VISUAL FATIGUE AND TECHNOSTRESS IN AGRO-INDUSTRIES STANDARDS: CASE STUDY

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Abstract.- ***Introduction:*** The test applied to the students of the Agroindustry career of the National University of Chimborazo presents previous visual diseases in: 33.3 % myopia, 5.1 % astigmatism, 0.5 % presbyopia, referring to the use of the computer we have: 54.9 % of 2 to 4 hours, 39 % of 4 to 8 hours and 6.2 % more than 8 hours which can cause visual fatigue. This research aims to determine the level of visual computer syndrome when applying the CVSS 17 test and technostress by applying the NTP 730 test. The reliability of the instruments is 0. 693 good and 0.959 mu and good, and the reliability of 0.916 and 0.931 which is very good respectively. The **result** of visual fatigue is 29.2% symptomatic and 70.8% asymptomatic. Regarding technostress, 55.4% is low, 35.9% is medium, and 8.7% is high. The **conclusions are** determined: the existence of visual fatigue determines the presence of ocular and visual symptoms which will cause short-term affections to the organ of sight and referring to technostress there is resistance to the use of technology. The presence of visual fatigue is associated with the tele study due to the high frequency of computer use and other environmental factors, the Covid 19 pandemic is one of the factors that has contributed to the phenomenon under study, so it is necessary to implement preventive measures.

Keywords: Tele study, Covid 19, students, eyestrain, technostress, computer

Introduction

The SARS-CoV-2 virus its presence caused the coronavirus disease(COVID-19), which arrived in 2019 globally and Ecuador is no exception, so educational centers at all levels, especially the university, make the modality of studies change to the houses this activity is called tele study in which a computer is used or work with digital display screens (PVD) and in which the evolution of technology, the use of Information Technologies (ICTs), long hours cause consequences in the physical and mental departure of students or computer users (Cabezas-Heredia et. al., 2021).

The expansion of computer technology has increased the use of PVD, both in offices and homes, which has generated health problems in users, including ergonomics and vision (Kanitkar et al, 2005), PVD users use a computer for most of their day, which causes a series of consequences such as cervicalgia, wrist tendinitis, carpal tunnel syndrome, and glog finger, among others); visual and mental fatigue. Visual fatigue is one of the most frequent among these users. (ILO, 1998).

Moscoso, Pineda, Pérez, and Jerez (2019), state that measuring technical stress as a psychosocial risk allowed them to identify in one of their investigations the dimensions affected by this phenomenon of which 28% have medium-high

anxiety and fatigue 27% medium-low, the dimension of skepticism 27% medium-low and the inefficiency 18% at low levels.

Bleham et al. (2005), state that visual fatigue due to the use of PVD presents many symptoms such as eyestrain, eye fatigue, burning, sensitivity, eye irritation, "red eye", "blurred vision" and "dry eyes", high symptomatology is reflected in the form of visual fatigue. Kowalska et al, (2011), say that it presents in the form of eye burning (Agarwal et al, 2013), visual disturbances, tearing, dry eyes, or headache (Talwar et al, 2009), among others.

In the year 2000, it was estimated: 55% of jobs use computers, currently 70% use PVD for speed and ease of use. 90% of computer users experience symptoms of fatigue due to excessive use, according to Thomson (1998). Other research estimates between 70% to 90% of users with the visual syndrome. The figures reach 59% of the administrative staff at the country level (Portello et al, 2012).

Visual fatigue syndrome not only affects the visual part but also work productivity, 64% and 90% use a computer and have visual symptoms such as visual fatigue, headaches, eye discomfort, dry eye, diplopia, and blurred vision, due to being very close to the computer or the number of hours in front of it. (Rosenfield, 2011).

Verdezoto E. & Cabezas E., (2021) in their research on the administrative staff of the Faculty of Engineering of the National University of Chimborazo present that the results obtained 22.2% are asymptomatic and 77.8% have visual fatigue. 22.2% have moderate fatigue level 3, 66.7% moderate level 4, and 11.1% severe level 5, due to excessive use of a computer, and long and complex tasks among other factors of the environment where the task is developed(Granja et al. 2016).

Granda & Sosa (2021), in their research on professors at the University of Chimborazo, find the following results: 61.4% corresponds to very low and low levels of technostress, the affective dimension 53.5% is in the very low and low levels of anxiety and fatigue 41.6% with high and very high levels, The attitudinal dimension 56.4% is in the very low and low levels of skepticism and the cognitive dimension 62.3% is located in the very low and low levels of ineffectiveness.

The development of ICT has prominence in educational institutions in the era of knowledge of these tools for the development of the teaching-learning process so it is necessary to appropriate these increasingly complex intelligent systems: it is important to know about technostress, according to Cárdenas -Velásquez & Bracho-Paz (2020), The use of technologies is frequent and excessive use can affect the health of people with different symptoms: muscle pain, headache, mental and physical fatigue, anxiety, among others, technostress being a factor to be analyzed.

Salanova et al. (2007), establish that technostress is a negative psychological state due to the management of technologies and the projection it has in the future, Llorens, Salanova, & Ventura (2011), manifest the existence of two types of technostress: techno train and techno addiction. People with techno train have high levels of anxiety and fatigue due to the use of ICT, with a negative value, or by the use of computers and feel afraid of handling these. (Salanova et al., 2007).

Craig Brod (1984) and Salanova create a psychological measurement instrument for technostress, in which he establishes possible causes of technostress and according to the Foment del Treball Nacional (2019) that most frequently occur: overload of information, more demand for work, problems computer, b availability of technological resources, contact with modern devices, self-esteem, lack of inefficiency, and prolonged use of ICT(Molina et.al., 2022).

The research question of the present research is: Does the CVSS 17 and NTP 730 technostress test allow us to determine the visual fatigue and the use of information technologies to establish preventive measures that allow Diminish the negative effects of the phenomenon investigated in the students of the Agroindustry career of the National University of Chimborazo?

Methodology

Research design, population, and sample:

The study was descriptive of the objects of study as they are presented, quali-quantitative, cross-sectional by the application of the tests in a single moment to collect la data to obtain the results of the research, observed the phenomenon and its effects as presented, the analysis was using a statistical guide to univariate, the correlation of the sociodemographic variables with visual fatigue and technostress was determined utilizing Cramer's V. The applied tests were designed in the

google forms to later disseminate it through the link that was shared to the chat of the presidents of the course and these in turn to their classmates of the Agroindustry career of the National University of Chimborazo, who freely and voluntarily answered in a total of 195 students, so it was decided to work with all those who filled out the survey, so there is no sampling.

Data collection

The data collected in the Google forms and disseminated through the link to the students of the Agroindustry career of the National University of Chimborazo generated an Excel to which it was programmed, later it is exported to SPSS V26 to program according to the scale of lickers of the CVSS17 tests (eyestrain) and NTP 730 (technostress), to determine the results of the phenomenon investigated (Granda e.t al.,2022).

The sociodemographic variables of the students were: gender, age, and semester of study, additionally, 2 questions were added regarding the history of previous visual diseases and hours of computer use, to determine the correlation between them and the tests applied through crossed tables. The Cronbach Alpha and KMO of each of the tests were determined to determine reliability and reliability, this being the following: 0. 693 is good and 0.959 is very good; The reliability of 0.916 and 0.931 which is very good respectively of the DA test, so they can be applied for this environment.

The application of the CVSS17 test allows measuring the visual fatigue due to the use of computers (PVD) and the test proposed in the NTP 730 standard to obtain results of technostress and its dimensions.

The CVSS 17 test contains 17 questions, valued with a licker scale that can be selected by the respondents, the scale is detailed below:

- ✓ 10 questions with answers ranging from never, rarely, frequently, and constantly.
- ✓ 6 questions with answers ranging from nada, if very little, if a little, if moderately, if much, if a lot.
- ✓ 1 question with answers of never, rarely, little time, part of the time, a lot of time, almost always, always.

The final score of the CVSS17 test = (Total score of all questions from 1 to 17).

The score ranges from 17 to 53 points; the highest scores present symptoms of visual fatigue, >¨= to 36 is symptomatic and values < to 36 are asymptomatic (Lopez, 2018).

The CVSS 17 test is an easy tool to apply by anyone trained in occupational health and safety, its quick interpretation, exists in several languages, and is reliable and consistently to be validated. (Huapaya Caña, 2019).

The syndrome of visual fatigue can be classified by levels from 1 to 6, and the severity of mild to severe is determined.

mild fatigue

- ✓ From 17 to 22 level 1 point
- ✓ From 23 to 28 level 2 points

Moderate fatigue

- ✓ From 29 to 35 level 3 points
- ✓ From 36 to 42 level 4 points

Severe fatigue

- ✓ From 43 to 49 points level 5
- ✓ From 50 to 53 points level 6

When reviewing NTP 730, the technostress test assesses a licker scale ranging from 0 = never; 1 = a couple of times a year; 2 = once a month; 3 = a couple of times a month; 4 = once a week; 5 = a couple of times a week; 6 = every day, the test consists of 16 questions.

To determine the test scores by dimensions we have:

- Skepticism = (Sum of questions 1 to 4) / 4
- Fatigue = (Sum of questions 4 to 8) / 4
- Anxiety = (Sum of questions 9 to 12) / 4
- Inefficiency = (Sum of questions 13 to 16) / 4

To determine the level of technostress, its assessment is presented in the following table:

Table No. 1. Assessment of technostress

Technostress	**Score**
Low	From 0 to 32
Middle	From 33 to 64
High	From 65 to 96

Results and discussion

The CVSS 17 test to determine visual fatigue and the NTP 730 test for technostress generates the following results in the students of the Agroindustry career of the National University of Chimborazo are:

Table No. 2 Reliability of the CVSS 17 test applied

Reliability statistics	Assessment
Cronbach's alpha	N of elements
0.693	17

The reliability of the CVSS17 test using Cronbach's Alpha is 0. 693, the test is good, but it could be improved by eliminating questions, and it can be applied.

Table No. 3 Reliability of the technostress **test** applied

Reliability statistics	
Cronbach's alpha	N of elements
0,959	16

The reliability of the technostress test using Cronbach's Alpha is 0. 959, the test is very good, and it can be applied.

Table No. 4 Reliability of the CVSS17 **test** applied

KMO and Bartlett Test	
Kaiser-Meyer-Olkin sampling adequacy measure	0,916

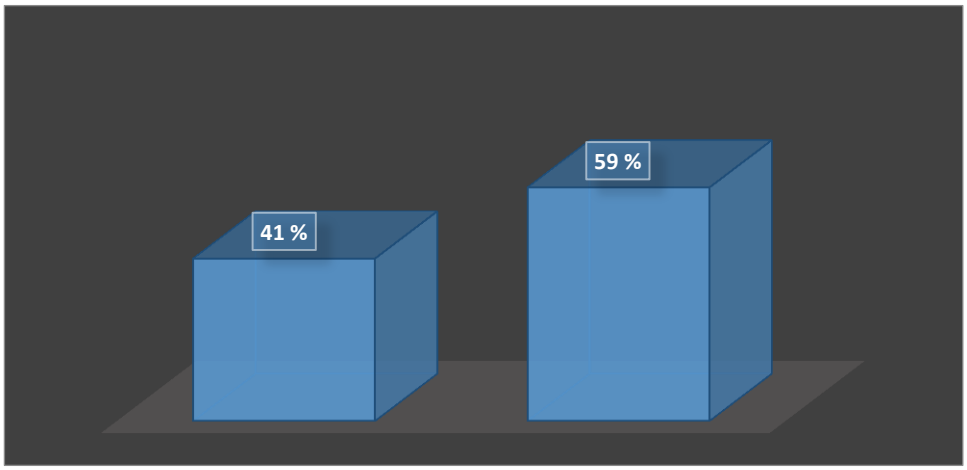
The reliability of the CVSS17 test employing KMO is 0. 916, the test is very good, and it can be applied.

Table No. 5 Reliability of the technostress test applied

KMO and Bartlett Test	
Kaiser-Meyer-Olkin sampling adequacy measure	0,916

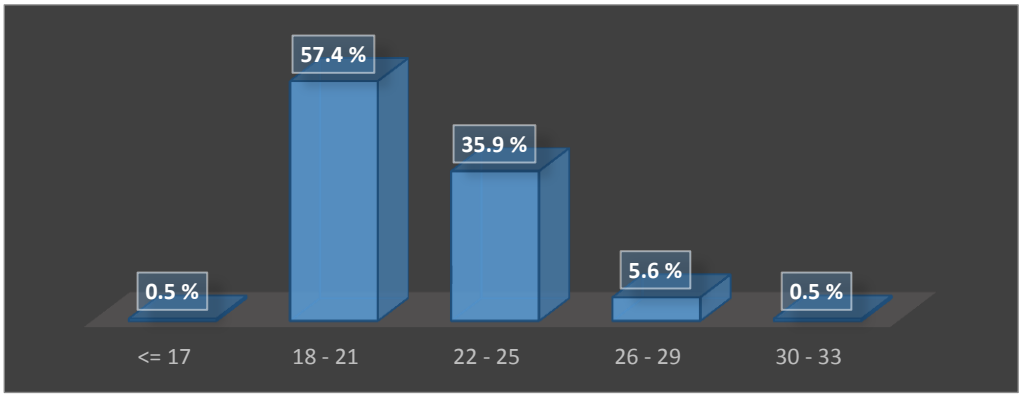
The reliability of the technostress test through the KMO is 0.916 which means that the test is very good and can be applied.

Graphic No. 1 Gender *of* the students of the Agroindustry career of the UNACH



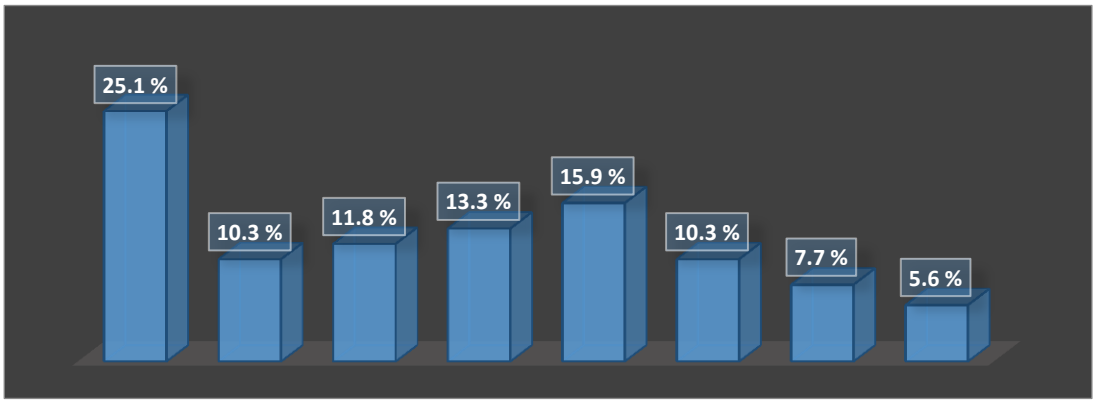
Regarding the gender of the students of the Agroindustry career of the National University of Chimborazo, there are: 41% are men and 59% women, it is determined that there is a % of women who study in school.

Graphic No. 2 Age of the students of the Agroindustry career at the UNACH



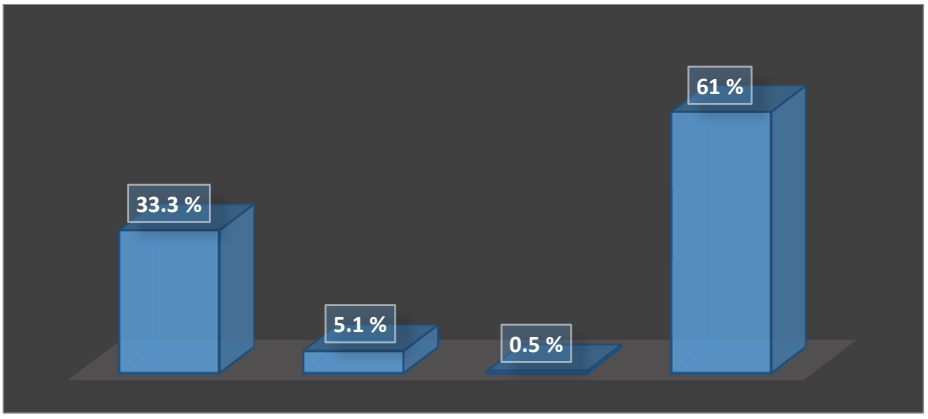
Regarding the age of the students of the Agroindustry career at the National University of Chimborazo there are 0.5% < 17 years; 57.4% aged 18-21; 35.9% aged 22 to 25; 5.6% from 26 to 29 years old and 0.5% from 30 to 33 years old, it is determined that there is a % of young students in the school.

Graphic No. 3 Semester in which the students of the Agroindustry career of the UNACH are



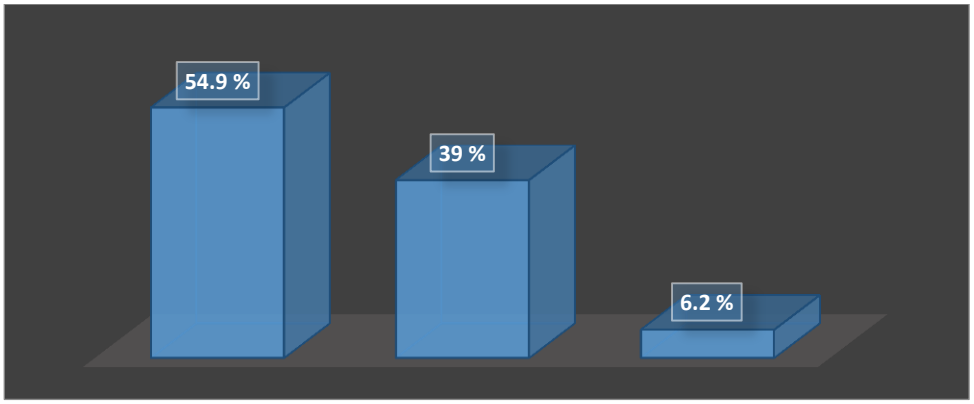
Regarding the semester that the students of the Agroindustry career of the National University of Chimborazo are: 25.1% in the first; 10.3% in the second; 11.8% third; 13.3% fourth, 15.9% fifth, 10.3% in the sixth; 7.7% seventh and 5.6% eighth semester, shows that there is in the first semester's demand to continue the career.

Graphic No. 4 History of previous visual diseases of the students of the Agroindustry career of the UNACH



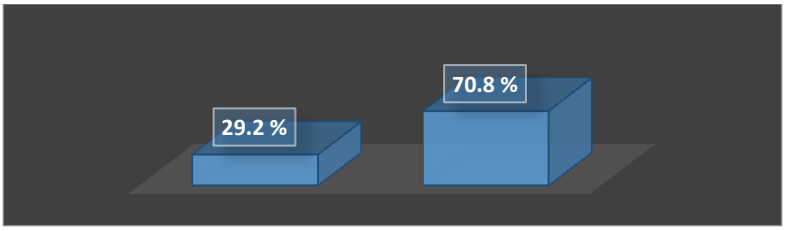
Regarding the history of previous visual diseases of the students of the Agroindustry career of the National University of Chimborazo, there is 33.3 % myopia; 5.1 % astigmatism; 0.5% presbyopia and 61% none, this means that there is a significant % with previous diseases that can be aggravated by computer use.

Graphic No. 5 Number of hours in front of the computer of the students of the Agroindustry career of the UNACH



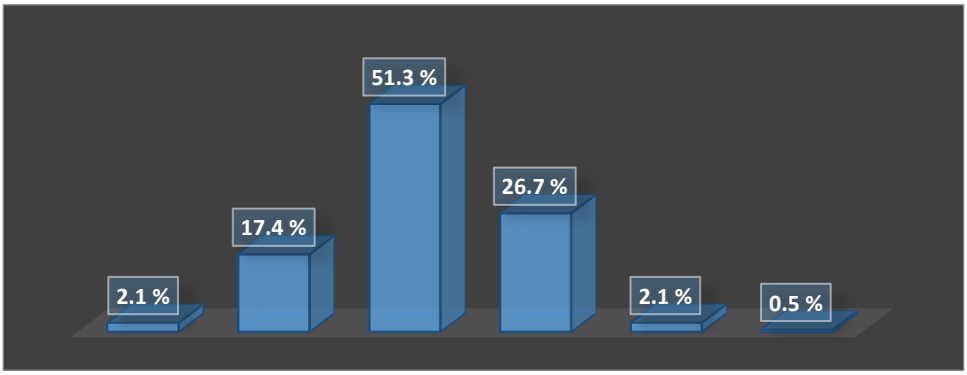
Regarding the hours of computer use of the students of the Agroindustry career of the National University of Chimborazo there is 54.9% of 2 to 4 hours; 39% of 4 to 8 hours and 6.2% more than 8 hours, this means that there is the presence of use of technological means in excess that can be the cause of the presence of visual fatigue.

Graphic No. 6 Level of visual fatigue of the students of the Agribusiness career of the UNACH



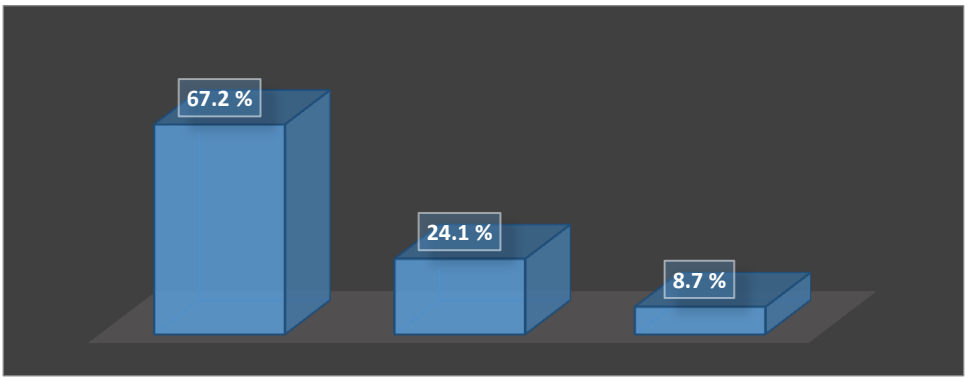
Regarding the level of visual fatigue of the students of the Agroindustry career at the National University of Chimborazo, there are 29.2% symptomatic, and 70.8% asymptomatic visual fatigue, this manifests the presence of visual fatigue due to excessive use of the computer and other factors of the environment.

Graphic No. 7 Fatiga visual by levels of severity of the students of the career of Agroindustry of the UNACH



Regarding the visual fatigue severity levels of the students of the Agroindustry career at the National University of Chimborazo there are 2.1% level 1; 17.4% level 2; 51.3% level 3; 26.7% level 4, 2.1% level 5 and 0.5% level, there is a tendency of medium to the high syndrome that should be treated immediately with a health specialist.

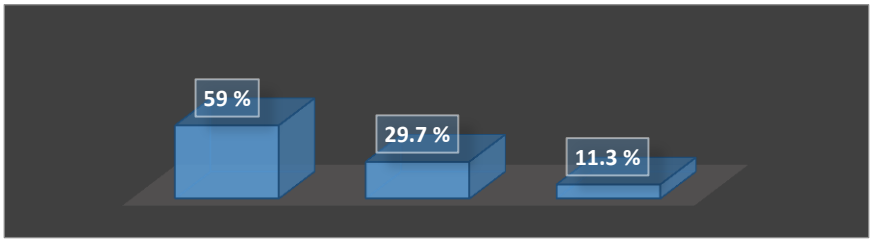
Graphic No. 8 Dimension technostress skepticism of the students of the Agroindustry career of the UNACH



Regarding the skepticism dimension of technostress of the students of the Agroindustry career of the National University of Chimborazo, there is 67.2% low; 24.1 medium, and 8.7% high, this means that a majority % use technology to perform their tasks to facilitate problem-solving and search for information on subjects of the career. Skepticism is

presented as disbelief in ICTs, people think that it is not necessary to use them, which generates a lack of motivation for the task.

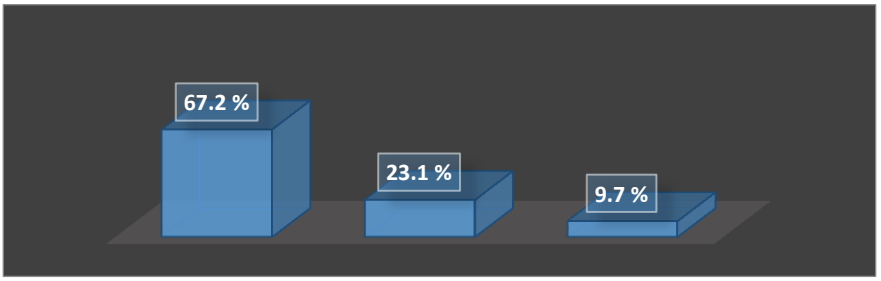
Graphic No. 9 Dimension of technostress fatigue of the students of the Agroindustry career of the UNACH



Regarding the anxiety dimension of technostress of the students of the Agroindustry career of the National University of Chimborazo, there is 59% low; 29.7% medium, and 11.3% high, this means that their medium-high % that feel anxiety about using ICTs for educational processes, rest of students may not have economic resources to access to use computer technology.

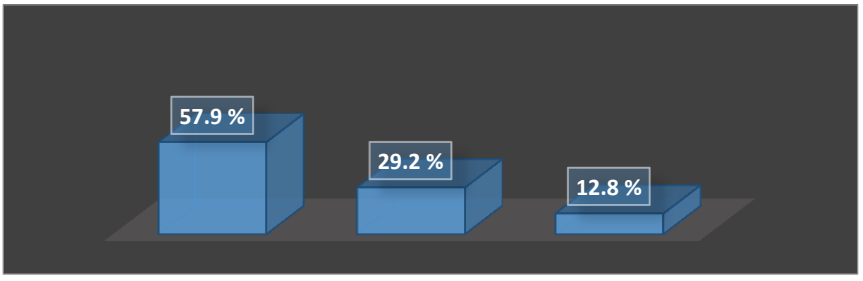
Anxiety is considered an emotional response to a stressor, in which people react with: fear, fear of not knowing how to manage this, losing the information worked and stored, and being replaced by another person who handles it.

Graphic No. 10 Inefficient dimension of technostress of the students of the Agroindustry career of the UNACH



Regarding the dimension inefficiency of technostress of the students of the Agribusiness career of the National University of Chimborazo there is 67.2% low; 23.1% medium and 9.7% high, this means that there is a considerable % that has inefficiency in the use of ICTs so training is required on the use of technologies. Inefficiency is the lack of usefulness or inability of the person to use ICTs and usually occurs in people of another type of generation or who do not know these utilitarians.

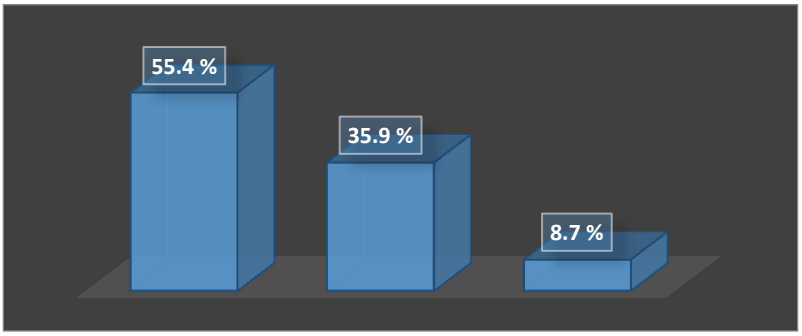
Graphic No. 11 Dimension of technostress fatigue of the students of the Agroindustry career of the UNACH



Regarding the fatigue dimension of technostress of the students of the Agroindustry career of the National University of Chimborazo there is 57.9% low; 29.2% medium and 12.8% high, this means that there is a considerable % between medium and high with symptoms of fatigue that requires to be attended and faced properly. Fatigue generates

physical and mental exhaustion in the face of a stress factor, the individual presents symptoms such as sleep disturbance, headaches, and musculoskeletal and gastrointestinal pain (Cárdenas and Bracho, 2020).

Graphic No. 12 Technostress of the students of the Agroindustry career of the UNACH



Regarding the technostress of the students of the Agroindustry career of the National University of Chimborazo there is: 55.4% is low; 35.9% is medium and 8.7% high, this means that the vast majority have adequate management of ICTs that facilitates the teaching-learning process, however, another group requires training on the subject.

The following table presents the correlation analysis between the history of previous visual diseases and visual fatigue.

Table No. 6 Correlation between the history of visual diseases and visual fatigue due to symptoms

Have a history of chronic eye disease	Eyestrain	
	Symptomatic with Visual Fatigue	Asymptomatic with Visual Fatigue
Myopia	28	37
Astigmatism	3	7
Presbyopia	1	0
No	25	94

The correlation between previous visual diseases and visual fatigue utilizing Cramer's V is 0.252, which is small with little relationship between the variables analyzed.

The following table presents the correlation analysis between the use of computer hours and visual fatigue.

Hours of computer use	Eyestrain	
	Symptomatic with Visual Fatigue	Asymptomatic with Visual Fatigue
2 to 4 hours	22	85
4 to 8 hours	27	49
More than 8 hours	8	4

Table No. 7 Correlation between use of computer hours and visual fatigue due to symptoms

The correlation between hours of computer use and visual fatigue through Cramer's V is 0.263, which is small with little relationship between the variables analyzed.

The following table presents the correlation analysis between the history of previous visual diseases and technostress.

Table No. 8 Correlation between the history of previous visual diseases and technostress

Have a history of chronic eye disease	Technostress		
	Casualty	Middle	High
Myopia	25	34	6
Astigmatism	6	4	0
Presbyopia	0	0	1
No	77	32	10

The correlation between previous visual diseases and visual fatigue utilizing Cramer's V is 0.248, which is small with little relationship between the variables analyzed.

The following table presents the correlation analysis between the use of computer hours and technostress.

Table No. 9 Correlation between hours of computer use and technostress

Hours of computer use	Technostress		
	Casualty	Middle	High
2 to 4 hours	70	28	9
4 to 8 hours	34	34	8
More than 8 hours	4	8	0

The correlation between hours of computer uses and technostress through Cramer's V is 0.186, which is small with little relationship between the variables analyzed.

The following table presents the analysis of the correlation of sociodemographic variables with visual fatigue utilizing Cramer's V.

Correlation between visual fatigue and sociodemographic variables	**Frequencies**	**V of Cramer**	**Interpretation**
Gender and Visual Fatigue	Symptomatic: 19 men and 38 women Asymptomatic: 61 men and 77 women	0.101	Small relationship
A semester of studying and Visual Fatigue	First Semester: Symptomatic: 15 and 34 Asymptomatic Second Semester: Symptomatic: 5 and 15 Asymptomatic Third Semester: Symptomatic: 5 and 18 Asymptomatic Fourth Semester: Symptomatic: 6 and 20 Asymptomatic Fifth Semester: Symptomatic: 8 and 23 Asymptomatic Sixth Semester: Symptomatic: 8 and 12 Asymptomatic Seventh Semester: Symptomatic: 4 and 11 Asymptomatic Eighth Semester: Symptomatic: 6 and 5 Asymptomatic	0.176	Small relationship
Age and Visual Fatigue	Under 17 years: Symptomatic: 1, Asymptomatic: 0 18 to 21 years: Symptomatic: 37, Asymptomatic: 75 22 to 25 years: Symptomatic: 12, Asymptomatic: 58 From 26 to 29 years: Symptomatic: 6, Asymptomatic: 5 From 30 to 33 years: Symptomatic: 1, Asymptomatic: 0	0.268	Small relationship

Table No. 10 Correlation between sociodemographic variables and visual fatigue due to symptoms

The relationship utilizing Cramer's V between the sociodemographic variables and visual fatigue is small, with little influence on the phenomenon investigated, there is a presence of symptomatic and asymptomatic visual fatigue for each sociodemographic variable, however, the frequency of presence of cases of visual fatigue is presented.

The following table presents the correlation analysis of sociodemographic variables with technostress utilizing Cramer's V.

Table No. 11 Correlation between sociodemographic variables and technostress

Correlation between technostress and sociodemographic variables	**Frequencies**	**V of Cramer**	**Interpretation**
Gender and Skepticism	Male: 61 Low, 13 Medium, and 6 High Female: 70 Low, 34 Medium, and 11 High	0.166	Small relationship
Gender and Fatigue	Male: 53 Low, 17 Medium, and 10 High Female: 60 Low, 40 Medium, and 15 High	0.153	Small relationship
Gender and Anxiety	Male: 52 Low, 20 Medium, and 8 High Female: 63 Low, 38 Medium, and 14 High	0.103	Small relationship
Gender and Inefficiency	Male: 60 Low, 11 Medium, and 9 High Female: 71 Low, 34 Medium, and 10 High	0.185	Small relationship
Gender and Technostress	Male: 52 Low, 21 Medium, and 7 High Female: 56 Low, 49 Medium, and 10 High	0.172	Small relationship
Study semester and skepticism	First: 30 low, 13 medium, and 5 high Second: 11 low, 7 medium, and 3 high Third: 19 low, 3 medium, and 1 high Fourth: 19 low, 5 medium, and 2 high Fifth: 16 low, 11 medium, and 4 high Sixth: 15 low, 4 medium, and 1 high Seventh: 12 low, 2 medium, and 1 high Eighth: 9 low, 2 medium, and 0 high	0.177	Small relationship
A semester of studying and fatigue	First: 24 low, 16 medium, and 8 high Second: 13 low, 5 medium, and 3 high Third: 17 low, 3 medium, and 3 high Fourth: 17 low, 6 medium, and 3 high Fifth: 16 low, 12 medium, and 3 high Sixth: 13 low, 4 medium, and 3 high Seventh: 5 low, 9 medium, and 1 high Eighth: 8 low, 2 medium, and 1 high	0.199	Small relationship
Semester studying and anxiety	First: 24 low, 19 medium, and 5 high Second: 15 low, 5 medium, and 1 high Third: 12 low, 8 medium, and 3 high Fourth: 21 low, 3 medium, and 2 high Fifth: 18 low, 9 medium, and 4 high Sixth: 11 low, 6 medium, and 3 high Seventh: 6 low, 5 medium, and 4 high	0.201	Small relationship

	Eighth: 8 low, 3 medium, and 0 high		
A semester of studying and inefficiency	First: 31 low, 13 medium, and 4 high Second: 16 low, 5 medium, and 0 high Third: 13 low, 8 medium, and 2 high Fourth: 18 low, 5 medium, and 3 high Fifth: 20 low, 6 medium, and 5 high Sixth: 15 low, 3 medium, and 2 high Seventh: 7 low, 5 medium, and 3 high Eighth: 11 low, 0 medium, and 0 high	0.201	Small relationship
A semester studying and technostress	First: 22 low, 21 medium, and 5 high Second: 13 low, 7 medium, and 1 high Third: 12 low, 9 medium, and 2 high Fourth: 17 low, 7 medium, and 2 high Fifth: 17 low, 10 medium, and 4 high Sixth: 11 low, 7 medium, and 2 high Seventh: 7 low, 7 medium, and 1 high Eighth: 9 low, 2 medium, and 0 high	0.147	Small relationship
Age and Skepticism	From 17 to 20 years: 1 low, 0 medium, and 0 high From 21 to 24 years old: 45 low, 2 medium, and 8 high From 25 to 28 years old: 74 low, 23 medium, and 6 high Over 28 years: 11 low, 4 medium, and 3 high	0.109	Small relationship
Age and Fatigue	From 17 to 20 years: 1 low, 0 medium, and 0 high From 21 to 24 years old: 39 low, 21 medium, and 3 high From 25 to 28 years old: 67 low, 27 medium, and 9 high Over 28 years: 6 low, 9 medium, and 3 high	0.166	Small relationship
Age and Anxiety	From 17 to 20 years: 1 low, 0 medium, and 0 high From 21 to 24 years old: 40 low, 24 medium, and 9 high From 25 to 28 years old: 63 low, 30 medium, and 10 high Over 28 years: 11 low, 4 medium, and 3 high	0.125	Small relationship

Age and Inefficiency	From 17 to 20 years: 1 low, 0 medium, and 0 high From 21 to 24 years old: 48 low, 18 medium, and 7 high From 25 to 28 years old: 68 low, 26 medium, and 9 high Over 28 years: 14 low, 1 medium, and 3 high	0.137	Small relationship
Age and Technostress	From 17 to 20 years: 1 low, 0 medium, and 0 high From 21 to 24 years old: 34 low, 31 medium, and 8 high From 25 to 28 years old: 63 low, 33 medium, and 7 high Over 28 years: 10 low, 6 medium, and 2 high	0.130	Small relationship

The relationship utilizing Cramer's V between the sociodemographic variables and the technical stress is small, with little influence on the phenomenon investigated, the frequency is presented by dimensions and technostress in each case.

Conclusions

The cause of dryness in the eye is due to excessive use of the computer and factors of the environment where the task is performed in this educational case which causes excessive evaporation of tears, when applying the CVSS 17 test was detected: 29.2 % symptomatic and 70.8 % asymptomatic with visual fatigue referring to fatigue by levels are 2.1% level 1; 17.4% level 2, 51.3% level 3, 26.7% level 4, 2.1% level 5, 0.5% level 6, so immediate intervention is required both in the technical and medical part to avoid health problems, in which the intervention of ergonomics and industrial safety is recommended.

55.4 % of agribusiness students obtained low levels of technostress because they know how to use ICT, while 44.6 % medium-high levels of technostress, are considered the individual analysis in which there are affectations in the dimensions of technostress and 8.7 % with high level constituting already a pathology that needs to be treated immediately.

The affective dimension with a low level of anxiety does not present any type of affectation, the medium and high levels are presented as irritability and impatience they feel when handling digital platforms, they feel tension due to the continuous use of ICTs, referring to fatigue high levels present physical symptoms and low and medium levels show concentration problems at use a computer.

In the attitudinal dimension, the low level of skepticism positively values the work with ICTs, and the high-level shows rejection of ICT and the environment under lack of interest in virtual platforms. The cognitive dimension of inefficiency with low level shows that they have skills to use ICT, the middle level has difficulties in handling technologies, and the high level presents negative consequences on their performance when working with a computer and information technology.

It is suggested to the students of the career agroindustry of the National University of Chimborazo to promote the approach to the Tics, especially during the time of work in a computer through courses, pieces of training, and tutorials that improve the skills and abilities of the student who uses a computer.

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