

Interest towards ICTs and research attitude in Postgraduate students at UNITEC, Honduras

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Summary. This study aimed to identify the interest in ICT applied to research and attitudes towards research in graduate students at the Universidad Tecnológica Centroamericana. Methodologically, a quantitative correlational design was used, applying two scales: the first one of our own elaboration with 13 items of interest in ICTs, and the second scale called EACIN-R with 28 items that measures the attitude towards research. Results showed a correlation of .30 between interest and attitude, but no significant differences were found in terms of attitude according to academic modality.

Key words: research, technology, information, attitude

1 Introduction

At the higher education level, research is fundamental to develop competencies (Ortega, Passailaigue, Febles, & Estrada, 2017) of analysis and synthesis, which contributes to scientific knowledge. The higher the academic degree, the higher the level of demand, complexity and scientific rigor of research.

In the research process, technology plays an important role in solving problems related to information collection and analysis (Arbeláez, 2014). It is imperative that the student uses tools or software for data collection and analysis for research linked to the courses being taken or for thesis development.

Given that most graduate academic programs are professionalizing, the present research was conducted to measure the interest in research and the use of ICTs.

2. Theoretical framework

The incorporation of ICTs in research has become a necessary and essential practice to streamline and optimize the conduct of research, where two major quantitative and qualitative designs are assumed (Sarduy Domínguez, 2007) since once the data has been collected it must be processed to give it meaning (Sued, 2020).

This trend is called computerization of research, which involves incorporating computer elements for the processing and analysis of information without undermining traditional techniques that in some cases are still widely used (Benavent, Sapena, & Peset, 2021).

Through an analysis of the curricular components of academic programs at the graduate level, it is shown that students are involved in the study of statistics (Escalante, 2010).

Based on the above, ICTs enable the development of competencies related to the research process and to the partial products that need to be generated during the students' formative path, since at the higher education level, high levels of competence and a culture of science are required to facilitate the execution of research processes (Barrera, 2018).

There are several important elements that affect the process of using software for data collection and analysis in research. For the purposes of the present research, the student's attitude was considered. According to (Bojórquez, 2014) positive attitudes towards knowledge are conceived as interests and motivations that subjects learn and develop to know the world.

2 Método

This is a quantitative study with correlational scope, cross-sectional, two scales were considered: the ICT Interest Scale applied to research, which consists of four factors expressed in a scale of 13 items (own elaboration) and the EACIN-R adapted by Aldana and collaborators (2020) of 28 items reduced to 3 factors. A sample of 208 graduate students was considered by simple random sampling.

3 Results

A comparison was made between groups, segmented by modality, synchronous teleducation (n=144) and asynchronous virtual (n= 64) to identify whether the modality has an impact on the attitude towards research, with the result that there are no significant differences between one group and the other (Figure 1), since the mean reported is 1 point.

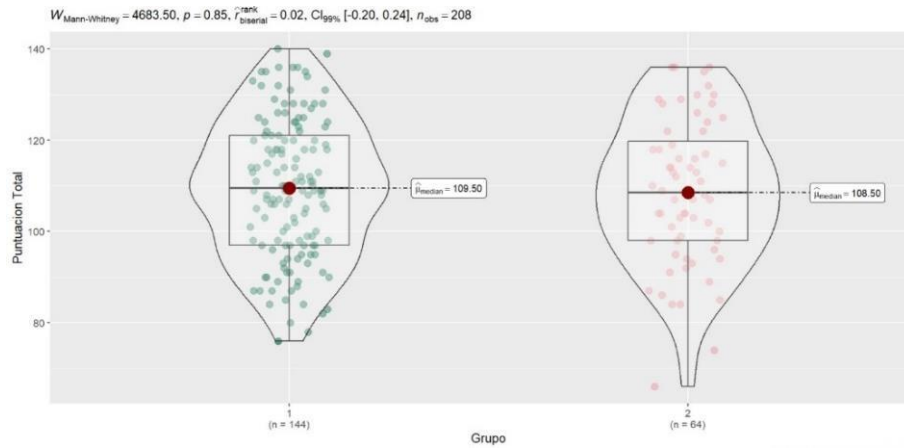


Fig. 1. Attitude towards research and academic modality

The correlation between attitude towards research and interest in ICT applied to research was calculated using a scatter diagram:

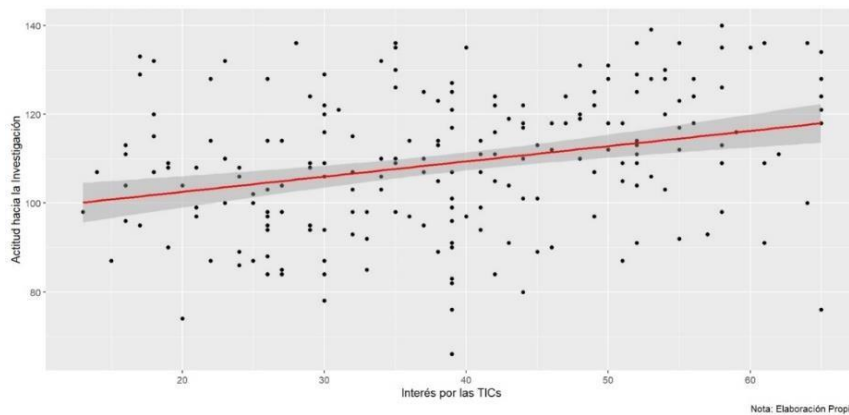


Fig. 2. Attitude towards research and interest in ICTs

The correlation value reached is $.30^{**} < .05$, being this a moderate correlation between both variables, which is possibly explained by the interest granted in the first instance to the ICTs included in the study that are mostly unknown by the graduate student and the attitude manifested towards research as part of their formative process.

Table 1. Means, Standard Deviation and Correlation with their degrees of confidence

Variable	<i>M</i>	<i>SD</i>	1
1. ATR (EACIN-R)	109.12/140	15.49	
2. I-TICs_I	39.25/65	13.53	.30** [.17, .42]

Note. *M* and *SD* are used to represent the mean and standard deviation, respectively. Values between cor- brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * Indicates $p < 0.05$. **.

For the EACIN-R six methods (Bentler, CNG, VSS Complexity 2, Velicer's Map and BIC) were applied for factor reduction (Jennrich & Bentler, 2012) reaching three factors (vocation, valuation, and interest) obtaining an average of 109.12/140 which in percentage terms equals 77.8% attitude towards in-research. For I-TICs_I, an average estimate of 60% of interest in the use of ICTs in research was obtained. When correlating them, a $.30 < 0.05$, a moderate correlation, was obtained.

4 Discussion

Since there are no statistically significant differences between students who take the teledocency modality and the virtual modality, it can be affirmed that the attitude towards research is subject to other variables related to the student's disposition to the production of knowledge that are linked to the university work and the work of all professionals (Reyes Flores, et al., 2022).

It is important to mention that the development of informatics competencies in university students will be the responsibility of the institutions, to contribute to form competent subjects according to the demands of the 21st century (Moreira, 2010) this oriented to all educational programs and their modality.

On the other hand, the results of the three factors (vocation, valuation and interest) of the EACIN-R identified through the application of the factor extraction methods confirm the robustness of the scale and its potential for measuring the attitude towards research, as well as confirming that the factor extraction methods coincide with the theoretical construct previously used by Aldana and collaborators (2020).

5 Conclusions

Considering that there is a statistical relationship between attitude towards research and interest in ICTs, it can be affirmed that the implementation of ICTs and their instrumental nature allows the student to conduct research more efficiently, confirming the theory of (Berkeley, 2004) that states that research competencies should consider among their elements, the computational knowledge necessary to manipulate and transform the information generated by research processes.

It is confirmed that there is an interest in research, regardless of the modality of the academic programs, according to the sample of students surveyed. It is also evident that the use of ICTs in research demands resources, training, and technology to continue advancing in this important area in the academic and professional training of master's students.

6 Limitations and Future Research

No limitations were encountered; however, it is considered necessary to go deeper into the phenomenon by conducting focus groups or consulting experts.

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