,9%*	*58*	*44,6%*
I agree	*54*	*41,5%*	*58*	*44,6%*
Indifferent	*5*	*3,8%*	*6*	*4,6%*
I disagree	*9*	*6,9%*	*6*	*4,6%*
Totally Disagree	*1*	*0,8%*	*2*	*1,6%*
Total	***130***	***100%***	***130***	***100%***

Source: Elaborated by the authors based on the research (2020)

In turn, most undergraduates agree (44.6%) and totally agree (44.6%) that the activities that were made available in the VLE contributed to learning during the period in which the classes were held via remote access.

Next, we have Frame 1 containing some personal opinions of undergraduates about the Structure of the VLE and the activities available.

Frame 1 - Opinions of undergraduates on the Structure of the VLE and the Activities

University Graduate	*Personal Opinion*
Management	*"Of course, face-to-face classes would be much more profitable, however the available structure of the AVA allowed us to do an excellent job teaching us accounting in this environment".*
	""Putting ourselves into practice through activities after directing them has been a great help and good use of the methods taught."
	"Well, the recorded lessons help a lot when I couldn't watch it live, as well as the activities of each subject to put into practice what was learned"
	"I really liked the dynamics of the classes because they are very interactive and this makes learning in accounting practice (activities) much easier. Congratulations.
Accounting Sciences	*Very fruitful and greatly contributes to the student's development in this period of social isolation. I highlight the importance of the AVA platform as a tool to support this objective"*
	"Furthermore, the organization of the VLE was excellent, because in the beginning things started to get confused with the passing of classes due to the amount of information"
	"[...] knew how to use the platform correctly, managing, while charging and making available content with volume, properly dose the load of activities to be performed by the students".
	"The activities were essential for the fixation and understanding of the content, always being coherent with the content taught in class".
	"The methods used were great, well diversified, explanations of the contents were excellent, the mastery of the contents taught was great... The activities proposed were of fundamental importance for knowledge in practice."
	"It was good, as it allowed students to learn the content in practice, and despite having activities in every class, they were not too extensive or difficult activities, without harming or overloading the students"
	"Very good because there is time to do all the activities and readings due to the deadlines that were given".
	"The carrying out of activities with demonstration and examples is essential to encourage the student to complete the activities".

Source: Elaborated by the authors based on the research (2020)

It is noticed that the structure developed in the AVA and the activities made available and applied to students were well accepted. The following opinions stand out: "Of course, face to face classes would be much more profitable, however the available structure of the VLE allowed us to do an excellent job teaching us accounting in this environment", and also, "It was good, as it allowed the students to they learned the content in practice, and despite having activities in every class, they were not too extensive or difficult activities, without harming or overloading the students".

Also during the semester, it was proposed to the class the availability of recorded lessons with the content provided for in the discipline's syllabus, aiming to promote better use due to the pandemic.

The recordings of the classes through videos were carried out considering the time between 15 to 20 minutes, covering subjects of the disciplines, so as not to make them tiresome for the students.

Thus, the first two periods of classes were made available to resolve the doubts that arose when attending them. Next, Table 7 shows the position of undergraduates about the 11 remote access classes and the seminars presented, addressing the content of the disciplines' syllabus.

Table 7 – Recorders Lessons and Seminars

	Recorder Lessons		*Seminars*	
Opinion	*Absolute Frequency (F)*	*Relative Frequency (f)*	*Absolute Frequency (F)*	*Relative Frequency (f)*
I totally agree	*59*	*45,4%*	*46*	*35.4%*
I agree	*62*	*47,7%*	*60*	*46,2%*
Indifferent	*6*	*4,6%*	*18*	*13,8%*
I disagree	*2*	*1,5%*	*4*	*3,1%*
Totally Disagree	*1*	*0,8%*	*2*	*1,5%*
Total	***130***	***100%***	***130***	***100%***

Source: Elaborated by the authors based on the research (2020)

Based on the information in Table 7, it is evident that the undergraduates participating in the research agreed (45.4%) and fully agreed (47.7%) that the recordings of the contents of the subjects that were made available in the VLE in advance contributed positively to learning during the period.

In addition, a broad discussion on the subjects of the disciplines was allowed through the holding of seminars, through debates with the participation of several students. The same Table brings the position of undergraduates about the seminars held.

The acceptance of research participants regarding the use of the seminars can be seen, that is, 81.6% (agree and totally agree) agreed with the statement that the events carried out contributed to the learning of undergraduates. It is also possible to observe the position of undergraduates through the opinions shown in Frame 2.

Frame 2 - Recorded Video Lessons and Seminars

University Graduate	*Personal Opinion*
Management	*"The method used in the last classes was the most effective, with the recorded class being made available before the synchronous encounter".*
	"I loved the method used by the teacher, since the recorded lessons, especially in exact subjects, were much more effective for me, as I can pause, take notes and follow the reasoning".
	"My 'tip' is to invest more in recorded and short classes. Our generation is increasingly dispersed, it would be no different in relation to long and tiring studies.
	"Well, the recorded lessons help a lot when I couldn't watch it live, as well as the activities of each subject to put into practice what was learned".
Accounting Sciences	*"Excellent approach to content, both for the quality of the videos and proposed activities".*
	"I consider it excellent, since, even if the student is not in person at the university, through this method he is able to learn the content online, remove doubts, review the classes as they are all recorded and are available for any queries".
	The classes provided by the AVA ended up giving us the opportunity to watch each topic more than once, which helped us to better understand the material given"
	"I liked the recorded seminars and presented during the class, it was an excellent opportunity to present the knowledge of the discipline acquired during the classes"

Source: Elaborated by the authors based on the research (2020)

It is noticed that the recorded classes and the seminars held were well accepted by the undergraduates. Based on Frame 2, the enthusiasm of the participants can be seen, highlighting 12 the following opinions: "Well, the recorded classes help a lot when I couldn't watch it live, as well as the activities of each subject to put into practice what was learned", and also, "I liked the seminars recorded and presented during the class, it was an excellent opportunity to present the knowledge of the discipline acquired during the classes".

Also in the period studied, two cumulative assessments were carried out, both addressing only theoretical issues, as the practical part was assessed through activities carried out in all classes, all remotely taught synchronously, that is, with everyone participating in the at the same time using the Google Meet tool. Table 8 shows the position of undergraduates regarding the assessments carried out and about remote classes.

Table 8 – Assessments and Remote Class

	Recorder Lessons		*Seminars*	
Opinion	*Absolute Frequency (F)*	*Relative Frequency (f)*	*Absolute Frequency (F)*	*Relative Frequency (f)*
I totally agree	*59*	*45,4%*	*46*	*35,4%*
I agree	*62*	*47,7%*	*60*	*46,2%*
Indifferent	*6*	*4,6%*	*18*	*13,8%*
I disagree	*2*	*1,5%*	*4*	*3,1%*
Totally Disagree	*1*	*0,8%*	*2*	*1,5%*
Total	***130***	***100%***	***130***	***100%***

Source: Elaborated by the authors based on the research (2020)

Based on the information in Table 8, it is clear that the undergraduates participating in the research agreed (47.7%) and fully agreed (45.4%) that the learning assessments applied in the period and made available in the VLE were well accepted.

In addition, the remote classes held in the period researched, continuing the classes

through technological resources, were well accepted. In a total of 81.6% (agree and totally agree), they stated that the remote classes, during this period of pandemic, met the expectations regarding the use of the contents of the subjects. This statement was confirmed through the opinions shown in Frame 3 below.

Frame 3 - Assessments and Remote Class

University Graduate	*Personal Opinion*
Management	*"The test methods were surprisingly good to reinforce and demonstrate what we learned. I am very happy with this discipline, perhaps one that I would like to deepen in the future".*
	"I enjoyed the method and the teacher's effort and transparency in relation to grades, activities, seminar and exam".
Accounting Sciences	*"I really like the synchronous classes via Google Meet. I also thought it was really cool for the teacher to demonstrate commitment to the class, being available to ask questions outside class time".*

Source: Elaborated by the authors based on the research (2020)

It can be seen in Frame 3 that in the opinions of undergraduates, assessments and remote classes were well accepted. The following opinions stand out: "The methods of the tests were surprisingly good to reinforce and demonstrate what we learned. I'm very happy with this subject, maybe one that I would like to go deeper into in the future", and also, "I liked the method, I think videoconferences are the best ways to absorb the content, because it ends up forcing the student to be present in the class".

Classes transmitted by remote access on school days were recorded and made available the next day on the VLE, through links so that they could watch the classes again wherever and whenever they wanted.

In addition, a tool was used during classes in order to reinforce the content taught. The Kahoot tool allows the use of multiple choice quizzes, as well as true-or-false questions in the classroom, in order to also involve students in discussions related to the topics taught. Table 9 shows the position of undergraduates on these issues.

Table 9 – Virtual Class and Kahoot

	Virtual Class		*Kahoot*	
Opinion	*Absolute Frequency (F)*	*Relative Frequency (f)*	*Absolute Frequency (F)*	*Relative Frequency (f)*
I totally agree	*72*	*55,4%*	*77*	*59,2%*
I agree	*51*	*39,2%*	*33*	*25,4%*
Indifferent	*6*	*4,6%*	*12*	*9,2%*
I disagree	*0*	*0,0%*	*5*	*3,9%*
Totally Disagree	*1*	*0,8%*	*3*	*2,3%*
Total	***130***	***100%***	***130***	***100%***

Source: Elaborated by the authors based on the research (2020)

The result shown in Table 9 confirms the statement that the aggravation of remote classes at the time they occur and their subsequent availability in the VLE was well accepted by undergraduates.

Of the total number of participants, 94.6% agree (39.6%) and totally agree (55.4%) that they played a significant role in the use of the content, according to the disciplines. In turn, the Kahoot tool was also acceptable as a complementary tool in student learning.

In the beginning, there was a small resistance in its use, however, as the period elapsed, these difficulties were overcome, resulting in a good participation of undergraduates in remote access classes.

Table 9 shows that 59.2% of the participants agreed with the importance of the Kahoot tool in the teaching-learning process in the period in which it was applied. Next, there is Frame 4, which confirms the position of undergraduates based on the data in Table 9, through the presentation of the students' opinions.

Frame 4 – Virtual Class and Kahoot

University Graduate	*Personal Opinion*
Management	*"Although I was a little resistant at the beginning, I adapted well to the KAHOOT tool and found it positive to test knowledge retention at the end of each class".*
	"I loved the didactics [...] and the dynamic activity that it provides us through KAHOOT!" "KAHOOT! It is a time for learning, reviewing and relaxing.
	"I thought it was great, mainly because of the use of KAHOOT, which makes learning in the class more dynamic, and also because of the weekly activities that help to fix the content"
	"I wanted to highlight KAHOOT, which surprised me because it was a dynamic way of establishing knowledge through the game, and it helped me a lot".
Accounting Science	"Very good. The exercises and KAHOOT are helping me a lot in fixing the content".
	"Very good because there is time to do all the activities and readings due to the deadlines that were given and also the KAHOOT that made the students study more to ensure the podium at the time of the activity"
	"KAHOOT was the most motivating tool for us to study and dedicate ourselves to the subject. The fact of creating a game of questions and answers with the theme of the subject given helped the teacher to identify what each student learned and, in addition, created a dispute where each student would strive to do better in the next test, making them dedicate more to their studies to be successful in the test".
	"Very good, even more that the content is always revised, KAHOOT really helps in the effort to pay attention in class and carrying out activities with demonstrations and examples is essential to encourage the student to complete the activities."
	"KAHOOT is an excellent tool to motivate the student in addition to enabling the massification of content".
	It was great, a tool that I really enjoyed working with was KAHOOT, as it was a smart way to teach a subject so complex that the tax area is a subject with a lot of content, a lot of law, and I found it very interesting"

Source: Elaborated by the authors based on the research (2020)

It is noticed that the remote access classes recorded and made available later in the VLE and the use of the Kahoot tool were well accepted by undergraduates. The following opinions are highlighted, confirming the position shown in Table 9: "Very good because there is time to do all activities and readings due to the deadlines that were given and also the KAHOOT that made students study more to ensure the podium in the time of the activity", and also, "Very good, especially since the content is always revised, KAHOOT really helps in the effort to pay attention in classes and carrying out activities with demonstration and examples is essential to encourage the student to complete the activities". In the following item, the performance of undergraduate students participating in the research will be addressed during the pandemic, considering all activities addressed here.

4.3 Student Performance in Subjects During the Pandemic

In this item, other information that complement the study will be addressed. Regarding the approval of the subjects taught, several activities were carried out that formed the two grades, as provided for in the Teaching Plans for the subjects.

The 1st Grade was composed of 30 (thirty) activities distributed among the disciplines, addressing the accounting practice according to the themes included in the menus. These activities had more objectives, including the justification for the absence of students from classes via remote access.

As a complement, an assessment consisting of 10 objective multiple-choice questions was applied via VLE. The 2nd Grade consisted of 16 (sixteen) activities, an assessment and also a seminar presented through videos recorded by the teams, which addressed topics related to the content provided for in the teaching plan for each subject. Table 10 provides information on the result of approvals obtained by students in each discipline.

Table 10 -Performance in Subjects During the Pandemic

Subjects	***Enrolled***	***Approved***	***(f)***	***Failed***	***f)***
Introduction to Accounting T 01	*31*	*25*	*80,6%*	*6*	*9,4%*
Introduction to Accounting T 02	*51*	*41*	*80,4%*	*10*	*9,6%*
Tax Accounting II	*55*	*44*	*80,0%*	*11*	*0,0%*
Corporate Accounting II	*94*	*75*	*79,8%*	*19*	*0,2%*
Advanced Accounting	*86*	*65*	*75,6%*	*21*	*4,4%*
Total	***317***	***250***	***78,9%***	***67***	***1,1%***

Source: Elaborated by the authors based on the research (2020)

It can be seen in Table 10 that 78.9% of the students passed, with the Advanced Accounting course having the highest percentage of approval (80.6%) and the Introduction to Accounting course T 01 (Class 01) having the lowest percentage of approval (75.6%).

All failures were due to absence from remote classes, for not carrying out the activities proposed in the Teaching Plans of the subjects and also for not taking the available Optional/Substitute Test, and all students may be considered dropouts.

5 Final Considerations

In view of the study presented on the perceptions of students in the disciplines of Advanced Accounting, Corporate II, Tax II and Introduction to Accounting in the Administration and Accounting courses at ESAN/UFMS, during the COVID-19 pandemic period, on the use of Virtual Learning Environment (VLE) in the 2nd semester of 2020 through remote access classes, it can be concluded that the methodology used together with the AVA was fully approved.

Even among students who said they had no affinity with distance learning, they said they were satisfied with the results. To complement the research, we also sought to identify the opinion of undergraduates about information and concepts related to the pandemic caused by the COVID-19 virus.

Thus, a questionnaire about the VLE and the Pandemic was applied to achieve the

research objective with a sample of 130 undergraduates who attended, in the second half of 2020, the subjects mentioned above.

One of the items praised by the students was the organization of content in the VLE, which, combined with the fact that it allows free access to all material and other resources at any time, helped in learning and fixing the content, providing greater performance, qualifying teaching and enhancing situations of attention and interest in the subjects presented, developing capacities, skills and attitudes, factors that broaden the horizons of learning, it is important to highlight that to increase the quality of distance education and the use of activities, it is essential to use the AVA of the best way possible, both by teachers and students.

Another factor observed in the research was the notorious academic satisfaction with the methods adopted in the use of the VLE, which allowed undergraduates to have high grades in assessments and activities, thus contributing to a decrease in academic failure/dropout rates in the semester, as well as ensuring trust and at the same time, avoiding moments that could lead students to suffer from anxiety and related problems, as can be seen in the opinion of a graduate who made the following statement:

"Innovative method, and very satisfactory in terms of the opportunity of student to dedicate themselves, and learn the subjects covered in the discipline's syllabus, which instead of punishing students, on the contrary, provides opportunities for those who really want to learn, and improve their academic knowledge, without causing psychological damage such as anxiety, or lack of self-confidence , but encouraging academics to add knowledge".

With the Covid-19 pandemic, there was a need for remote teaching, which showed difficulties in most universities, especially UFMS, where it was possible to add to the lack of knowledge of teachers and students how to use virtual tools that were unknown at that time. in academia, adding technological unpreparedness. With that, they forced everyone, professors and students, to update themselves with new available tools that were used in the teaching-learning process.

The main impact brought by the research concerns the increase in inequalities between rich and poor young people, observed during the study, as some had access to the internet and the necessary equipment to participate in classes via remote access, while most did not. Thus, UFMS created a policy aimed at meeting the needs of those who did not have the financial means to purchase such equipment and access to the internet.

The survey carried out had limitations regarding its population and sample. Thus, it would be interesting to apply the questionnaire to a larger population and, consequently, have a more consistent sample regarding the results.

In this way, it can be seen that the result obtained in the research allows us to observe the contribution brought to the academic environment on the use of technological tools, such as Kahoot, and the way of conducting classes to obtain a better use in the teaching-learning process.

Finally, it is suggested that, based on the perceptions presented, start the constitution of a regulatory framework for the use of VLE at ESAN/UFMS based on the students' constructivist perception. Thus, this milestone will be better delineated from case studies and research that analyze the use of VLE and pedagogical experiences lived in this environment.

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