pISSN: 1906 - 6406 The Scholar: Human Sciences
eISSN: 2586 - 9388 The Scholar: Human Sciences
http://www.assumptionjournal.au.edu/index.php/Scholar

Students' behavioral intention on interactive video in primary Cinematography of Art Universities in Chengdu, China

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Received: September 11, 2022. Revised: November 9, 2022. Accepted: January 5, 2022.

Abstract

The emergence of the COVID-19 has made some traditional classroom teaching impossible. Therefore, online teaching has become a compelling choice for higher education in China. However, the shortcomings of the weak sense of communication in online teaching leads to poor teaching quality. Especially in the cinematography major, as a highly practical major, online teaching methods cannot achieve the purpose of teaching. The emergence of interactive video technology has brought a turning point for this kind of practical professional network teaching. The study was to explore the effect of using interactive video in major cinematography classrooms and the acceptance of students. The theoretical basis of this research is the Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), and Unified Theory of Acceptance and Use of Technology (UTAUT). The variables are perceived usefulness, perceived ease of use, attitude, social influence, self-efficacy, and behavioral intention. The researcher use multi-stage sampling， combine purpose sampling and quota sampling. The 480 questionnaires were distributed to students from three universities. The data analysis was based on 451 valid questionnaires returned. The Structural Equation Model (SEM) SEM was used to validate the research hypothesis to determine the relationship between variables. The findings indicate that all six hypotheses proposed in this study are supported. The results showed that students' perceived ease of use when using interactive videos for learning directly affect their perceptions on the usefulness of interactive videos. Perceived ease of use and perceived usefulness directly impact attitude; that is, when students perceived that the interactive video is helpful, it positively affects their attitude towards interactive video. When students perceive that interactive video operation is easy, it has a negative impact on their attitude. In addition, attitude, self-efficacy, and social influence are the three influencing factors in predicting students' behavioral intentions. The research results would promote the use of interactive video in higher education professional courses by investigating cinematography students' behavioral intentions to use interactive video in professional.

Keywords: Interactive Video, Perceived Usefulness, Performed Ease of Use, Attitude, Self-Efficacy

JEL Classification Code: D83, I20, I23, O53

1. Introduction

Users are no longer satisfied with traditional information delivery methods as technology advances, and the demand for communication and personalized services is rapidly increasing. The interactive video, as an essential type of 5G high-tech video, was based on "non-linear video" as the main content, supporting time interaction, space interaction,

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and event interaction (Science and Technology Department, 2020). The interactive video provided audiences with video services with an interactive viewing experience, with interactive functions such as branch plot selection and perspective switching. This video technique can generate a strong sense of audience participation and an immersive viewing experience (Parsloe, 1983).

The concept of interactive video is not novel. "Kinoautomal: One Man and His House" was the world's first interactive film, shot in Czechoslovakia in 1966 (Lu & Ying, 2020). This film was exhibited at the 1967 Canada Expo, and a preliminary attempt at the interactive video was made. At the time, this form of interaction caused a sensation. With the advent of the 21st century and the continuous advancement of science and technology, it is possible to interact effectively. YouTube's 2010 interactive video advertisement "A hunter shoots a bear" received over one million views within thirty-six hours of its release. On the Steam platform, the interactive movie game "Late Shift" was released in 2016 with 180 interactive points and seven different endings. In terms of interactive video technology, mainstream international audio-visual websites have adopted disparate technical solutions, and there are no standard specifications or technical solutions for interactive video.

In 2019 was regarded as the "first year of China's interactive video," and its development began relatively late. The development path and business model are imperfect, but China's major video platforms have successfully launched interactive videos and issued industry standards. Tencent Video, one of China's three major online video platforms, released the interactive video "The Origin of Buddha Head in the Antique Bureau" in January 2019 with four branching plots and three different endings. IQIYI, one of China's three most prominent online video platforms, announced China's first interactive video standard in May 2019 (Lu & Ying, 2020).

In July 2019, Bilibili (Station B) introduced the interactive video feature. In contrast to other video platforms, Bilibili provides the technology and platform for users to independently produce interactive videos (Lu & Ying, 2020). In September of 2019, Bilibili optimized its interactive video technology, allowing users to skip to a specific location, meeting user requirements for repeated interaction and multiple choices, and introduced the national standard for the use of interactive video technology (Zhao, 2021). The Chinese government issued "Opinions on Leading New Types of Consumption Accelerated Development with New Formats and New Models" on September 21. Among them was the construction of 5G high-tech video. In October, the Chinese government collaborated with Tencent Video and iQiyi Video to create the "Internet Interactive Video Data Format Specification." The publication of these essential documents established industry standards and standardized the fundamental concepts of interactive video (He, 2020).

As a teaching tool, the video's potential to spread ideas is significant (Getz, 1991). The evolution of technology has influenced changes in human thought and lifestyle. With the emergence of interactive video and the ongoing development of its technology, a number of academics are attempting to implement interactive video technology in the classroom. China initiated research on interactive video applications in education in 1994. In 2015, China raised the issue of "Internet Plus." Searching China's three major databases (CNKI, Wanfang Data, and CQVIP) with the keyword "interactive video; teaching," the data obtained from core journals indicate that 2015 was the most prolific year for literature on the application of interactive video in teaching, with 106 articles (He, 2020). This indicates that interactive video technology used in education has become essential for education research in China. Among them, there are few researches on the application of interactive video as teaching technology in Cinematography course, and most of them are teaching on how to make interactive video (He, 2020). Therefore, it is necessary to study the application of interactive video in Cinematography courses. In order to understand the factors that affect students' behavioral intention towards interactive video, the researchers put forward the following two main research questions. What variables influence Cinematography students' behavioral intentions toward interactive videos? What behaviors can improve students' behavioral intention to use interactive video?

2. Research Objectives

The research objectives were set as follows.

1.To explore the critical influence that students' behavioral intentions: the influence of students' attitudes, social impacts, and students' self-efficacy on students' behavioral intentions about interactive videos.

2.To identify the relationship between the variables that influence the behavioral intention of students to use interactive video.3. Literature Review

3. Literature Review

3.1 Perceived Ease of Use (PEOU)

Park (2009) defined perceived ease of use is the degree to which a person believes that e-learning will require no cognitive effort. PEOU is the easy level for users to learn and use a system (Chawla & Joshi, 2020). PEOU is the

degree to which customers feel that using a particular technology is effortless (Teo, 2011). PEOU direct impacts on PU (Ali et al., 2018). Ghazali et al. (2018) believe PEOU can robust positive effect on PU. Perceived ease of use positively affects students' judgment of the usefulness of e-learning systems, while perceived ease of use has a significant impact on attitudes toward using e-learning (Park, 2009).

3.2 Perceived Usefulness (PU)

Perceived usefulness can be defined as the degree to which a college student believes that e-learning will enhance their learning (Park, 2009). Ghazali et al. (2018) believes that if a particular new technology is easier to use, it is considered more beneficial. Chawla and Joshi (2020) showed that PU can have a positive correlation with PEOU. At the same time, the main predictor of attitude and intention is PU. PU also has a positive influence on computer use intention and attitude (Teo, 2011). Park (2009) confirmed that perceived usefulness has the most significant impact on students' attitudes towards e-learning systems.

3.3 Attitude (ATT)

Hu and Zhang (2016) believe attitude is students' cognitive perception of mobile library. Attitude is an individual's perceptual evaluation of a behavior (Foroughi et al., 2019). Attitude is the user's subjective evaluation of performing an action or using a particular technology (Chawla & Joshi, 2020). Attitude has a strong influence and seems to be the primary determinant of BI (Perry, 2017). However, some studies have shown that there is no direct relationship between attitude and behavioral intention (Bashir & Madhavaiah, 2015). Teo (2011) was not found the relationship between computer use attitude and use intention.

3.4 Social Influence (SI)

Social influence is the judgment of people who are important to users about users should or should not use e-learning (Tarhini et al., 2017). SI is defined as the user's perception of how important people think they should use the new system (Batara et al., 2017). Bashir and Madhavaiah (2015) think social influences have an impact on consumers' intentions. S Social influence plays a vital role in the intention of individuals to use voluntary services (Watjatrakul, 2013). There is a direct and significant relationship between social influence and students' behavioral intention to use e-learning systems (Tarhini et al., 2017).

3.5 Self-Efficacy (SE)

Self-efficacy means that the user has the skills needed to complete a task (Demoulin & Djelassi, 2016). SE is people's judgment about their having the power or ability to exercise control themselves (Suki, 2016). SE directly impacts students' e-learning behavioral intentions (Park, 2009). SE is the main factor that affects user behavior intention (Ghazali et al., 2018). The relationship between SE and students' behavioral intention has been proved (Ali et al., 2018). Research has found that it has an essential repercussion on predicting students' willingness to adopt e-learning systems (Tarhini et al., 2017).

3.6 Behavioral Intention (BI)

Behavioral intention indicates the degree to which the user wants to use the use mobile library apps to learn (Hu & Zhang, 2016). PU, PEOU, and attitude toward computer use are the decisive aspect of intention to use (Teo, 2011). Perceived willingness, performance expectations, perceived feasibility, and effort expectations are predictors of behavioral intentions (Moghavvemi & Salleh, 2014). Social influence, attitude, and self-efficacy have a significant causal relationship with library readers' behavioral intentions (Suki, 2016).

4. Theoretical Framework

This research's theoretical framework is rooted in the three fundamental core theories and the previous studies. Unified Theory of Extended Technology Acceptance and Use (UTAUT), technology Acceptance Model (TAM), and the theory of planned behavior (TPB) constitute the central theoretical system of this research.

4.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) proposed bDavis proposed the Technology Acceptance Model (TAM) based on the rational action theory in 1989 (Huang et al., 2015). The proposal of this theory improved the understanding of the user acceptance process and provided theoretical support for evaluating the new system's implementation. Four main concepts are mentioned in theory. The first is perceived usefulness. Davis (1986) think PU as the level at which a user perceives a software useful to their work performance. The second is the PEOU. The ease of using the TAM model is how easy the user think using the particular technology. Third, attitude. User attitude is the user's different feelings when achieve a particular behavior. The fourth is user intent. The definition is the

possible level of the user using a particular technology (Ukut & Krairit, 2019). At present, TAM has been proved is the most practical models for predicting user acceptance and user behavior in many facts and studies (Venkatesh & Davis, 2000).

4.2 Theory of Planned Behavior (TPB)

Theory of Planned Behavior is a model for predicting consumer behavior proposed by Ajzen in 1991 based on rational behavior theory (Hati et al., 2020). According to the TPB model's contents, an individual's intention in certain behaviors is the most critical and direct predictor of individual behavior. Attitudes, subjective norms, perceived behavior control, behavioral intentions, and behaviors, these five concepts constitute the TPB model. The ultimate goal of the TPB model is to study the factors that predict user behavior intentions. The effectiveness of TPB in predicting behavioral intentions has been proving in numerous studies. A large number of studies have confirmed the effectiveness of TPB in terms of behavioral intentions.

4.3 Unified theory of acceptance and use of te chnology (UTAUT)

Venkatesh proposed the unified theory of acceptance and use of technology (UTAUT) in 2003 as an extension of TAM theory. Chawla and Joshi (2020) focus on explaining user intentions and behaviors. The four critical predictors in the UTAUT model are performance expectations, expected effort, social influence, and convenience. First significant predictor, performance expectations: Alleyne and Lavine (2013) believe that performance expectations are the degree to which users can improve their performance by performing certain specific behaviors. The second is the expected effort which was defined as how easy it is for users to judge their individual behavior performance (Alleyne & Lavine, 2013). The third significant predictor is SI. Define social influence as the user's feeling of the social environment in which he performs behavior. The last convenience condition is considered to be the degree of support provided by the user's organization or the environment when performing behaviors (Alleyne & Lavine, 2013). Many previous studies have confirmed the effectiveness of UTAUT in explaining users' cognitive factors.

5. Conceptual Framework

This study's conceptual framework was simultaneously developed using the three theories of TAM, TPB, UTAUT, and prior research. As depicted in Figure 1.

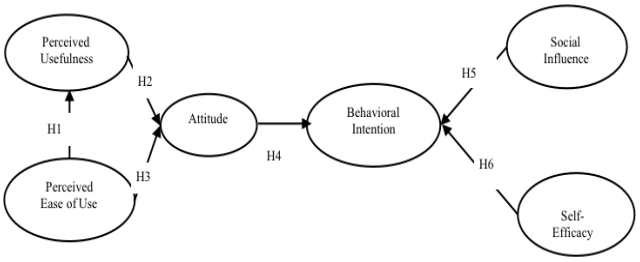

Figure 1: Conceptual Framework

There were six hypotheses developed according to the previous research and theoretical framework.

H1: Perceived Ease Of Use has an impact on Perceived Usefulness.

H2: Perceived Usefulness has an impact on Attitude.

H3: Perceived Ease Of Use has an impact on Attitude.

H4: Attitude has an impact on Behavioral Intention.

H5: Social Influence has an impact on Behavioral Intention.

H6: Self-efficacy has an impact on Behavioral Intention.

6. Research Methodology

6.1 Population and Sample Size

The target population of this study are sophomores, juniors and seniors majoring in cinematography from three art universities in Sichuan Province (Sichuan University of Media and Communications, Sichuan Film and Television College, and Sichuan University of Culture and Arts). According to data collection, the three universities have 1,958 students majoring in cinematography. Sichuan University of Media and Communications has 829 students, Sichuan Film and Television has 652 students and Sichuan University of Culture and Arts has 477 students. According to the multiple regression prior Sample size calculator (Soper, 2019), the minimum sample size of this survey was 403 to ensure the validity of the research results. The 480 questionnaires were distributed to students at three universities.

6.2 Sampling Technique

In this study, purpose sampling and quota sampling were used to select samples. Purposive sampling is a prevalent sampling method in non-probability sampling (Folorunso & Ahmad, 2014). To avoid collecting invalid questionnaires and affecting the normal conduct of the research, The researchers used purposive sampling to identify the three

most representative universities from all universities in Chengdu to participate in the study. Students in the cinematography major of these three universities have experience using interactive video learning. Then using quota sampling, by dividing the population of each university by the total population, the proportion of students majoring in cinematography in these three universities in the total population of this study can be calculated. This is consistent with the proportion between the number of samples collected from universities and the total sample size. Through data collection, it is known that 1,958 students are majoring in cinematography at these three universities. The calculation method is as follows: The number of samples in each university = the number of students in the cinematography major of each university ÷ the total number of students in the cinematography major of the three universities(n=1958) x the total sample size (n=480). By calculation, researchers should collect at least 203 valid samples from the Sichuan University of Media and Communication, 160 valid samples from Sichuan Film and Television College, and 117 valid samples were collected from the Sichuan University of Culture and Arts.

The researchers distributed questionnair to the students of the three target colleges and universities of cinematography production majors, Sichuan Media Institute, Sichuan Film and Television College, and Sichuan Culture and Art College, on April 1, 2022. During the whole process of distributing the questionnaires, the researchers distributed 480 paper questionnaires. They recovered 451 valid questionnaires, of which 29 questionnaires were excluded due to incomplete data, and the questionnaire effectiveness rate was 94% (n=480).

7. Research Results

7.1 Descriptive Analysis

Among 451 students, there were 208 female participants, which represented 46.1 percent of all valid sample, while the other 243 were male participants, representing 53.9 percent of all valid samples.

Since the research collected data from three different universities, the 190 valid questionnaires were from Sichuan University of Media and Communications, representing 42.1 percent of valid samples. In addition, 151 valid questionnaires were collected from Sichuan Film and Television College, representing 33.5 percent, and 110 valid questionnaires were collected from Sichuan University of Culture and Arts, representing 24.4 percent. The questionnaires were completed by sophomores, juniors, and seniors who majored in cinematography production at the three universities. There were 188 sophomores (41.7%), 152 juniors (33.7%), while 111 were seniors (24.6%). The demographic information of the samples presented in table 1.

Table 1: The Analysis of Demographic Characteristic by Frequency and Percentage (n=451)

Demographic Information		Frequency	Percentage
Gender	Female	208	46.10%
	Male	243	53.90%
University	Sichuan Film and Television University	190	42.10%
	Sichuan University Jincheng College	151	33.50%
	Sichuan University of Media and Communications	110	24.40%
Academic Level	Sophomore	188	41.70%
	Junior	152	33.70%
	Senior	111	24.60%

7.2 Convergent Validity

Convergent validity is essential to examining construct validity (Dwivedi et al., 2006). Convergent validity exists if different measures of the same concept are highly correlated (Hamdani et al., 2016). Researchers measured convergent validity by analyzing factor loading, average variance extracted (AVE), and composite reliability (CR) in this study.

7.2.1 Factor Loading

Factor loading is one of the evaluation values of convergent validity, and the minimum value cannot be less than 0.5 (Hair et al., 2015). Otherwise, the convergent validity of the model has not been demonstrated. After analysis, all factor loadings in this study were greater than 0.50, and the specific data are shown in Table 2.

7.2.2 Average Variance Extracted (AVE)

AVE refers to the mean-variance explained by structurally loaded items. It is an essential parameter for testing the convergent validity of the framework (Hair et al., 2015). When the AVE is more significant than 0.5, the convergent validity of the construct can be explained. All AVE values in this study were higher than 0.50, so the convergent validity of this construct can be explained from the perspective of AVE. The specific data are shown in Table 2.

7.2.3 Composite Reliability (CR)

Composite reliability is an important indicator for evaluating the convergent validity of the construct. When CR value > 0.7 can explain the convergent validity of the construct (Cheah et al., 2018). The results show that all values are higher than the threshold of 0.7 (Hair et al., 2015) and the detailed data are in Table 2.

Table 2: Factor Loading, AVE, and CR

Variable	Factor Loading > 0.5	CR (ρc) > 0.7	AVE (ρv) > 0.5
PEOU1	.872	0.924	0.710
PEOU2	.838		
PEOU3	.851		
PEOU4	.825		
PEOU5	.825		
PU1	.736	0.861	0.608
PU2	.792		
PU3	.792		
PU4	.797		
AT1	.756	0.870	0.572
AT2	.780		
AT3	.732		
AT4	.759		
AT5	.754		
SI1	.781	0.867	0.620
SI2	.773		
SI3	.827		
SI4	.766		
SE1	.743	0.904	0.611
SE2	.801		
SE3	.801		
SE4	.797		
SE5	.800		
SE6	.746		
BI1	.772	0.851	0.534
BI2	.685		
BI3	.766		
BI4	.700		
BI5	.725		

Note: SE=Standard Error, ***=p<0.001; **=p<0.01; *=p<0.05.

7.3 Discriminant Validity

Construct validity includes convergent validity and discriminant validity (Dwivedi et al., 2006). Having good discriminant validity is a prerequisite for a measure to have construct validity (Hamdani et al., 2016). Discriminant validity was tested by assessing the difference between the two models (Heeler & Ray, 1972). Convergent validity can be derived by comparing the square root of the AVE, meaning that the square root of the AVE between two items should be greater than the correlation parameter between other scale items (Wang et al., 2020). Convergent validity was achieved if all constructs' mean-variance extraction (AVE) estimates were greater than 0.50 (Fornell & Larcker, 1981).

The square root of the AVE for the six latent variables is shown on the diagonal of Table 5.7, which are 0.842 (PEOU), 0.799 (PU), 0.756 (ATT), 0.787 (SI), 0.781 (SE), and 0.730 (BI). The AVE values of the seven pre-variables were all greater than the relevant parameters of any two latent variables, so the test had discriminant validity, the detailed data are in Table 3.

Table 3: Discriminant Validity

Correlation	PEOU	PU	ATT	SI	SE	BI
PEOU	0.842					
PU	0.139	0.779				
ATT	0.028	0.657	0.756			
SI	0.127	0.555	0.718	0.787		
SE	0.104	0.619	0.639	0.660	0.781	
BI	0.122	0.636	0.641	0.669	0.689	0.730

Note: The diagonally listed values are the AVE square roots of the variables

7.4 Structural Equation Model (SEM)

This study used structural equation modeling in AMOS software version 18 for hypothesis testing. In this study, the goodness of fit of the SEM model was verified by understanding six structural indicators: CMIN/DF, GFI, AGFI, CFI, NFI, and RMSEA. The SEM matrix is corrected according to the index data. Table 4 shows the goodness of fit before and after correction.

Table 4: Goodness of Fit for SEM

GOF Indices	Criteria	Source	Before Adjustment	After Adjustment
CMIN/df	< 3.00	Hsiao and Tang (2014)	4.704	2.646
GFI	> 0.90	Hu and Bentler (1999)	0.821	0.927
AGFI	> 0.85	Arora and Kaur (2019)	0.789	0.881
CFI	> 0.95	Erdogan et al. (2022)	0.865	0.956
NFI	> 0.95	Erdogan et al. (2022)	0.835	0.953
RMSEA	< 0.05	Hu and Bentler (1999)	0.086	0.047

7.5 Hypothesis Testing Result

Path analysis shows the action direction, relationship, and influence degree of variables in the model (Ashaduzzaman et al., 2022). It describes the causality and

correlation between the proposed variables (Ashaduzzaman et al., 2022; Liu, 2004). All the six hypotheses were verified. Perceived Ease Of Use had an effect on Perceived Usefulness with a normalized path coefficient (β) was 0.138 (t-value = 3.315***). There is a significant effect between Perceived Usefulness and Attitude. The data shows that the normalized path coefficient (β) was 0.605 (t-value = 12.263***). Perceived Ease Of Use had an effect on Attitude with the value was 0.058 (t-value = -2.264*). Attitude had a significant correlation with Behavioral Intention, with the value was 0.345 (t-value = 7.422***). The Social Influence has an impact on Behavioral Intention, with the value was 0.304 (t-value = 5.341***). Self-efficacy has an impact on Behavioral Intention, a normalized path coefficient (β) was 0.373 (t-value = 5.643***). Table 5 presented the hypothesis results.

Table 5: Hypothesis Result of the Structural Equation Model (SEM)

Hypotheses	Paths	Standardized Path Coefficient (β)	T-Value	Tests Result
H1	PU← PEOU	0.139	3.315***	Supported
H2	ATT← PU	0.605	12.263***	Supported
H3	ATT← PEOU	-0.058	-2.264*	Supported
H4	BI← ATT	0.345	7.422***	Supported
H5	BI←SI	0.304	5.341***	Supported
H6	BI←SE	0.373	5.643***	Supported

Note: *** p<0.001, ** p<0.01, * p<0.05

Through path modeling, esearchers can understand the direct, indirect, and total effects between variables (Zimmerman & Darnold, 2009). By examining the magnitude of total, direct and indirect effects, the relationship between variables and the strength of the relationship can be known (Wu et al., 2020). The dependent variable in this study is behavioral intention (BI), and the independent variables are perceived ease of use (PEOU), self-efficacy (SE), and social influence (SI). The mediator variables are perceived usefulness (PU), and attitude (ATT).

The direct influence of perceived ease of use on perceived usefulness in this study has been confirmed, with a standard coefficient value of 0.139. The result is the sam e as research conclusion (Chawla & Joshi, 2020). That is, perceived ease of use affects how useful students perceive the interactive video.

The study confirms the direct influence of perceived usefulness on attitudes, with a standard coefficient value of 0.605, which was the highest beta value in this study. This suggests that cinematography students' perceived usefulness when using interactive videos affects their attitudes positively. That is, students' perceived usefulness affects their mood. Hu and Zhang (2016) reached the same conclusion.

The direct impact of perceived ease of use on attitude is confirmed in this study, with a standard coefficient value of -0.058. That is, perceived ease of use negative impacts perceived usefulness, but the impact is weak. This suggests that cinematography students' perceived ease of use slightly negative influences their attitudes towards using interactive videos.

Regarding hypothesis 4, the direct positive impact of attitude on behavioral intention has been confirmed, with the standardized path coefficient value being 0.345. That is, the attitude impacts behavioral intention, which indicates that the attitude of cinematography students in art universities affects their behavioral intention when using interactive videos. Park (2009) reached the same conclusion.

As for hypothesis 5, the study confirms the the direct positive impact of attitude on behavioral intention has been confirmed, positive influence of social influence on behavioral intention, the standardized path coefficient value being 0.229. That is, students' behavioral intention is positively influenced by social influence. This indicates that the social environment in which students are majoring in cinematography live and the opinions of people who influence them will change their behavioral intention. Tarhini et al. (2017) also confirmed this conclusion.

According to the results of hypothesis 6, the positive impact of self-efficacy on behavioral intention is confirmed in this study, with the standardized path coefficient value of 0.373. That is, self-efficacy is positively correlated with behavioral intention. This indicates that the self-efficacy of students majoring in cinematography affects their behavioral intention to use interactive videos. The results of this study verify the conclusions of previous studies of Lwoga and Komba (2015).

7.6 Direct, Indirect, and Total Effects

Through path modeling, researchers can understand the direct, indirect, and total effects between variables (Zimmerman & Darnold, 2009). By examining the magnitude of total, direct and indirect effects, the relationship between variables and the strength of the relationship can be known (Wu et al., 2020). Another study also confirmed this (Chou & Chen, 2018; Lee & Lee, 2019).

The dependent variable in this study is behavioral intention (BI), and the independent variables are perceived

ease of use (PEOU), self-efficacy (SE), and social influence (SI). The mediator variables are perceived usefulness (PU), and attitude (ATT). Statistics on direct, indirect, and total impacts are shown in Table 6.

Table 6: Direct, Indirect, and Total Effects of the Relationship Between Variables

		Independent Variables				
Dependent Variables	**Effect**	**PU**	**PEOU**	**ATT**	**SE**	**SI**
PU	DE	-	0.139***	-	-	-
	IE	-	-	-	-	-
	TE	-	0.139***	-	-	-
	R2	0.027				
ATT	DE	0.605***	0.058*	-	-	-
	IE	-	0.084*	-	-	-
	TE	0.605***	0.026*	-	-	-
	R2	0.571				
BI	DE	-	-	0.345***	0.373***	0.304***
	IE	0.209***	0.009*	-	-	-
	TE	0.209***	0.009*	0.345***	0.373***	0.304***
	R2	0.592				

Note: SE=Standard Error, ***=p<0.001; **=p<0.01; *=p<0.05.

7.6.1 Perceived Usefulness

Perceived usefulness was the mediating variable of this study. R2 is 0.027, indicating that 2.7% of the variance of this variable was explained by perceived ease of use (PEOU). Perceived ease of use directly impacts perceived usefulness, and the value is 0.139***.

7.6.2 Attitude

The attitude was used as the mediating variable in this study. The R2 is 0.571, indicating that 57.1% of the variance of behavioral intention can be explained by two dimensions: perceived ease of use (PEOU) and perceived usefulness (PU). Perceived ease of use and perceived usefulness directly affect attitudes, and these values are -0.058* and 0.605***. At the same time, perceived ease of use indirectly impacts attitude. The value point is 0.084*.

7.6.3 Behavioral intention

Behavioral intention is the dependent variable of this study. R2 was 0.592, indicating that 59.2% of behavioral intentions could be explained by five dimensions perceived usefulness (PU), perceived ease of use (PEOU), attitude (ATT), self-efficacy(SE), and social influence (SI). Among them, attitude, self-efficacy, and social influence directly influence behavioral intention, with value points of 0.345***, 0.373***, and 0.304***. At the same time, perceived ease of use and perceived usefulness indirectly influence behavioral intention. Their values are 0.009*** and 0.209***.

Figure 2 presented the path diagram consequences of the results. The direct influence between variables is represented by the solid line, and the dotted line shows the indirect influence between variables.

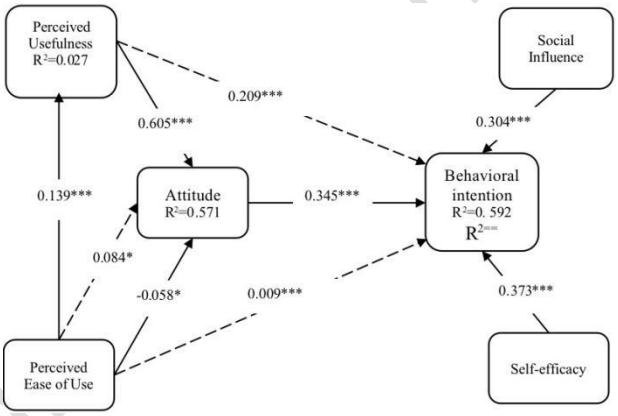

Figure 2: Path Diagram Consequences
Note: *** p<0.001, ** p<0.01, * p<0.05

8. Discussion of Research Results

In this study, researchers propose a conceptual framework based on the theories of TAM, TPB, and UTAUT. Five variables affecting students' behavioral intentions were proposed: perceived usefulness, perceived ease of use, attitude, social influence, and self-efficacy. Researchers selected 451 students majoring in cinematography from three art universities in Chengdu as samples to study their behavioral intentions in using interactive videos.

The results show that perceived ease of use directly impacts perceived usefulness. Therefore, in this study, when students use interactive video to learn, their judgment on whether it is easy to use will directly affect their judgment of usefulness. That is, perceived ease of use can affect perceived usefulness (Chawla & Joshi, 2020; Ghazali et al., 2018; Teo, 2011).

Meanwhile, the influence of perceived ease of use on attitude has also been confirmed in this study. The ease and simplicity of students' operation of interactive video will directly affect their attitude toward using it. But this effect is negative. Research has found that when students realize that the interactive video is very simple to operate, it will di rectly lead to a negative attitude towards learning.That is, perceived ease of use directlynegative impacts attitudes (Watjatrakul, 2013).

The effect of perceived usefulness on attitudes is also found as direct effect. The students' judgment that interactive videos are helpful has a positive direct effect on their attitudes. This has been confirmed in many previous studies that perceived usefulness has an impact on attitudes (Hu & Zhang, 2016; Park, 2009; Perry, 2017).

The results of this study revealed that three factors directly affect students' behavioral intentions. Its influence from high to low is self-efficacy, attitude, and social influence. Self-efficacy is the most significant factor, indicating that students' self-efficacy can predict students' behavioral intention of using interactive videos. Previous studies have confirmed this (Kim et al., 2011; Komba, 2015; Lwoga & Suki, 2016; Tarhini et al., 2017).

In this study, the influence of attitude on behavioral intention is second only to self-efficacy, which indicates that students' attitude also has a significant direct intention on their behavioral intention of using interactive videos. Other studies have confirmed this conclusion (Fatima et al., 2017; Park, 2009).

The results showed that social influence ranks third in influencing students' behavioral intention. That is, students' behavioral intentions can be directly predicted by the views of people who influence them in their living and learning environment. Previous studies have also confirmed this view that social influence directly affects behavioral intention (Tarhini et al., 2017; Watjatrakul, 2013).

The results of this study show that there are two factors that indirectly affect students' behavioral intention. The influence from high to low is PU and PEOU. It shows that students' perceived ease of use and perceived usefulness can indirectly predict students' behavioral intention through attitude (Bashir & Madhavaiah, 2015; Teo, 2011).

9. Suggestions

Through hypotheses 1-3, the results revealed that there was the relationship between perceived usefulness and perceived ease of use, and their influence on attitudes. From the perceived ease of use perspective, the college students who participated in the experiment were exposed to the Internet early and used it proficiently Therefore, simplifying the operation process of interactive video cannot have a direct positive impact on their learning attitude. However, the efficient and simple operation process can directly affect students' perception of usefulness in the process of use and thus indirectly affect students' attitudes. Therefore, it is crucial to enhance students' perception of usefulness. First, make straightforward course design, content planning, and software design. Let the students know what to do and how to do it in the learning process. Secondly, design clear and easy-to-understand instructions to help students quickly get started. Thirdly, interactive video creators are invited to communicate with students regularly to meet their learning needs actively. Thus, affecting students' learning attitudes.

The research results of hypotheses 4, 5, and 6 confirmed that self-efficacy, attitude, and social influence are the direct factors influencing the behavioral intention of students majoring in cinematography at the art university in Chengdu. Therefore, teachers should pay attention to the influence of these factors when teaching with interactive videos.

First, aiming at students' sense of self-efficacy, teachers should define course contents and objectives when designing courses. Appropriately increase assessment and practice links, urging students to complete the measurement of learning results while learning. In the process of assessment and practice, students can form their subjective judgment that they can use interactive video successfully to enhance their behavioral intention of students to use interactive video.

Secondly, because of students' attitudes, teachers should strengthen communication with interactive video designers in the course teaching process, promote the upgrade of the interactive video systems, and optimize the operation of interactive video. At the same time, the course emphasized the help of interactive videos in students' distance learning and cinematography courses in the context of the current COVID-19 pandemic. Improve students' understanding of interactive video and improve students' judgment of the usefulness of interactive video.

Finally, the social influence of interactive videos can be improved from the following three points. First, optimizing the course content and improving the course content of interactive videos is the most effective way to enhance its social impact. Second, invite professionals in the interactive video industry to come into the classroom to communicate with students to gain endorsement from professionals and improve the credibility of interactive video in the social environment where students live. Third, strengthen publicity. Teachers can upload interactive videos on blogs, Weibo, Tiktok, and other influential media platforms in China and introduce the specific usage of interactive videos in cinematography class. Create a positive community environment to enhance students' behavioral intention to use interactive videos.

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