

Article

Examining Students' Perceptions towards Video-Based and Video-Assisted Active Learning Scenarios in Journalism and Communication Courses

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Abstract: Audiovisual content is highly employed in modern education curricula. This study aimed to identify students' perceptions regarding the use of video in the courses they attend. Quantitative research was conducted among students of journalism and communication studies. Four courses were used for this study that employ video-based and video-assisted teaching strategies for active learning. Students used videos in different educational settings for flipped learning, blended learning, and autonomous self-paced learning. Their perceptions were examined through an extended form of the Technology Acceptance Model, encompassing more parameters (such as self-efficacy, perceived enjoyment, satisfaction, attitude, and intention of use) to identify causal relationships. In addition, the roles of technical parameters, such as internet connection, audio quality, and video quality, along with the duration of a video, were explored. The findings reveal students' positive attitudes towards videos, and all factors were significantly related to the intention of use. In addition, the technical aspects of the video did not constitute a problem in the educational process, most likely due to contemporary quality in internet connections and audiovisual productions along with playback equipment. The duration of the videos was also not presented as an issue as there are flexible ways to embed videos in the learning process. Overall, videos can be used in multiple active learning scenarios to enhance students' motivation and engagement and provide a joyful, collaborative, and hospitable learning environment. Students are familiar with digital tools and technologies and seem to enjoy audiovisual material in the learning process.

Keywords: higher education; video-based learning; journalism studies; communication studies; Technology Acceptance Model; video content; active learning; teaching strategies



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1. Introduction

Videos are used in various asynchronous and synchronous education settings and learning scenarios for passive or active learning. According to the curriculum, the course objectives, students' learning needs, and the teaching and learning strategies, various types of audiovisual content can be employed and can enhance teaching and learning [1,2].

Videos can help students comprehend the course content and offer them the opportunity to participate in a stimulating synchronous learning environment. When the educational scenario is based on asynchronous and autonomous learning, students can regulate their study schedule and manage their cognitive load [2,3].

Instructors also benefit from the use of audiovisual material. They have new tools and media to design a stimulating synchronous environment and joyful learning scenarios to improve students' engagement. Asynchronous videos also allow teachers to control

and edit the course content to exclude irrelevant information, reduce the duration, enrich content, and focus on the most important topics for more effective learning [2]. Moreover, visual media support and further enhance the teaching methodology's effectiveness as the way the message is presented may work in compliance with the receiver's ability to decode it [4,5].

During the last decade, universities have been moving towards video-based online learning and video-lecturing. In addition to formal education, Massive Open Online Courses (MOOCs) provide video-based informal education and life-long learning opportunities. New educational tools, forms, and methods have emerged through the convergence between digital audiovisual media and the educational sector [6].

The expansion of Information and Communication Technologies (ICTs) in education and media convergence requires media literacy skills developed through innovative teaching and learning strategies. Technological tools, communication technologies, and participatory media are incorporated in formal education curricula, and their effectiveness and acceptance in the teaching and learning process is a subject of research.

Researchers have examined the effectiveness and the acceptance of the technological tools based on various theories, such as the Theory of Planned Behavior (TPB) [7] and the Theory of Reasoned Action (TRA) [8]. The Technology Acceptance Model (TAM), developed by Davis (1989) [9], is also a frequently used theoretical framework and is proven as the most common denominator among the studies [10,11].

There are many different approaches of TAM, employing diverse external factors, used by scholars depending on their quests in categorising the research [12], including predicting the university students' video technology usage [13]. Besides the factors primarily used by Davis (1989) of Perceived Ease of Use (PEOU, the extent to which a person believes that using a particular system does not require effort) and Perceived Usefulness (PU, the degree to which a person believes using a particular system will increase his/her performance at work), other commonly studied related components, which create causal effects on those mentioned above, are Self-Efficacy (SE), Perceived Enjoyment (PE), Satisfaction (S), Relative Advantage (RA), and Intention of Use (IOU) [12]. These are involved as explanatory factors for the subjects' behaviour on technology acceptance. It has been proved that usefulness is more firmly associated with usage than ease of use [14]. In addition, research conducted on the same statistical population as the present one concluded that Perceived Usefulness is a critical factor determining the utilisation of specialised technology [15].

Several studies examine the use of videos in the educational process through different spectra and several disciplines [12,13,16–20].

However, journalism and communication lack systematic surveys on video-based teaching and learning strategies due to the multidisciplinary nature of these fields and the different focal points regarding the use of technology.

Approaching journalism as a knowledge profession with specific competencies and broad knowledge [21], academic knowledge about communication theories and journalism ethics become the focus of the educational process. However, teaching journalism in a rapidly changing and globalised media culture also affects education curricula [22] for a skill-oriented education. Notably, as digital journalism genres appear and evolve, they require different skill sets that are expected to be developed within an educational process [23].

Since most educational programmes aim at technical skills and broad interdisciplinary knowledge, innovative video-based teaching and learning strategies can provide a student-centred, flexible, and hospitable learning environment.

Based on the hypothesis that videos can be successfully used in innovative teaching methodologies and accepted by students in active learning scenarios, this study focused on the undergraduate and graduate courses mentioned above and the employed teaching and learning strategies. It examined students' perceptions and behavioural intentions linked to video usage. The research questions were the following:

- RQ1: Is the Perceived Usefulness (PU) of the videos employed in the educational process related to external factors, such as Perceived Enjoyment (PE), Perceived Creativity (PCR), Relative Advantage (RA), Satisfaction (S), Self-Efficacy (SE), and Attitude Towards Use (ATU)?
- RQ2: Is the Perceived Ease of Use (PEOU) of the videos employed in the educational process related to external factors, such as Perceived Enjoyment (PE), Perceived Creativity (PCR), Relative Advantage (RA), Satisfaction (S), Self-Efficacy (SE), and Attitude Towards Use (ATU)?
- RQ3: Is the Intention of Use (IOU) of the videos in the educational process related to Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Perceived Enjoyment (PE), Perceived Creativity (PCR), Relative Advantage (RA), Satisfaction (S), Self-Efficacy (SE), and Attitude Towards Use (ATU)?
- RQ4: Which external factors are related to the technical parameters of internet connection, audio quality, and video quality while using videos in the educational process?
- RQ5: Is the duration of the videos employed in the educational process related to any of the external factors?

2. Background

2.1. Video-Based Learning

Video-Based Learning (VBL) means that new knowledge and skills will be acquired through audiovisual content. Audiovisual content is a broad term that may include off-line technology, such as video films, audiobooks, or electronic presentations, and online technology, such as network video and audio resources, or any other internet material [18,24,25].

VBL has been widely used in different educational settings. Initially, it was tested and used in audio and videotapes to improve soldiers' skills during World War II [26]. Later, educational television, videotapes, and digital Video Compact Discs (VCDs) from the mid-1990s offered teachers new tools for the educational process. During the 2000s, many classrooms already had computers with an internet connection, and online digital videos were available for teaching and learning purposes [26].

Nowadays, a video may be easily reached and reproduced through audiovisual content repository networks, such as YouTube, or through the web in general, via a varied number of terminals such as phones, desktops, or tablets [17].

Furthermore, audiovisual hardware and software limitations have currently been overcome; classrooms are equipped with multimedia reproduction devices, projectors, and high-performance speakers. Their utilisation is beneficial in achieving the goals of learning. Additionally, considering the importance of communication efficiency and content understanding accuracy, fast internet connections and quality audiovisual productions in terms of resolution provide potential users with the Quality of Experience (QoE) and Quality of Learning (QoL) factors in mediated learning [27]. Moreover, the ease in video production due to modern equipment and software has increased the number of audiovisual productions used for educational purposes [19]. These factors enable the use of videos in multiple learning models and scenarios.

Videos are widely used in asynchronous, self-paced, and autonomous learning. They are used in formal education but also for informal education and training. Massive Open Online Courses (MOOCs) use a linear simple course structure, and the course content is presented through short video lectures [28].

Another advance in VBL is the model of flipped learning. Recorded video lectures enriched with supporting material, usually on a learning management system, prepare students for classes. Flipped classrooms allow students to study in their own free time and convenience. By returning to the classroom, the learning process is based on discussion, analysis, and reflection on the studied material [29,30]. The capability of watching a video as studying viewing, i.e., receiving all video information and proceeding to necessary processing [31], as many times as required and having control over the process, to reach an understanding, can be comforting for many students [32]. Since comprehension of

the subject is achieved, the teachers are allowed to become more creative and implement collaborative, experiential tasks that otherwise could be restrained due to lack of time.

Besides the multiple advantages, several disadvantages and limitations in the use of videos require attention and should further be investigated. Pattier (2021), in his study, refers to low-quality YouTube videos that are not always truthful or relevant and may affect education. Students' inattention during a video-based class can also affect the learning outcomes [33]. Students also who do not own equipment, a laptop, or a portable device [26] may find it difficult to benefit from self-paced video-based education.

2.2. *Passive and Active Learning with Videos*

Focusing on student-centred learning methodologies, video-based and video-assisted learning scenarios using ICTs are the subjects of many studies [19].

Videos in traditional educational settings can support the learning process as a supplement for the course content for better comprehension. Recorded lectures can be used for revision before the exams, for multiple views for better understanding, or make up a missed lecture [13]. Through videos, it is easier to define concepts and present experiments [34].

Furthermore, studies have discussed and examined the use of YouTube videos as educational tools for disabled people [35]. Results revealed a positive attitude towards video-based learning and an enhanced learning experience due to the quality of the audiovisual content, the ease of use, and the combination of textual and visual content for self-paced learning. Such findings pave the way to more open and inclusive education.

However, according to studies, passive engagement with the video content is insufficient for learning, and innovative video-based learning pedagogies should be employed for meaningful and effective student engagement in the learning process [36]. The way videos are used for teaching and learning, whether the courses are online and self-paced or blended with online learning material, and face-to-face instruction may affect the learning outcomes and students' engagement with the course content [37]. Interactivity is the key to active learning, and there should be an interaction between students, students with instructors, and students with the course content. Video is passive with limited active movements to pause and replay. However, it can be blended with peer discussions (online or in class) and collaborative tasks for active participation in the learning process [2]. In flipped classrooms, a low level of knowledge is created through online instruction, but then the face-to-face educational process is transformed into a dynamic, collaborative learning space where high-level knowledge is co-created [28].

In blended learning, there are multiple ways to employ videos in the educational process for active learning. Dodson et al. (2018) proposed an active viewing framework as a strategy for video-based learning to improve student learning outcomes and engagement [38].

Chi and Wylie (2014) discuss active learning outcomes in relation to cognitive engagement [39]. They use the Interactive, Constructive, Active, Passive (ICAP) framework based on the hypothesis that active learning requires cognitive engagement. According to this framework, engagement behaviours are differentiated into four modes: the interactive, the constructive, the active, or the passive mode. Each mode corresponds to a knowledge-change process leading to different cognitive and learning outcomes. The ICAP framework suggests that the Interactive mode of engagement achieves the highest level of learning, higher than the Constructive, higher than the Active, and higher than the Passive mode of engagement ($I > C > A > P$). According to Chi and Wylie (2014), this framework, which is complementary to the revised version of Bloom's taxonomy, can be applied to multiple educational environments for effective teaching and learning [39].

2.3. *Video-Based and Video-Assisted Teaching and Learning Strategies in School of Journalism and Mass Communications, AUTH, Greece*

The School of Journalism and Mass Communications (SJMC) at the Aristotle University of Thessaloniki (AUTH) in Greece was established 30 years ago. During this period,

the curriculum has been updated three times to meet the labour market's needs, respond to the challenges of the modern digital era, and follow the latest research in the scientific fields of journalism, media, and communication. Fully equipped classrooms and laboratories for media informatics, electronic and digital media, and TV and radio studios serve the needs of the educational curriculum and offer the academic teaching staff opportunities to implement different educational models and design multiple teaching and learning scenarios.

Apart from traditional face-to-face synchronous instruction, video-based synchronous and asynchronous instruction was implemented during 2020 and 2021, when restriction measures during the coronavirus pandemic forced all educational institutions to offer online courses. Furthermore, SJMC has contributed to the national repository of Greek Academic Open Courses [40] and has designed and developed video-based open courses for asynchronous self-paced and self-regulated learning, which have been online since 2015. The ATh open courses platform [41] (eClass), with 386 open online video-based courses, and the ATh eLearning platform [42] (Moodle), which hosts all the digital courses of the University, are connected to a student information system that supports the educational process and can be used in multiple teaching and learning models. Additionally, several tools and applications provided by the ATh to students and academics (e.g., Google Apps for Education and Microsoft Office 365 Education) and platforms for synchronous collaboration and teaching (e.g., Zoom, Big Blue Button, Skype for Business, Google Meet, and Microsoft Teams) enhance the learning experience as they provide opportunities to implement multiple scenarios for blended learning.

The courses used for this study implement a synchronous and a hybrid educational model for blended learning. The synchronous instruction is video-assisted, and the blended learning model uses the flipped classroom methodology, where the online part is video-based and the face-to-face learning is based on experiential learning strategies.

3. Materials and Methods

This study used as cases four courses that are part of the educational curriculum in the School of Journalism and Mass Communications at the Aristotle University of Thessaloniki in Greece. In the following undergraduate and graduate courses, there are students from both the journalism and the communication specialisation enrolled:

1. Travel Journalism and Communication
2. Tourism and Media
3. Public Relations and Communication
4. Public Communication Campaigns

Videos are used in all these courses in different teaching and learning scenarios. Flipped learning, blended learning, and autonomous self-paced learning scenarios with additional digital tools for interaction require active participation, engagement with the video content, and interaction with all students and instructors involved in the educational process.

A quantitative method employing a questionnaire to measure students' perceptions was used in this study. It was conducted online during the coronavirus pandemic from December 2020 to February 2021. Students at the School of Journalism and Mass Communication (SJMC) of the Aristotle University of Thessaloniki were selected for this study, as they are familiar with the ICTs in their courses. SJMC is the only higher education school for journalism in Greece. Due to the interdisciplinary course programme, several innovative teaching strategies combine digital technologies and communication media. For the purpose of this study, an online questionnaire was created with Google forms. It was uploaded on the students' private Facebook group of the School of Journalism and Mass Communications and the private groups of each course in the study. In the replies section of the Google forms settings, the authors selected to receive answers that were delivered through mailing addresses at gapps.auth.gr, which certifies that the answers came from Aristotle University of Thessaloniki students. Furthermore, at the end of the questionnaire,

there was a question regarding the courses that the participants attended. After cross checking, only the answers of those enlisted to the specific four courses were accounted for. Through a detailed announcement, students were informed about the scope and aim of the study, and which courses were being participated in the study. Then they were invited to participate in the survey, state their perceptions regarding the use of videos in the educational process, and provide their consent for the use of their answers for the research purposes. The purpose of this study was to improve and redesign the learning scenarios for more effective learning. The conducted survey was based on previous scholars' research, and the questionnaire, although it was developed specifically to meet the study's aims, was based on tested forms [12,13,19,20]. To conceptualise the participants' intentions, an extended model of the Technology Acceptance Model (TAM) [9] was selected as the base model. The incorporated questions were tailored to the needs of the present study.

Besides the PEOU and the PU, which were used as a base theory, the external factors SE, PE, S, RA, PCR, ATU, and IOU, which were selected as being among the most used factors, were examined as additional explanatory components to identify causal relationships. Furthermore, the impact of exclusively technological parameters, such as internet connection and audio and video quality, were researched, along with the duration of the audiovisual productions. Finally, the preferred forms and content of videos were examined.

SE is a form of self-evaluation. It plays an essential role in affecting motivation and behaviour [10]; it concerns the beliefs about the ability to perform a particular behaviour, and it contributes significantly to the effective use of technology [43,44]. PE is conceived as the extent to which using technology is perceived as enjoyable besides any performance consequences that may be expected [9,45]. S is defined as a student's overall positive assessment of his/her learning experience, and it can be measured only after the learning activity [13]; while RA, as a predictor of the adoption of an innovation, is described as the degree to which an innovation is considered as being better than the idea it replaced [46]. PCR, defined as skills and abilities that the individual possesses, is a significant personality trait, especially for young people during their studies it may hold an important role as they perceive that they can produce new and valuable ideas [47]; thus, it is often judged by subjective evaluation [48]. ATU is defined as the extent to which a student, in our case, possesses positive feelings about using technology, specifically videos in courses [49]. Finally, IOU means that someone will tend to use technology if he/she perceives that it will provide a useful and meaningful way to work more effectively [50]. In Table 1, the current study questionnaire items are presented as labels along with the constructs they comprise.

The questionnaire consisted of closed and semi-closed questions to provide objective and quantitative description data on the issues under discussion. We also provided an open-ended question about comments on the study and its topic where students could comment freely. Therefore, it comprised nine sets of questions regarding the factors studied in the extended Technology Acceptance Model. Additionally, one set of questions on the technical aspects that would affect the participants' willingness to watch videos as part of the educational procedure (Figure 1) was formed. Furthermore, one more set of questions concerned the preferred content of the videos, and, finally, demographics were also queried. General questions on media literacy were not asked as the questionnaire was addressed to journalism and communication students.

Most of the questions were structured on a five-point Likert scale in terms of agreement or disagreement (1—Totally disagree to 5—Totally agree) and of frequency (1—Never to 5—Always and 1—Every day to 5—More seldom than in 15 days' time). It must be stated that before the final research was carried out, a pilot survey was conducted among 15 students to confirm the effectiveness of the method employed, as well as to correct errors or to rephrase any misunderstood expressions.

Table 1. Labels and constructs of the items in the questionnaire of the current study.

Items in the Questionnaire	Labels	Constructs	
Videos are easy to use during the educational process	PEOU1	PEOU	
Learning how to use videos in lessons is easy (playback/save/study with texts)	PEOU2		
Using videos does not require much mental effort.	PEOU3		
Using videos in lessons provides flexibility in interaction (i.e., in conversations with professors or students)	PU1		
Videos facilitate reflection, analysis, and critical thinking	PU2		
The videos are useful during the lessons and meet my learning needs	PU3		
By watching videos, I gain more knowledge	PU4		
I learn better with videos	PU5		
The use of videos in the course material gives me more control and flexibility in the study (i.e., I can watch the videos anytime I choose)	PU6		PU
Videos in courses or study save me time	PU7		PU
Using videos in lessons meets my expectations (results are what I expected)	PU8		
Using videos in lessons improves my performance as a student	PU9		
The use of videos in lessons or in the study of material is useful in the learning process	PU10		
Using videos in lessons or in the study of material increases my productivity (I learn more)	PU11		
I find it enjoyable to watch videos in class	PE1	PE	
I have fun watching videos in class	PE2		
Using videos in lessons is a pleasant experience	PE3		
Watching videos in class makes me look for creativity	PCR1	PCR	
Watching videos in class makes me feel imaginative, sparks my imagination, and gives me ideas	PCR2		
I am satisfied with the learning process using videos in the lessons	S1	S	
The use of videos in lessons is effective in achieving learning goals	S2		
The use of videos in the lessons contributed significantly to the acquisition of relevant knowledge in the field of communication/journalism	S3		
The use of videos in the lessons contributed significantly to the acquisition of relevant knowledge in the specialised subject of the lesson	S4		
Using videos in lessons makes me want to spend more time studying	S5	RA	
Watching videos in class helps me complete my homework faster	RA1		
Watching videos in lessons improves the quality of my understanding of the subject of the lesson	RA2		
Watching videos in lessons allows me to perceive points from lessons I did not attend	RA3	SE	
I have the necessary skills to watch videos in class	SE1		
If I need help watching videos in class, there are sources available to help	SE2		
I have the necessary technical tools (computer, mobile phone, internet access) to watch videos in lessons	SE3	ATU	
All things considered using the videos in learning is good for me	ATU		
In the future, I will continue to use videos during my study	IOU1	IOU	
In the future, I will continue to attend classes that use videos	IOU2		
In the future, I will continue to participate in discussions about the videos shown in the lessons	IOU3		
In the future, I may search for other videos from different sources related to the subject of the course for more knowledge	IOU4		
In the future, I may search online video lectures about the courses to learn more (MOOCs, YouTube, TEDx)	IOU5		
I would recommend others to attend classes in which videos are used for learning	IOU6		

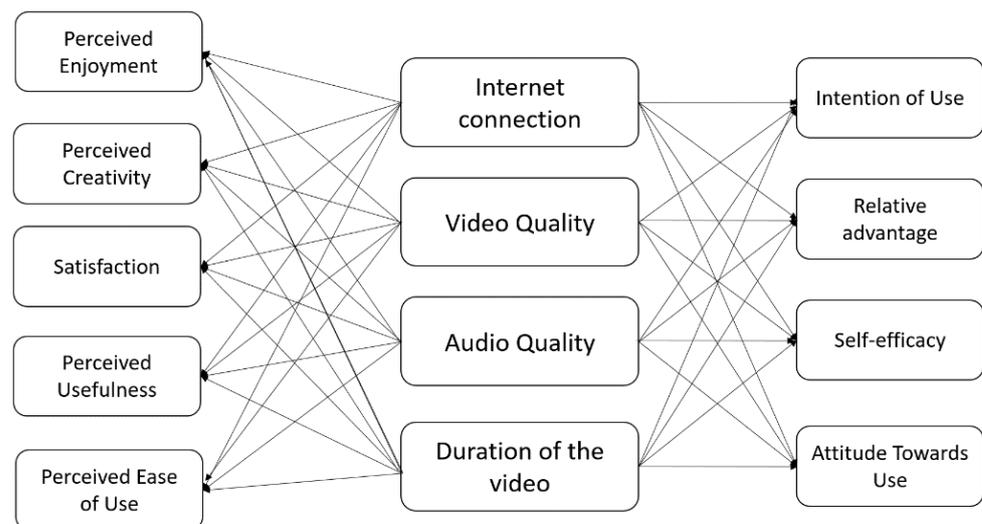


Figure 1. The researched relationship of the technical aspects with the constructs.

The software selected as the appropriate tool for the statistical analysis of the quantitative research was IBM SPSS Statistics version 25; the data were coded and inserted into the software.

Before continuing to the results section, the reliability of the instrument had to be ensured. For this reason, Cronbach's alpha tests were carried out on all the questions resulting in $\alpha = 0.933$, which is a high value that ensures the reliability of the research, proving that the instrument actually measures the designated aims. In addition, each of the constructs was tested, and the results are presented in Table 2.

Table 2. Constructs and reliability tests (Cronbach's alpha).

Constructs	α
PEOU	0.70
PU	0.89
PE	0.87
PCR	0.92
S	0.85
RA	0.74
SE	0.63
IOU	0.87

4. Results

In this section, the results derived from the statistical analysis of the quantitative research will be presented. Descriptive statistics will be presented initially, while further analysis will follow along with comments on the findings.

The questionnaire was fully answered by 104 participants, corresponding to approximately 18% of the active students in the undergraduate and graduate programmes and 43.5% of the students enrolled in the courses of the study ($N = 248$). The statistical distribution on the variable of gender was 18.3% male and 79.8% female, 1% preferred not to say, and 1% other, which is representative of the overall gender distribution of the students enrolled in the School of Journalism and Mass Communications in the Aristotle University of Thessaloniki. Regarding the age allocation, the results are presented in the following figure (Figure 2). As can be observed, there is a wide age spectrum, which allows for safer conclusions as various opinions originating from different backgrounds were recorded. The variable of the gender was investigated to research probable differences in the perceptions between male and female students, indicating initial statistical differences with respect to gender group; however, they were not considered with generalising potentials due to the imbalanced overall gender distribution of those enrolled in the School of Journalism and Mass Communications. Nevertheless, in other relative studies [51] no significant differences in gender were reported in the answers.

Initially, descriptive statistics were performed on all the research items. The students were asked to state their opinions on a five-point Likert scale in terms of agreement or disagreement (1—Totally disagree to 5—Totally agree). In Table 3, their answers regarding the items of the PU are presented (mean and standard deviation values). It can be deduced that they agreed that videos in courses are useful, and in some of the items they are highly useful, as most of the mean values are close to or over 4.00. Something worth mentioning is that there seems to be a "dispute" on the statement that "Videos in courses or study save me time" where the standard deviation exceeds 1.00.

Regarding the items of RA (Table 4), which work as predictors of the adoption of an innovation, the students state that videos in lessons improve their quality of understanding and allow them to perceive points from missing classes. However, they do not really agree that they help in completing their homework faster.

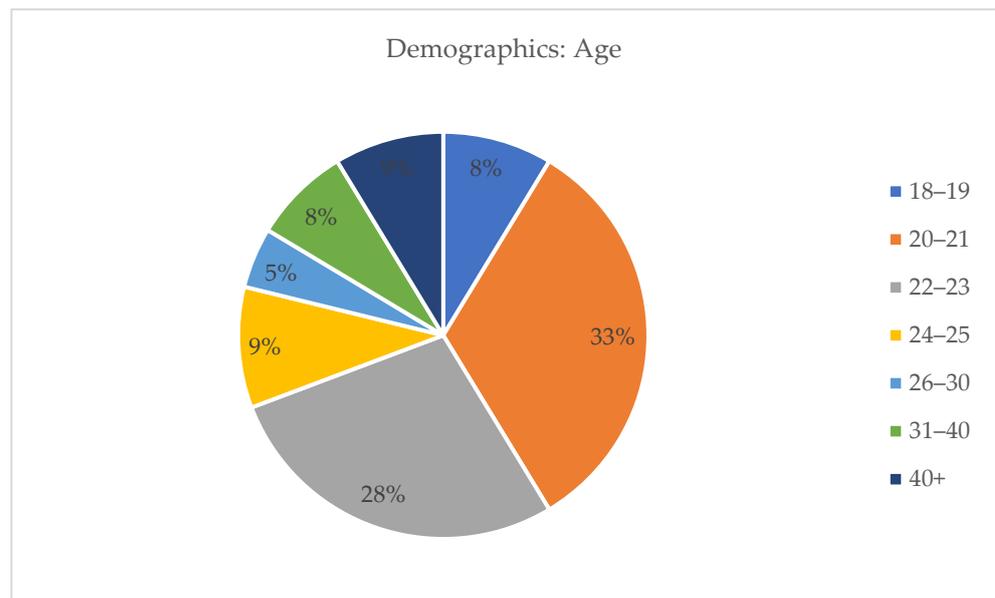


Figure 2. Age distribution of the participants.

Table 3. Descriptive statistics (mean and StD) on the items of Perceived Usefulness.

Items of Perceived Usefulness	Mean	Std. Deviation
Using videos in lessons provides flexibility in interaction	4.06	0.79
Videos facilitate reflection, analysis and critical thinking	3.88	0.58
The videos are useful during the lessons and meet my learning needs	4.07	0.64
With the videos, I gain more knowledge	3.87	0.78
I learn better with videos	3.97	0.85
The use of videos in the course material gives me more control and flexibility in the study	4.28	0.64
Videos in courses or study save me time	3.56	1.01
Using videos in lessons or studying material meets my expectations	3.65	0.77
Using videos in lessons or studying material improves my performance as a student	3.64	0.87
The use of videos in lessons or the study of material is useful in the learning process	4.25	0.60
Using videos in lessons or studying material increases my productivity	4.01	0.86

Table 4. Descriptive statistics (mean and StD) on the items of RA.

Items of RA	Mean	Std. Deviation
Watching videos in class helps me complete my homework faster	3.49	0.89
Watching videos in lessons improves the quality of my understanding of the subject of the lesson	4.13	0.75
Watching videos in lessons allows me to perceive points from lessons I did not attend	4.17	0.82

Normality tests were conducted on the scaled variables PU, PE, PCR, RA, S, SE, IOU, PEOU, and ATU, revealing the lack of normality in the respective distributions based on Kolmogorov and Shapiro–Wilk tests. Consequently, the non-parametric correlation analysis (Spearman’s Rho) was performed among all the constructs of the research (Table 5), and as derived almost all the constructs are highly correlated.

Only SE presents a lack of association with PCR and S, while it is highly correlated with RA, IOU, PEOU, and ATU, and it presents a weaker relationship with PU and PE. Therefore, it can be extracted that the participants believe that they can watch videos as part of the educational procedure; however, this is not connected to creativity and satisfaction as defined by them. Combined with the rest of the findings, it may be suggested that videos in courses will be positively adopted as an innovation. They are considered easy, useful, and bring out enjoyment.

Table 5. Spearman's Rho correlations.

Correlations (Spearman's Rho)		PU	PE	PCR	RA	S	SE	IOU	PEOU	ATU
Perceived Usefulness	Cor. Coef. (<i>p</i> -value)	1.000 (<0.001)								
Perceived Enjoyment	Cor. Coef. (<i>p</i> -value)	0.63 ** (<0.001)	1.000							
Perceived Creativity	Cor. Coef. (<i>p</i> -value)	0.53 ** (<0.001)	0.48 ** (<0.001)	1.000						
Relative Advantage	Cor. Coef. (<i>p</i> -value)	0.71 ** (<0.001)	0.48 ** (<0.001)	0.43 ** (<0.001)	1.000					
Satisfaction	Cor. Coef. (<i>p</i> -value)	0.72 ** (<0.001)	0.50 ** (<0.001)	0.57 ** (<0.001)	0.66 ** (<0.001)	1.000				
Self-Efficacy	Cor. Coef. (<i>p</i> -value)	0.20 * (0.037)	0.23 * (0.017)	0.01 (0.941)	0.30 ** (0.002)	0.13 (0.182)	1.000			
Intention	Cor. Coef. (<i>p</i> -value)	0.70 ** (<0.001)	0.63 ** (<0.001)	0.54 ** (<0.001)	0.66 ** (<0.001)	0.68 ** (<0.001)	0.38 ** (<0.001)	1.000		
Perceived Ease of Use	Cor. Coef. (<i>p</i> -value)	0.61 ** (<0.001)	0.56 ** (<0.001)	0.41 ** (<0.001)	0.49 ** (<0.001)	0.47 ** (<0.001)	0.28 ** (<0.001)	0.67 ** (<0.001)	1.000	
Attitude Towards Use	Cor. Coef. (<i>p</i> -value)	0.67 ** (<0.001)	0.71 ** (<0.001)	0.51 ** (<0.001)	0.64 ** (<0.001)	0.64 ** (<0.001)	0.28 ** (<0.001)	0.68 ** (<0.001)	0.55 ** (<0.001)	1.000

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

The high values in all other construct correlations with PU answering RQ1 indicated the students' perception regarding the significance of the videos' employment in courses. In the same framework, the PEOU and the IOU are also highly related with the constructs set for the purposes of this study, providing the answers to RQ2 and RQ3.

To test the relationship of the technical aspects (internet connection, video and audio quality) along with the duration of the videos with the research constructs, a recoding process was initially imposed because of the inhomogeneous representation of the five-point Likert scale in the former variables. Therefore, the variables of internet connection, video quality, audio quality, and duration of videos were transcoded into binary ones (excluding neutral responses) in order to facilitate efficient and reliable statistical analysis. Thereafter, independent sample *t*-test experiments were executed, and Table 6 summarises the statistically significant results within the significance level of 0.05.

Table 6. Independent sample tests on technical parameters and duration of the video.

	Constructs	t	df	Sig. (2-Tailed)
Internet connection	PU	2.37	72	0.02
	SE	2.64	72	0.01
Video quality	PU	2.04	58	0.05
	ATU	2.84	58	0.01
	PE	2.54	58	0.01
	RA	2.21	58	0.03
Audio quality	PEOU	2.10	65	0.04
	PU	3.60	65	0.01
	ATU	3.38	65	0.01
	PE	2.37	65	0.02
	PCR	2.07	65	0.04
	S	3.20	65	0.00
	IOU	2.47	65	0.01
	RA	3.38	65	0.01
Duration of the video	PEOU	2.88	66	0.005
	PU	2.65	66	0.01
	ATU	2.83	66	0.01
	PE	2.91	66	0.01
	S	2.49	66	0.02
	IOU	2.56	66	0.01
	RA	2.41	66	0.02
	SE	2.87	66	0.01

Statistical significant differences between the two groups of Internet Connection with respect to PU ($t(72) = 2.37, p = 0.02$) and SE ($t(72) = 2.64, p = 0.01$), and after considering the descriptive statistics as well, indicate that the internet connection does not constitute a problem in PU and SE. This might be due to the contemporary improved connections either through landlines or via Wi-Fi.

In the same aspect, regarding the Video Quality factor, statistical significant differences between the two groups with respect to PU ($t(58) = 2.04, p = 0.05$), ATU ($t(58) = 2.84, p = 0.01$), PE ($t(58) = 2.54, p = 0.01$), and RA ($t(58) = 2.21, p = 0.03$) indicate that also in this case there is not a problem associated with the constructs mentioned above. It must be pointed out that among these constructs is PE, where video quality could be an issue; however, also due to contemporary high-definition audiovisual productions that can be used as material in lessons, the participants in this study do not think that it might constitute a problem.

Audio quality presents statistical significant difference between the two groups with respect to all constructs used in this study, except SE: PEOU ($t(65) = 2.10, p = 0.04$), PU ($t(65) = 3.56, p = 0.01$), ATU ($t(65) = 3.38, p = 0.01$), PE ($t(65) = 2.37, p = 0.02$), PCR ($t(65) = 2.07, p = 0.04$), S ($t(65) = 3.20, p = 0.01$), IOU ($t(65) = 2.47, p = 0.01$), and RA ($t(65) = 3.38,$

$p = 0.01$). Similarly with the Video Quality factor, modern productions encompass high-quality audio even in forms of surround-sound techniques that can be played back through the available equipment in the classrooms or via inexpensive headphones. Therefore, as extracted by the findings, the technical parameters (RQ4) set by the researchers of the study are not obstacles in the process of video-based and video-assisted active learning.

As derived from the results presented in Table 6 regarding the duration of the videos, eight out of the nine constructs, except Perceived Creativity, present statistical significant difference between the two groups: PEOU ($t(66) = 2.88, p = 0.01$), PU ($t(66) = 2.65, p = 0.01$), ATU ($t(66) = 2.83, p = 0.01$), PE ($t(66) = 2.91, p = 0.01$), S ($t(66) = 2.49, p = 0.02$), IOU ($t(66) = 2.56, p = 0.01$), RA ($t(66) = 2.41, p = 0.02$), and SE ($t(66) = 2.87, p = 0.01$). This fact, answering to RQ5, denotes that this feature is considered by the professors when searching, preparing, or using general video material in courses to meet their needs and their attention span.

Finally, regarding the content of the videos employed in the educational process, participants were asked to state their opinion on nine categories by replying to the corresponding question expressed as “The categories of video content that I prefer are ...”. The Likert scale (1—Totally disagree to 5—Totally agree) was selected as an instrument. As displayed in Table 7, the mean values range from 2.75 to 4.11, indicating participants’ generally positive perceptions of the underlying items. Their most preferred videos were communication messages and narratives from commercials, campaigns, etc., which confirms the need to embed real-world cases, examples, and good practices in the learning material. These categories of audiovisual material provide knowledge, inspiration, and help students comprehend the learning content and develop new skills.

Table 7. Favoured content of the videos (mean and standard deviation values).

Video Context	Mean	Standard Deviation
Academics talking to the camera reading a text related to an object/topic in the form of short lectures	2.75	1.12
Videos from various sources during the lessons for a better understanding of the material and as an example for commenting and discussion	4.06	0.67
Videos that have been created in a real work environment (e.g., through workplaces or workshops)	3.92	0.95
Documentaries, in the sense of extensive investigation of a topic	3.98	0.98
Animations	3.63	1.20
Interviews with experts, scholars, and experts	3.90	0.78
Inspirational speeches (e.g., TEDx)	3.88	1.13
Videos that have communication messages and narratives (from ads, campaigns, etc.)	4.11	0.90
All the above, some integrated into the lesson and others as supporting material	4.05	0.80

Apart from the category of “Academics talking to the camera reading a text related to an object/topic in the form of short lectures”, which presents a relatively lower mean value, though presenting a high standard deviation value, the rest of them are in accordance with the students’ interests. The most concentrated answers are with the statement “Videos from various sources during the lessons for a better understanding of the material and as an example for commenting and discussion”, which also presents a high mean value.

The survey’s last question was not mandatory, and students were invited to comment freely. Most comments focused on how they prefer video-assisted classes and how they learn better with videos. Others prefer to see a video and then complete a task, to discuss with the instructor about the video, or to view videos together with another person and comment and discuss while viewing. In contrast, others prefer private viewing but cannot concentrate on the video content without reading the script. According to most comments, students like to see videos with good and bad practices after a lecture for better comprehension. However, they prefer to do this during class because if these videos are on a platform

as supporting material they never view them, skip through them, or leave the videos for later but then never view them.

5. Discussion

This study aimed to assess the impact of videos employed in active learning scenarios in journalism and communication courses through a quantitative survey. An extended form of the Technology Acceptance Model was used with external factors added, as it is proved that this model provides good explanatory power [12].

As derived by the statistical analysis, the research questions set by the authors concerning the influence of the factors involved were fully answered. Regarding the construct of PU, which was the first factor investigated as a variable in RQ1, its relationship with the other constructs proved significant, which is very important as it presents the strongest influence for the employment of videos in the educational process. This result is in accordance with international studies about video-based learning scenarios [13].

Usefulness in video-based and video-assisted active learning is strongly connected with the teaching and learning scenario, content comprehension, engagement, and expected learning outcomes.

The courses of this study implement a synchronous video-assisted educational scenario and a hybrid blended learning scenario that employs a flipped classroom methodology. The videos used for the synchronous instruction are interviews with experts, documentaries, animations, communication campaigns, promotional videos, vlogs, news stories, examples, and good practices for video journalism, live reporting, mobile journalism, and online digital campaigning.

Short, animated videos have been used to introduce topics and clarify basic concepts, e.g., sustainability, the sustainable development goals [52], ocean literacy, and the ocean decade's communication goals [53]. According to their comments, behaviours, and attitudes, students seem to understand easier concepts presented by short, animated videos. Studies also highlight the opportunity for multiple views of such videos for better understanding [13,34]. Video examples in digital and video journalism are also used as examples for successful storytelling. Students are expected to acquire new knowledge, inspiration, and technical skills for digital storytelling. In travel and tourism, for instance, by providing different video examples [54–57], students are acquainted with narrative and filming techniques that create empathy, construct destination images, and transfer viewers directly to places. Other video examples [58–60] help them distinguish story plots, narration types, and techniques. Such videos are always followed by peer discussions and collaborative analysis. Sometimes, students work together while viewing and proceed to video annotations. According to relevant studies, this active viewing technique enhances interaction with the content, and students' engagement, and makes the viewing process meaningful and more joyful [2,19]. Galatsopoulou and Kenterelidou (2014), in their study, also focused on students' engagement, collaboration, and creativity through experiential video-based tasks where active viewing is employed [61]. Students of journalism in small groups view together videos to examine and peer review video journalism techniques. Finally, their assignment is to co-create video content. Learning outcomes and students' perceptions reveal that video-based active learning scenarios influence students' collaboration and engagement and increase their motivation and creativity [39].

Furthermore, all videos used in the classroom are always available for the students on an eLearning platform for revision, enriched with additional resources for further study and self-paced learning. However, students seldom enter the eLearning platform to view the same example videos again. The learning management system's records report multiple views by students who were absent during class. Students may find the videos used during a class they missed and may study all the learning material. Along with videos from various sources used as real-world examples, video lectures are also implemented in the flipped classroom methodology of the courses in this study. Short, pre-recorded video lectures and video tutorials are viewed by students before class. Then the classroom is turned into a

learning environment for conversational and experiential learning through discussions and hands-on–minds-on activities. Students work in pairs or small groups on real-world case scenarios and discuss, analyse, co-design, and develop communication strategies and plans for audience engagement and promotion purposes, including writing storyboards and co-creating audiovisual content. The results of their work are peer-reviewed and evaluated by all students who participate in the learning process. This methodology requires passive self-paced video viewing for later active participatory reflection on the learning content. The subjects of this study seem to find it useful to have all video lectures pre-recorded to study them privately and then participate in an experiential, collaborative class where they discuss the content and carry out some group tasks. According to their comments and answers, they prefer the videos from various sources with communication messages (ads, campaigns, etc.) to be shown during class, followed by discussion and analysis.

During the coronavirus pandemic, synchronous instruction was achieved on the Zoom platform. The flipped classroom used the Moodle platform for the pre-recorded video lectures. The Zoom platform was used for the synchronous experiential tasks, where students worked in break-out rooms, a feature for group collaboration that the Zoom platform provides. Other collaborative online tools were employed for the specific learning scenario, such as online whiteboards, wikis, online documents, collaborative working spaces such as Slack, Airtable, and Canva, and social media such as Facebook, Messenger, Instagram, and Twitter. In combination with other digital and social tools, this online environment did not affect the teaching and learning methodology. According to the RQ2 results, the PEOU was highly related to all constructs under examination.

In RQ3, the parameter of IOU was researched; however, it also presented results in the same framework as the other two parameters. The research findings clearly revealed a strong relation among the IOU and all the other constructs.

Furthermore, regarding all the other constructs, they were also positively correlated with one another, except Self-Efficacy, which is an essential factor. If the participants believe that they cannot perform a task, they will abandon it. In this study, the two factors Perceived Creativity and Satisfaction are not related to Self-Efficacy. However, this has to be further investigated to reach more concrete findings as most educational scenarios of this study employed collaborative learning strategies, and students worked in groups and helped each other complete the tasks.

Concerning the technical aspects (internet connection, audio quality, and video quality), investigated under the prism of RQ4, they do not seem to constitute a problem. As stated by the participants, none of them present significant issues with the constructs employed in the study. Thus, if technical problems are not encountered, it is easier for students to embrace video-based instruction or video-assisted learning.

The final research question that was set in this study was RQ5, which examined the role of the videos' duration. This is another factor that should be considered when attempting to engage the students as they tend to jump in and out of the video content or skip parts [30]. This factor does not seem to negatively affect the constructs used in this study. That is probably because the videos are viewed during class and are embedded in the learning process combined with discussions and tasks. Therefore, different types of audiovisual content with different durations are used for each course module, and students should concentrate and view them in order to complete the tasks that follow.

However, according to studies, long video duration can be a problem, especially for the younger students that belong to Generation Z, the meta-millennials (born from 1997 onwards) [30,62]. Shorter videos in duration or divided into smaller parts could be a solution that would deliver better results in knowledge acquisition [63]. Interactive videos that include conversational features such as quizzes or polls could also stimulate students while viewing them, especially if these videos are offered for asynchronous and self-paced learning.

Combining the quantitative data results with the qualitative data gathered through the comments that students were allowed to add in the survey's last question, we realise

how learning styles and learning needs affect the way videos are accepted and welcomed in the learning process. Students are familiar with standard media technologies and feel comfortable with the use of videos. Nevertheless, they have specific preferences and expectations regarding the use of audiovisual and digital learning material and the way it is employed in the learning process. Even the devices that they use for the digital material may affect their preferences. In this aspect, contemporary forms of digital video-based learning content for use in mobile devices should be explored to adapt to the habits and demands of a mobile-centric generation for mobile learning [64].

6. Conclusions

Videos can be used in multiple active learning scenarios to enhance students' motivation and engagement and provide a joyful, collaborative, and hospitable learning environment.

This study is a first attempt to examine and discuss video-based and video-assisted teaching strategies for active learning in journalism and communication classes that provides information about students' perceptions of using videos for effective learning. As stated by students in the findings, videos are considered significantly useful, and they are accepted as a learning innovation. Furthermore, they find them joyful and easy to use, and they like using them in different learning settings.

This study has implications for designing and developing educational methodologies and curricula. Students with digital and media literacy require advanced ways of education and expect innovation and creativity that will match their learning styles and engage them in learning.

There are also implications for instructors. Student-centred, video-based, active learning scenarios require digital skills, life-long training, and a positive attitude towards flexible, adaptable, and hospitable learning environments.

The use of videos in the educational process has been long examined but is still the subject of discussion as videos are taking new forms and can be adapted in multiple learning scenarios. As new immersive technologies such as augmented, mixed, or virtual reality arise in education, instructors have endless opportunities to design more effective scenarios for active and experiential learning.

The nexus of enjoyment, engagement, motivation, and creativity in video-assisted active learning scenarios must be further examined in relation to the learning outcomes. In the future, different video-based and video-assisted learning and teaching strategies will be examined with qualitative and quantitative methodological tools (e.g., observation, interviews, and questionnaires) to gain more knowledge about students' and instructors' perceptions and attitudes towards the use of videos for active learning. As technologies change rapidly, it would be useful to examine the digital skills that students actually have. Gender should also be taken into consideration regarding whether there are differences in the use of videos and digital technologies.

It would also be interesting in the future to study further the video forms that students prefer and try to adjust the audiovisual content to their needs. Tests could be run with diverse video forms in specific learning settings and compare their results on the learning outcomes of the same population. Further, by studying the time spent watching videos by the forthcoming students, academic teaching staff can be more specific on the duration of the audiovisual material employed. Finally, if research conducted on high-school students is examined and compared, useful results could be delivered for the future educational process in higher education and students' learning styles and preferences.

Overall, as newer generations are becoming more digital and visually literate and are accustomed to learning through visual forms, the educational process must adapt to their needs and ways of understanding [64,65]. Teaching strategies that consider students' learning styles and preferences will make teaching more effective and increase students' motivation, engagement, and creativity.

Several limitations may prevent the generalisation of the results; one of which is the small number of participants from a given university school. Another is that the study was

conducted amidst the coronavirus pandemic when all university courses were switched to online teaching due to the imposed lockdown, so it was not necessarily the choice of the instructors. Although the adjustment to online instruction followed the same learning models, this may have affected some students' attitudes.

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