Audiovisual technology media in the learning of social sciences in higher education

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Abstract

This study aims to determine the impact of technological media on the learning of social sciences of students at a private university, and also to determine whether this impact is significant or not. The research is of a basic type and presents a quantitative approach, with data analysis and contrasts. The research design is non-experimental, causal correlational, cross-sectional, containing data collection characteristics of descriptive scope. The technique used for data collection was the survey and the instrument was the questionnaire. In addition, the data analysis method used was based on Spearman's Rho statistical formula. The present research has a population of 250 students of the Scientific University of the South belonging to the area of Basic Courses Humanities, therefore, a sample of 152 students who are part of the zero cycles of the Scientific University of the South was involved. As the main result of the research, it was obtained that the general hypothesis: "Audiovisual technological media significantly influence the learning results of Social Sciences in students of the Scientific University of the South, cycle zero, Villa El Salvador - Lima 2022" was accepted, consequently and according to the results of the research it was considered that the audiovisual technological means do generate a great impact on the learning of Social Sciences in the students of the Scientific University of the South.

KeyWords: Audiovisual Media Technology, Social Sciences, Learning, Technology.

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Introduction

In the last years, audiovisual technological media have taken great relevance in the different dimensions of education. In these times where the audiovisual technological media are present in everyday life, where the philosophy related to the knowledge society has been introduced in all academic forums, commerce, education at all levels and specialties, where the following terms such as virtual classrooms, web classroom, virtual forums, web conferences, online tutors and so on are becoming more common in society. Moreover, it is known that audiovisual technological means are part of everyday life, both for teachers and students; therefore, the educational process of teaching-learning is not an exception. The introduction of these technological media would produce a set of changes in the various dimensions of teaching and therefore in the classroom as well. It would alter the idea of teachers and students about the use of audiovisual technological means in the learning process. According to the above, if the problem is established and substantiated, the current work will lead to a restructuring in the curricula of educational institutions, where technology will be positioned as a fundamental pillar in the classroom.

According to Montoya (2018: 52), the first users of audiovisual media in classrooms in principle were intended to reinforce specific situations that required an alternative supplement to magisterial teaching. That is to say, these audiovisual media should be perceived as helping materials for teachers, which could be digital presentations, interactive videos, projectors, blackboards and computers.

Feldman (2022: 7) mentions that the audiovisual media play an important role in a global context, where information is necessary to forge a future that is not threatened by its traumatic past and its dramatic present since it is important to manage these technological audiovisual media for good implementation in the academic context and correct development of both teachers and students in their development.

Also, Ortolan et al. (2018:2) mention that audiovisual media in the current context are perceived as an ideal way to get information through the different sources provided by these media; in addition, it has a very innovative effect on teaching, consequently, this same effect produces that quality classes are provided. It is important to mention that audiovisual media are a link to multiple platforms where there are many ideas and knowledge that can feed the development of teaching and learning. A clear example is the application of the virtual classroom to strengthen the learning of social sciences students, as well as the use of the projector strengthens teaching and is very well complemented with a good classroom infrastructure.

Likewise, Widman (2021:235) maintains that audiovisual media, such as some virtual environments, provide easy access to different specialized content that may be difficult for teachers to access and that in most cases have the most current and relevant content in the field of interest. In addition, technological audiovisual media allow content to be presented in different forms (videos, audios, texts, etc.), benefiting the different learning styles that the user may have.

On the other hand, according to Vargas-Cubero & Villalobos-Torres (2018), it can be said that the use of technological audiovisual media in university careers is an advantage for students when learning. However, optimization of resources and media for learning is needed. Likewise, it is necessary to frequently train teachers on the correct use of audiovisual technological media-oriented in the evaluation system and learning.

According to what was exposed in the research, questions arise about the audiovisual media and their influence on learning: Could the audiovisual media be effective tools for learning? That is, to know if the learning process is being optimized through the use and implementation of technological media, which in several cases are innovative technologies that teachers are unaware of. The following question then arises: are teachers prepared to take on the challenges and innovative changes presented by audiovisual technological media? Therefore, there is a need for teacher training and the proper implementation of these technologies. However,

do we have the necessary infrastructure for proper training of teachers regarding the new emerging technologies? It is important to have an efficient and effective implementation of technological audiovisual media, to optimize and nurture the teaching-learning process so that the assimilation of knowledge for the student will be better. According to these preliminary questions, it is possible to raise more precise questions such as: How do the audiovisual technological means influence the learning results of Social Sciences in the students of the Scientific University of the South? Then, different dimensions of the university will be evaluated for the technological audiovisual media it possesses to determine the influence these on the group of students.

1.1 Use of audiovisual media in the social sciences

Salas et al. (2020: 620) mention that audiovisual media are facilitating the origin of new virtual spaces that allow changing the teaching-learning conditions regarding social sciences, which positively influence different dimensions important for students learning. It is also emphasized that audiovisual media are conduits for a better organization of innovative educational experiences and the creation of new virtual spaces for learning and teaching.

According to Fernández-Quero (2021:215), the different audiovisual media diversify the multiple options of the teacher and the student, thus reducing the difficulties caused in the models of transmission and acquisition of knowledge. In addition, he mentions that the fact of not solving these difficulties causes demotivation in students and even in some cases causes the abandonment of the subject. In other words, the tools provided by the audiovisual media generate a certain impact on the student and thus reduce the probability that these difficulties arise.

Orjuela et al. (2020:483) argue that for some years now, adaptive learning has been spoken of as a learning resource that relies on the technology and information provided by audiovisual media. This tool optimizes the learning process and thus also improves the experience. Different audiovisual tools complement this process to achieve this adaptive learning that generates a significant impact on the student's development and produces better assimilation of knowledge, since adaptive learning is developed efficiently and effectively in virtual environments, it could be said that adaptive learning and audiovisual media require each other to achieve a beneficial impact on the student.

ICTs are tools that have completely changed the usual processes for teaching, processes that were previously only developed face to face, but nowadays most educational institutions thanks to audiovisual media and technological tools have managed not to have a delay and proceed with virtual classes. Even the social sciences and related courses have achieved an effective transmission of knowledge that these courses provide, through audiovisual media and without harming the learning process (Wardropper et al., 2021)

Therefore, Mosquera et al. (2021:122) argue that the implementation of technological means in learning is essential, since it has multiple benefits, including a beneficial impact, accelerating processes and producing more concise learning of social sciences. With this implementation of technological tools, students have more possibilities of accessing useful and new information, eliminating the limitations of conventional forms, i.e., this process has been transformed, thus making the student exerts less effort and has freer access to useful information and acquire new knowledge.

Materials and methods

The present research has a quantitative approach to data analysis and contrast, of basic type. The results obtained will enrich the scientific theoretical knowledge in the educational system, especially in the influence generated by the use of audiovisual technological means in the learning results of social sciences in the students of the Scientific University of the South (Universidad Científica del Sur).

The research is of a basic type and presents a quantitative, data analysis and contrastive approach. The research design is non-experimental, causal correlational, and cross-sectional, which contains data collection

characteristics of descriptive scope. Consequently, a sample of 152 students belonging to cycle zero of the Universidad Científica del Sur will be used (Hernández y Mendoza, 2018).

The hypothetic-deductive method was considered for the development of the research, since it proposes a hypothesis that can be analyzed deductively or inductively and then tested experimentally, i.e., it is sought that the theoretical part does not lose its meaning so that the theory is subsequently related to reality. As noted, one of the characteristics of this method is that it includes other methods, inductive or deductive.

The instrument applied is a questionnaire, which contains the items corresponding to the indicators of the dimensions of the Variable "Influence of the audiovisual technological media", "learning of social sciences", as well as the characterization of the sample, which will be applied to the students of the zero cycle of the Scientific University of the South (Universidad Científica del Sur).

- Final grades technique and its applied instrument is the questionnaire, which contains the items corresponding to the indicators of the dimensions of the Variables.
- Data processing technique and its instrument results tables.
- The file technique and its instrument, the bibliographic files, to record bibliographic research data.
- Expert judgment technique and its instrument, the expert report, to validate the tests, which will be developed by teachers with a master's or doctorate.
- SPSS statistical program to process the surveys and test hypotheses

Furthermore, basic statistical formulas will be used, as well as inferential statistics. The statistic to be used for this test is Spearman's Rho.

Results

Table 1 The classroom infrastructure

	F	H
Inadequate	20	13.2%
Poorly suited	52	34.2%
Adequate	80	52.6%
Total	152	100,0%

Source: Own elaboration.

Figure 1 The classroom infrastructure

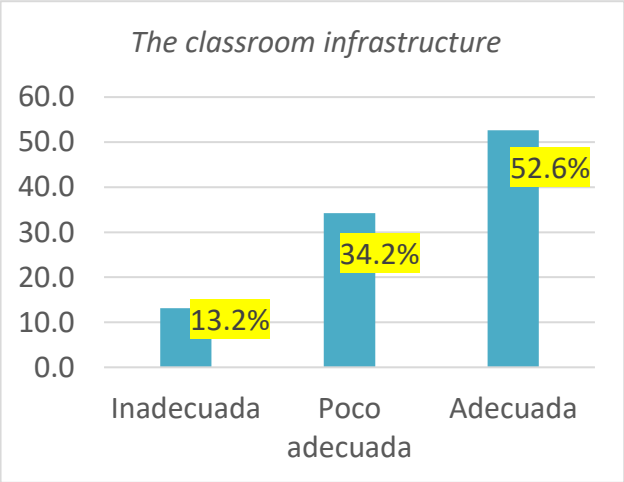

Table 1 and Figure 1 show that 52.6%, equivalent to 80 students, indicate that the infrastructure of the classrooms is adequate, and a group of 34.2%, equivalent to 52 students, say that the infrastructure of the classrooms is inadequate, and a small group of 13.2%, equivalent to 20 students, say that the classrooms are poorly suited to the needs of the students. These data show that most students perceive the infrastructure as adequate; however, there is a significant number who express that it is inadequate or poorly suited, which would result in a series of limitations for teachers in the development of classes and students in their learning according to the objectives set.

Table 2 Equipment of classrooms

	f	h
Poorly equipped	48	31,6%
Equipped	104	68,4%
Total	152	100,0%

Figure 2 Equipment of classrooms

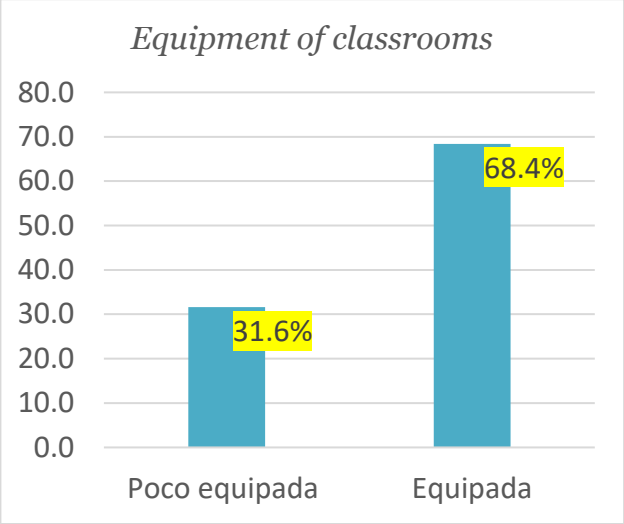

Table 2 and Figure 2 show that 68.4%, equivalent to 104 students, indicate that the classrooms are well equipped, while 31.6%, equivalent to 48 students, indicate that the classrooms are poorly equipped; the differences are clear, however, there is a significant group that states that the classrooms are poorly equipped; therefore, the consequences will be seen in the limitations that teachers and students will have in their teaching and learning process.

Table 3 Learning assessment

	Learning assessment	
	f	h
Low	19	12,5%
Medium	128	84,2%
High	5	3,3%
Total	152	100,0%

Source: Own elaboration.

Figure 3 Learning assessment

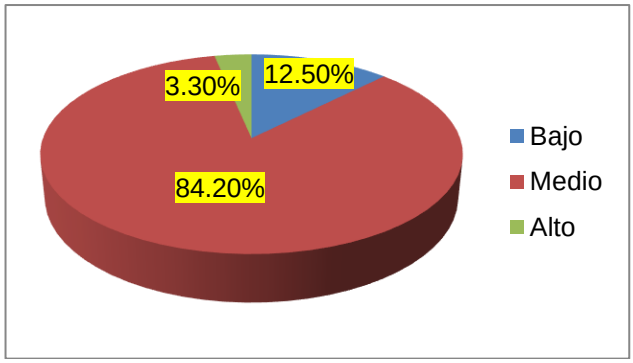

Table 3 and Figure 3 show that 84.2%, equivalent to 128 students, indicate that they have a medium level of learning, and a group of 12.5%, corresponding to 19 students, indicate that their learning has a low level and only 3.3% indicate that it is high, showing that the percentages mark a fairly wide difference, therefore, it is necessary to improve the level of quality in learning, which will contribute to the objectives of the courses.

Table 4 Learning and infrastructure

		Learning			Total
		Low	Medium	High	
INFRASTRUCTURE	Inadequate	0	3	0	3
	Poorly suited	19	112	5	136
	Adequate	0	13	0	13
Total		19	128	5	152

Source: Own elaboration.

Based on the data, Table 4 shows that the infrastructure is inadequate for the learning process, which will result in students reaching an average level in their learning process and teachers will be limited in their work in the classroom.

Table 5 Learning and classroom equipment

		Learning			Total
		Low	Medium	High	
CLASSROOMS	Poorly suited	16	117	5	138
	Adequate	3	11	0	14
Total		19	128	5	152

Source: Own elaboration.

Table 5 shows that, according to the data, the classrooms are not very adequate for the learning process, which will result in students reaching an average level in their process and teachers will be limited in their work in the classroom.

Hypothesis testing

a) First specific hypothesis

Ho: Infrastructure is NOT significantly related to learning outcomes in Social Sciences.

Ha: Infrastructure is significantly related to Social Science learning outcomes.

Confidence level: 95% (α = 0.05).

Decision rule:

If ρ ≤ α; the null hypothesis is rejected and if ρ ≥ α, the null hypothesis is accepted.

DESCRIPTIVE STATISTICS

Table 6

	HIGH	MEDIUM	LOW	
D1	48	90	14	152
	32%	59%	9%	100%
D2	24	114	14	152
	16%	75%	9%	100%
D3	50	76	26	152
	33%	50%	17%	100%
D4	43	92	17	152
	28%	61%	11%	100%

Table 7

Normality tests			
	Kolmogorov-Smirnov[a]		
	Statistical	gl	Sig.
AUDIOVISUAL MEDIA	0.109	152	0.000
LEARNING	0.048	152	.200*
***. This is a lower limit of true significance.**			
a. Lilliefors significance correction			

Normality tests						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistical	gl	Sig.	Estadístico	gl	Sig.
VAR00001	0.109	152	0.000	0.971	152	0.003
VAR00002	0.048	152	.200*	0.987	152	0.155
*. This is a lower limit of true significance.						
a. Lilliefors significance correction						

The Kolmogorov-Smirnov normality tests were performed, since there were 152 processed data, presenting as a result that the data are not normal, since they are less than 0.05. Therefore, Spearman's Rho nonparametric test was applied.

Table 8 Spearman's Rho statistic

Correlations				
			AUDIOVISUAL MEDIA	LEARNING
Spearman's Rho	AUDIOVISUAL MEDIA	Correlation coefficient	1.000	,803**
		Sig. (bilateral)		0.000
		N	152	152
	LEARNING	Correlation coefficient	,803**	1.000
		Sig. (bilateral)	0.000	
		N	152	152
****. The correlation is significant at the 0.01 level. (bilateral).**				

Discussion

In the present investigation named audiovisual technological means in the learning of social sciences in higher education, it was determined that the use of audiovisual technological means significantly influences the learning results of social sciences, in the students of the Scientific University of the South, cycle zero. Villa el Salvador- Lima 2022. This is because the Spearman value is 0.803; the null hypothesis Ho is accepted and the researcher hypothesis Ha is rejected. The correlation is highly significant. These results coincide with Chávez et al. (2021:216) whose research it is mentioned that virtual environments significantly influence the learning of social sciences in the students of an institution.

The research conducted coincides with Alvarez-Herrero and Hernandez-Ortega (2021:331) found that students have a positive appreciation regarding the virtual classroom and audiovisual media through the use of different multimedia material since it allows more effective assimilation of knowledge. In addition, audiovisual media such as the virtual classroom and others are easy to manipulate, even from devices such as cell phones this type of tool can be handled.

For their part, Prados et al. (2021: 21), believe that the implementation of audiovisual technological media in the teaching of various curricular experiences is positive since it can awaken multiple attitudes in students, as well as, with the development of different subjects. The application of these resources to virtual learning environments can be perceived from different approaches, the application of different tools and gamified classrooms, as opposed to the classical methodology based on pencil and paper, has a high positive impact on the development and teaching-learning process.

Likewise, Martínez-Serrano et al. (2021: 9) mention that the use of digital resources has a beneficial impact since it predisposes the student to resort to these tools for easy learning; also, the constant use of these tools offers the student a series of benefits related to social skills, which is an important foundation for academic growth.

On the other hand, De Chagas et al. (2021:21) determine that the use of virtual methodologies benefits the generation of knowledge of the students, both in texts, graphics and others.

Conclusions

Given that Spearman's value is 0.803 in the current study, the null hypothesis Ho is accepted and the researcher's hypothesis Ha is rejected. The correlation is highly significant. It is concluded that the influence of audiovisual technological media is highly related to the learning outcome of social sciences in the students of the Scientific University of the South cycle zero. Villa El Salvador - Lima 2022.

What is shared in this research is important, because the implementation of audiovisual technological means generates in the student a better performance in the assimilation of knowledge, teaching methods are enhanced and diversified within what innovative technologies allow, this means that the student awakens capabilities that traditional methodology would not have allowed developing.

Therefore, the use of audiovisual media in the teaching-learning process is recommended, students should be integrated into the experience provided by these technologies, as well as teachers should be trained for a correct approach to technological tools for the teaching process, as a result, the student would have an easy absorption of knowledge. Therefore, it is emphasized that knowing the demands at this time and those approaching in the field of education and technology, it is the duty of teachers to be prepared for these changes and know how to face them with all professionalism, in favor of the education of these institutions, the students and the country.

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