



## Application of Interactive Teaching Method in Digital Media Technology Teaching in Chengdu, China

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Received 30/09/2023

Revised 06/10/2023

Accepted 10/10/2023

### Abstract

**Background and Aim:** This study explored the influences on the intention of undergraduate students majoring in digital media technology to participate in interactive teaching methods in three of the most representative universities in Sichuan Province. The objective of the research is to determine the extent to which each variable influences the use of interactive teaching methods. The latent variables investigated in the study include social influence (SI), trust (TR), perceived usefulness (PU), perceived ease of use (PEOU), attitude (AT), behavioral intention (BI), and usage behavior (UB) of interactive teaching methods. The population of the research is freshmen to Juniors of digital media technology departments from three target universities, namely Chengdu University, Chengdu Institute of Technology, and Sichuan Institute of Industry and Commerce. The 504 samples were proportionally drawn from the mentioned three universities.

**Materials and Methods:** In this paper, a total of 504 data were collected through questionnaires, and data were analyzed using the Structural Equation Model.

**Results:** The results of the data analysis found that the effects of perceived usefulness and trust on attitude were not significant, and all other hypotheses were verified. Among them, perceived ease of use had the greatest effect on attitude.

**Conclusion:** For undergraduate digital media technology students to recognize and use interactive teaching methods, university administrators and teaching staff need to simplify the interactive teaching process and pay attention to the factors that have a significant effect on behavioral intentions.

**Keywords:** Educational Informatization; Classroom Teaching; Interaction

### Introduction

The topic of this paper is to explore the application of the interactive teaching process in digital media technology teaching. China's ten-year Development Plan for Educational Informatization was officially released in 2012, becoming the first major policy plan for educational informatization since the founding of New China.

According to the UK White Paper, interactive media refers to electronic text, graphics, images, sound, and structured digital computing environments that integrate and allow people to exchange data in the right way with digital media as a whole. Digital environment, including the Internet, telecommunications networks, and digital television. Through the definition, this paper holds that interactive media has the following connotation: First, interactive media is based on computers and networks, digitization is the basis of information storage transmission; Second, interactive media refers to the overall combination of various forms of information content systems and systematic materialized digital devices. The form of digital information and the same digital transmission equipment are diverse, they are integrated into the communication process; Third, interactive media refers to the interaction, collaboration, and depth between users with individual characteristics and the content or environment, emphasizing mutual feedback and interaction.

The research of interactive teaching has always been a trending topic in the process of educational informatization. In the digital media technology teaching application, the interactive teaching method is the key to effectively using technology to teach and learn. From the perspective of disciplines, digital media technology is a typical interdisciplinary discipline, including computer science knowledge, art



knowledge, and humanities and social science knowledge (such as communication and media studies). For example, digital media technology, as an important aspect of human-machine interface design, combines the knowledge and skills of industrial design, cognitive psychology, and computer graphics. The current student generation is now at the educational stages and approaches information in diverse and innovative ways, and therefore, learning environments should adapt to their existing skills, needs, and prior knowledge to be effective. Students learn more and better while watching video material, handle more than one screen simultaneously, prefer interactivity, and have an active presence in social media; therefore, one-way teaching makes them less interested in the procedure (Martin & Tyner, 2012; Podara, Matsiola, Maniou, & Kalliris, 2019).

Their competencies, if taken into account, may result in the successful implementation of the newly introduced teaching methods, providing added value to the learning outcomes [6]. These alterations are very significant factors that must be taken into consideration by the teachers, while new curricula with the integration of new educational techniques and tools are being designed (Adams, 2011).

According to Cox (2008), the challenge for teachers is to utilize technology in ways that facilitate the highest level of learning outcomes. In this case, however, the issue is not how the teacher employs technology, but which the followed process is, i.e., the teaching methodology.

Therefore, digital media is a new subject that combines digital media technology and digital media art. It is an intersection of visual arts, design, computer graphics, and media technology. Its form of expression is electronic media or digital media, and its content is mostly artistic works or design products in the form of digital media, such as interactive installation art or multimedia animation. Its media communication forms are mainly new media forms or digital carriers Internet, mobile phone, or electronic interactive media.

## Objectives of the Study

The objective of the research is to determine the extent to which each variable including social influence (SI), trust (TR), perceived usefulness (PU), perceived ease of use (PEOU), attitude (AT), behavioral intention (BI), and usage behavior (UB) of interactive teaching methods.

## Research Questions

1. What is the impact of social influence on the perceived usefulness of interactive technology?
2. What is the impact of social influence on perceived ease of use of interactive technology?
3. What is the significant impact of perceived ease of use of interactive technology on the perceived usefulness of interactive technology?
4. What is the impact of the perceived usefulness of interactive technology on attitudes towards the use of interactive teaching?
5. What is the impact of perceived ease of use of interactive technology on the attitude of interactive teaching use?
6. What is the impact of students' perceived trust towards teachers on their attitudes towards the use of interactive instruction?
7. What is the significant effect of the attitude of interactive instructional use on behavioral intention?
8. What is the significant effect of behavioral intention on usage behavior?

## Literature Review

### Social Influence

Social influence is defined as the most influential type of person in one's perception. These people are very important to us. They may be members of our family or social groups such as friends or colleagues (Fishbein & Ajzen, 1977). People adjust their beliefs or attitudes to feel similar to the other people, they care about to have the same experience as the person they care about. Social influence is the product of the unified theory of technology acceptance and use (Venkatesh et al., 2003) defined SI as the personal opinion of important others (such as family & friends). Social impact is defined as



the degree to which individual consumers perceive it. Importantly, the other person's belief that he or she should take action has been shown to have a direct impact on behavioral intention (Ajzen, 1991).

H<sub>a1</sub>: Social influence has a significant impact on perceived usefulness.

H<sub>a2</sub>: Social influence has a significant impact on perceived ease of use.

### Trust

Trust is based on the willingness of a person or group of people to be hurt by another. Believe that the latter is kind, trustworthy, competent, honest, and open (Garbarino & Johnson, 1999). Nunnally and Bernstein (1994) regarded trust as a cooperative choice in the competition. Trust means that one party has enough confidence to trust the other party in reliability and honesty (Nunnally & Bernstein, 1994).

H<sub>a3</sub>: Trust has a significant effect on perceived usefulness.

H<sub>a6</sub>: Trust has a significant effect on attitude.

### Perceived Usefulness

Perceived usefulness is defined as the degree to which a person believes that using a particular system would improve his or her job performance (Davis, 1989). In addition, Rauniar et al. (2014) defined perceived usefulness as the perception of individuals regarding the improvement of performance by using a specific technology (Rauniar et al., 2014). Perceived usefulness is examined to be a stable variable to explore user behavior in the initial stage as well as post-adoption (Venkatesh et al., 2003).

H<sub>a5</sub>: Perceived usefulness has a significant impact on attitude.

### Perceived Ease of Use

Perceived ease of use is defined as the degree to which a person believes in using a particular system and does so effortlessly (David, 1989). Perceived ease of use is the user's judgment of how hard it is to use a method to solve a problem (Mohamed et al., 2014). PEOU was considered to be the degree of simplicity that students perceive when using technology (Yip et al., 2020). Researchers believe that PEOU is the less a system that requires user effort, the more useful it is (Demoulin & Djelassi, 2016).

H<sub>a4</sub>: Perceived ease of use has a significant impact on perceived usefulness.

H<sub>a7</sub>: Perceived ease of use has a significant impact on attitude.

### Attitude

Attitude is a stable psychological tendency of individuals towards specific objects (Ajzen, 1991). Attitude can be defined as a learned tendency to react to A in a consistently favorable or unfavorable manner (Fishbein & Ajzen, 1977). The definition of attitude can be evaluated on a polarizing scale, which is either favorable or favorable or adverse (Cunningham & Kwon, 2003). Fazio concisely defined attitude as an object of connection between a given thing and a given evaluation. Attitude is defined as the tendency of well-read people to react in consistently favorable or unfavorable ways (Fishbein & Ajzen, 1977) as a potential variable that may influence behavior (Fishbein & Ajzen, 1977). Perry (2017) described individual attitudes as having a strong influence on their intentions.

H<sub>a8</sub>: Attitude has a significant impact on behavioral intention.

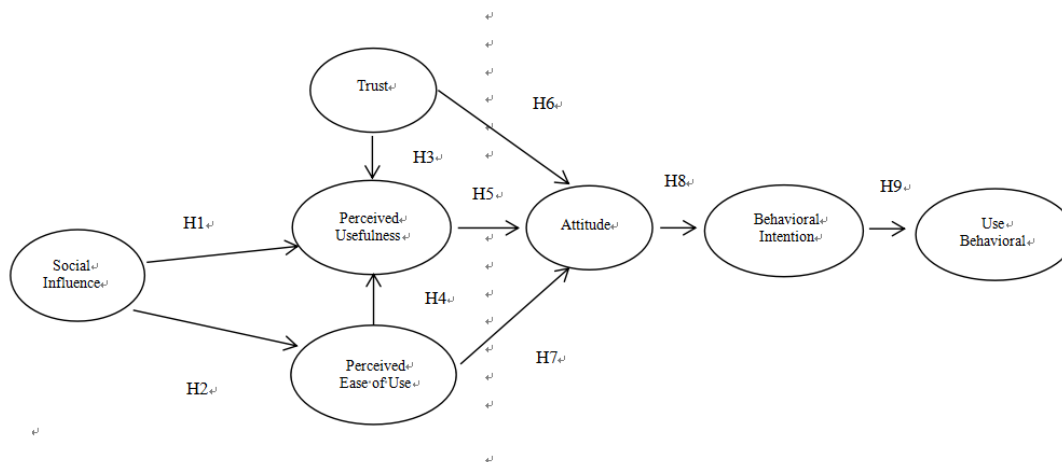
### Behavioral intention

Behavioral intention refers to the subjective possibility of an individual engaging in a particular behavior (Ajzen & Fishbein, 1980). Behavioral intention was defined as the personal likelihood of something happening or being the case, that a given individual will perform some behavior (Zhang et al., 2020). Sumak and Sorgo (2016) have been identified as an essential determinant of the use of technology. Ajzen (1991) thinks behavioral intention reflects the effort people plan to make to achieve a particular behavior.

H<sub>a9</sub>: Behavioral intention has a significant impact on use behavior.

## Conceptual Framework

A conceptual framework is an academic research framework developed from the analysis of antecedents, shown in Figure 1. There are 7 variables in this study, respectively Social Influence, Trust, Perceived Usefulness, Perceived Ease of Use, Attitude, Behavioral Intention, and Use Behavior. An independent variable is a variable that may influence it.



**Figure 1** Conceptual Framework

## Significance of the Study

The study of interactive teaching has always been the focus of digital media technology majors. To improve the teaching quality of digital media technology majors, whether students are willing to accept the use of interactive teaching is important. Determining whether students are willing to accept the use of interactive teaching is a crucial factor in improving the teaching quality of digital media technology majors. In conclusion, it is of great significance to study the use behavior of digital media technology students using interactive teaching methods.

## Methods and Materials

### Participants

The population of the research is freshman to junior of digital media technology departments from three target universities, namely Chengdu University, Chengdu Institute of Technology, and Sichuan Institute of Industry and Commerce.

The sample of the research was proportionally drawn from 504 students from the aforementioned universities. Among them, 130 students were selected from 290 Chengdu University, 123 students were selected from 274 students of Chengdu Institute of Technology, and 247 students were selected from 555 students of Sichuan Institute of Business and Industry as presented in Table 1.

**Table 1** Number of Sample from Each Sichuan Private University by Strata

University	Population Size 1,119	Proportional Sample Unit Size 500
Chengdu University	290	130 (290/1119*500)
Chengdu Technological University	274	123 (274/1119*500)
Sichuan Technology and Business University	555	247 (555/1119*500)

### Instrument

The research instrument was the questionnaire adopted from the previous research of Bashir and Madhavaiah (2015), Letchumanan & Tarmizi (2011), Shittu & Basha (2011), Chauhan (2015), and Gupta et al. (2020). There were 33 items to measure the studied variables. The IOC has been employed



to test the validity of the questionnaire items. The IOC results have a score of 0.67 and above, which indicates the validity of the questionnaire items. In addition, the internal consistency reliability was assessed with 30 students for the pilot test, The Cronbach's alpha values ranging from 0.819-0.913, which were considered reliable according to George and Mallery (2003).

### Data Collection Process

The data collection process has been done through the hard copy of the locations of the three universities. The screening questions were applied to ensure that the samples were as specified and aligned with the research objectives. The screening questions include whether the samples were universities from Sichuan province, were digital media technology majors, and had experience using the Superstar learning platform. All screening questions must be answered with "yes" to proceed to the questionnaire items.

### Data Analysis

Descriptive statistics in the form of frequency and percentage have been applied to report the demographic information of the samples. In addition, the mean and standard deviation have been applied to report the perceptions of the samples towards the variables. The inferential statistics—Structural Equation Model (SEM) and Confirmatory Factor Analysis (CFA) have been employed to identify the influences between the variables as proposed in the hypotheses.

## Results

The hard-copy questionnaires were distributed to the three target universities in 2022. Freshmen to juniors in digital media technology departments from three target universities participated in this survey. The researcher distributed 550 paper questionnaires, of which 46 were not included for data analysis due to incomplete data. Therefore, the research results are based on 504 valid responses.

### Demographic Information

Among all valid samples, there are 285 female participants, a relatively high proportion accounting for 56.5% of all samples. There are 219 male participants, accounting for 43.5%. There are 140 first-year students, accounting for 27.8%. There are 250 second-year students, accounting for 49.6%. There are 114 third-year students, accounting for 22.6%. The researchers retrieved 140 valid questionnaires from Chengdu University, accounting for 27.8% of the total sample. 118 valid questionnaires were recovered from the Chengdu Technological University, accounting for 23.4%. 246 valid questionnaires were recovered from the Sichuan Technology and Business University, accounting for 48.8%.

**Table 2** The Analysis of Demographic Information by Frequency and Percentage

Category	Respondents (n=504)	
	Frequency	Percentage
<b>Gender</b>		
Female	285	56.5%
Male	219	43.5%
<b>University</b>		
Chengdu University	140	27.8%
Chengdu Technological University	118	23.4%
Sichuan Technology and Business University	246	48.8%
<b>Academic Year</b>		
Freshman	140	27.8%
Sophomore	250	49.6%
Junior	114	22.6%





### Mean Values of the Variables

The mean refers to the average score, and the mean value is about the strength of the participant's attitude toward a variable. The overall average of the seven variables in the study is ranked from low to high as Behavioral Intention (3.53), Perceived Usefulness (3.67), Trust (3.78), Perceived Ease of Use (3.84), Use Behavioral (3.90), Attitude (3.93), and Social Influence (3.98). The detailed results are shown in Table 3.

**Table 3** Descriptive Analysis of Each Variable

Variables	Mean	Standard Deviation
Behavioral Intention	3.53	0.864
Perceived usefulness	3.67	0.861
Trust	3.78	0.845
Perceived ease of use	3.84	0.848
Use Behavior	3.90	0.860
Attitude	3.93	0.845
Social Influence	3.98	0.911

### Confirmatory Factor Analysis (CFA)

Many researchers have affirmed the validity of confirmatory factor analysis in testing the hypothesized factor structure, and it is considered the most famous statistical procedure (Finn, Wang & Frank, 2009). This research conducts confirmatory factor analysis on the collected valid information based on seven criteria, namely: The Relative Chi-Square (CMIN/df), Goodness of Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), and Root Mean Square Error of Approximation (RMSEA).

Bauer & Reichardt et al. (2005) pointed out that the minimum factor loading should be 0.5. Therefore, the factor loading in this study was 0.50 as the criterion. The factor loading obtained in this experiment has a minimum value of 0.792 and a maximum value of 0.963. Both are greater than 0.50 and have statistical significance. Hair et al. (2015) considered the average variance extracted (AVE) to be one of the effective indicators for evaluating the convergent validity of the structure, with a critical value of 0.50. That means a value greater than 0.50 can prove the convergent validity of the framework.

In this research, the AVE values from high to low are Social Influence (0.811), Perceived Usefulness (0.868), Perceived Ease of Use (0.693), Attitude (0.791), Trust (0.858), Use Behavior (0.743), Behavioral Intention (0.868). All AVE values are higher than 0.50, which meets the requirements.

The composite reliability can assess the convergent validity of the construct (Cheah et al., 2018). The total composite reliability values of this study from high to low are Social Influence (0.955), Perceived Usefulness (0.970), Perceived Ease of Use (0.931), Attitude (0.938), Trust (0.968), Use Behavior (0.921), Behavioral Intention (0.963). All CR values were higher than 0.70, exceeding the recommended value as shown in table 4.

**Table 4** Factor Loading, AVE, and CR

Variable	Factor Loading	S. E.	T-value	CR	AVE
SI1	.905				
SI2	.907	.027	32.911***		
SI3	.920	.028	34.218***	0.955	0.811
SI4	.912	.028	33.411***		
SI5	.857	.031	28.558***		
PU1	.938			0.970	0.868



Variable	Factor Loading	S. E.	T-value	CR	AVE
PU2	.931	.024	40.752***		
PU3	.939	.024	42.191***		
PU4	.945	.024	43.259***		
PU5	.905	.026	36.777***		
PEOU1	.815				
PEOU2	.825	.033	29.183***		
PEOU3	.858	.045	22.596***	0.931	0.693
PEOU4	.856	.046	22.322***		
PEOU5	.845	.047	21.892***		
PEOU6	.792	.045	20.203***		
AT1	.858				
AT2	.887	.031	30.931***	0.938	0.791
AT3	.897	.036	27.054***		
AT4	.914	.036	27.749***		
TR1	.827				
TR2	.955	.038	29.611***		
TR3	.975	.040	30.788***	0.968	0.858
TR4	.932	.040	28.249***		
TR5	.936	.041	28.511***		
UB1	.875				
UB2	.855	.036	25.454***	0.921	0.743
UB3	.883	.037	27.032***		
UB4	.835	.038	24.413***		
BI1	.941				
BI2	.963	.022	46.344***	0.963	0.868
BI3	.915	.027	38.219***		
BI4	.906	.028	36.836***		

**Note:** standard error, CR = Composite Reliability, AVE = Average Variance Extracted, \*\*\* = Significant at the 0.05 significant levels ( $p < 0.05$ ).

Campbell and Fiske (1959) proposed discriminant validity as a sub-concept of validity. Discriminant validity is a measure of degree used to measure the different degrees of different concepts (Alban-Metcalf & Alimo-Metcalf, 2013). Discriminant validity can be tested by comparing the square root of AVE with the correlation value (Cloutier & Vilhuber, 2008). If the square root of AVE is greater than the correlation coefficient value, then the discriminant validity is good. That is to say, the measured average extracted variation (AVE) between the two constructs should be greater than the correlation parameters between other scale items of other constructs, So the threshold of AVE should be 0.5.

Table 5 shows the square root of the AVE of the seven latent variables shown on the diagonal, which are 0.901 (SI), 0.932 (PU), 0.832 (PEOU), 0.889 (AT), 0.926 (TR), 0.928 (UB), and 0.974 (BI). The maximum squared value of the correlation coefficient of any two latent variables is 0.744. The average extraction variation (AVE) of the seven latent variables was more significant than the correlation parameters of any two latent variables. Thus, discriminant validity was demonstrated.

**Table 5** Discriminant Validity

Correlation	SI	PU	PEOU	AT	TR	UB	BI
SI	<b>0.901</b>						
PU	0.425	<b>0.932</b>					
PEOU	0.446	0.522	<b>0.832</b>				
AT	0.744	0.313	0.340	<b>0.889</b>			
TR	0.376	0.583	0.488	0.305	<b>0.926</b>		
UB	0.389	0.508	0.524	0.351	0.485	<b>0.862</b>	
BI	0.305	0.585	0.442	0.258	0.512	0.485	<b>0.974</b>

### Structural Equation Model (SEM)

In this section, the goodness of fit of the SEM model was determined by evaluating and validating the structural tools from six indices of CMIN/DF, GFI, AGFI, CFI, NFI, and RMSEA. The matrix was corrected using the covariance tool, and the goodness-of-fit results before and after correction are summarized in Table 6.

**Table 6** The Goodness of Fit Results Before and After Adjustment of SEM

GOF Indices	Criteria	Statistical values obtained from the analysis	
		Before adjustment	After adjustment
CMIN/df	<3.00	3.723	2.075
GFI	≥0.90	0.828	0.902
AGFI	≥0.85	0.801	0.879
CFI	≥0.95	0.933	0.975
NFI	≥0.95	0.910	0.953
RMSEA	≤0.05	0.074	0.046

**Note:** CMIN/DF=The Ratio of the Chi-Square Value to Degree of Freedom, GFI=Goodness of-Fit Index, AGFI= Adjusted Goodness-of-Fit Index, CFI=Comparative Fit Index, NFI=Normed Fit Index , RMSEA= Root-Mean-Square Error of Approximation.

### Hypothesis Testing Result

Kalpande and Toke (2021) propose whether the hypothesis proposed by the study is supported by observing the p-value. Path analysis can examine the causal relationship between independent and dependent variables in the framework (Wu & Liu, 2007). One way to perform path analysis is through multiple regression analyses, where standardized coefficients indicate relationships between variables (Alemu & Shea, 2019). Path analysis is used by researchers in the social sciences, science, and business. SPSS 25 and AMOS 25 software were used for path analysis in this study.

**Table 7** Summary the test results of alternative hypotheses after adjusting the SEM matrix

Hypotheses	β	S.E.	T-Value	Test Results
Ha1 : PU←SI	0.232	0.043	4.989***	Supported
Ha2 : PEOU←SI	0.490	0.045	10.792***	Supported
Ha3 : PU←TR	0.306	0.042	7.744***	Supported
Ha4 : PU←PEOU	0.187	0.040	4.321***	Supported
Ha5 : AT←PU	-0.045	0.043	-1.183	Not Supported
Ha6 : AT←TR	0.050	0.043	1.404	Not Supported
Ha7 : AT←PEOU	1.519	0.167	9.444***	Supported
Ha8 : BI←AT	0.299	0.042	6.369***	Supported
Ha9 : UB←BI	0.468	0.051	10.176***	Supported

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





As shown in the data in Table 5.10, seven hypotheses are supported, and two hypotheses are not. The explanation of each hypothesis is presented in the following section.

Ha1: Social influence impacts perceived usefulness. The first hypothesis proposes that social influence has an impact on perceived usefulness. The results showed that students' social influence (SI) of interactive teaching affects their perceived usefulness (PU). There is a significant influence between the two variables. The standardized path parameter was 0.232, and the t-value was 4.989, the p-value was  $p < 0.001$ . Therefore, the null hypothesis is rejected.

Ha2: Social influence impacts perceived ease of use. The second hypothesis proposes that social influence has an impact on perceived ease of use. The results showed that students' social influence (SI) of interactive teaching affects their perceived ease of use (PEOU). There is a significant influence between the two variables. The standardized path parameter was 0.490, and the t-value was 10.792, the p-value was  $p < 0.001$ . Therefore, the null hypothesis is rejected.

Ha3: Trust affects perceived usefulness. The third hypothesis proposes that trust has an impact on perceived usefulness. The results showed that students' trust (TR) affects their perceived usefulness (PU). There is a significant influence between the two variables. The standardized path parameter was 0.306, and the t-value was 7.744, the p-value was  $p < 0.001$ . Therefore, the null hypothesis is rejected.

Ha4: Perceived ease of use impacts perceived usefulness. The fourth hypothesis proposes that students' perceived ease of use has a significant impact on perceived usefulness. The statistical test results show that there is a strong statistical correlation between the perceived ease of use (PEOU) and perceived usefulness (PU) of digital media majors in using interactive teaching. The standardized path parameter is 0.187, the t-value is 4.321, and the p-value is  $p < 0.001$ . Therefore, the null hypothesis is denied.

Ha5: Perceived usefulness impacts attitude. The fifth hypothesis proposes that perceived usefulness has an impact on attitude. The results show that the perceived usefulness (PU) of students on interactive teaching does not affect their attitude (AT), and there is no significant impact between the two variables. The normalized path parameter is -0.045, and the t-value is -1.183. P-value 0.237 exceeds  $p < 0.05$ . Therefore, the null hypothesis is not rejected.

Ha6: Trust affects attitude. The sixth hypothesis proposes that trust has an impact on attitude. The results show that the trust (TR) of students in interactive teaching does not affect their attitude (AT), and there is no significant impact between the two variables. The normalized path parameter is 0.060, and the t-value is 1.404. P-value 0.160 exceeds  $p < 0.05$ . Therefore, the null hypothesis is not rejected.

Ha7: Perceived ease of use impacts attitude. The seventh hypothesis proposed that perceived ease of use has an impact on attitude. The results showed a strong statistical correlation between perceived ease of use (PEOU) and attitude (AT) toward using interactive teaching by digital media students, with the standardized path parameter at 1.519 and the t-value at 9.444, the p-value  $p < 0.001$ . Therefore, the null hypothesis is rejected.

Ha8: Attitude impacts behavioral intention. The eighth hypothesis proposes that attitude has an impact on behavioral intention. The results showed that students' attitude (AT) toward interactive teaching affects their behavioral intention (BI). There is a significant influence between the two variables. The standardized path parameter was 0.299, and the t-value was 6.369, the p-value was  $p < 0.001$ . Therefore, the null hypothesis is rejected.

Ha9: Behavioral intention impacts use behavior. The ninth hypothesis proposes that behavioral intention has an impact on use behavior. The results showed that students' behavioral intention (BI) of interactive teaching affects their use behavior (UB). There is a significant influence between the two variables. The standardized path parameter was 0.468, and the t-value was 10.176, the p-value was  $p < 0.001$ . Therefore, the null hypothesis is rejected.

## Conclusions

The research objective of this study is to explore the application of interactive teaching methods in the teaching of digital media technology, find out the possible problems of students in using interactive teaching methods through whether students are willing to accept the use of interactive



teaching behavior, and put forward feasible suggestions and measures to solve the existing problems. This paper studies the relationship among 7 important variables: social influence, trust, perceived usefulness, perceived ease of use, attitude, and behavioral intention.

In this study, 504 students were selected as the study sample. The validity and reliability of the research model were evaluated by CFA, and the model was revised according to the evaluation results.

The results indicated that attitude is a direct factor affecting behavioral intention. Students' attitudes directly affect their behavioral intention to use interactive teaching methods. In many previous studies, the positive relationship between attitude and behavioral intention has been affirmed (Wajatrakul, 2013; Bashir & Madhavaiah, 2015; Perry, 2017).

This study confirms the significant impact of behavioral intention on students' usage behavior. The behavioral intention of students towards interactive teaching methods directly affects their use of interactive teaching.

Research on the impact of perceived usefulness and trust on students' attitudes has concluded that the positive effects of perceived usefulness and trust on attitudes have not been confirmed. In this study, students' perception, and trust in the usefulness of interactive teaching did not affect their attitudes towards using it. The impact of perceived ease of use behavior has been confirmed. Students' perception of the ease of use of interactive teaching can affect their attitudes towards it, and many researchers have recognized the relationship between these two variables.

In research on the impact of perceived ease of use, it has been shown that social influence has a positive impact on perceived ease of use. In the study, the evaluation of interactive teaching by other groups in society will affect students' perception of the ease of use of interactive teaching. The study by Venkatesh & Davis (2003) confirmed this result.

In summary, the results of this study answer the research questions and are consistent with the research objectives.

## Discussion

Based on the results, perceived usefulness and trust did not show an influence on the attitude as hypothesized in hypotheses 5 and 6 respectively. The discussion regarding the results is presented as follows.

Regarding hypothesis 1, social influence influenced students' perceptions of the usefulness of using interactive teaching methods. This indicates that the social impact of using interactive teaching methods directly affects students' perception of the usefulness of interactive teaching methods. This is consistent with the conclusion that social influence significantly affects students' perception of course interaction availability, especially the influence of mentors.

Through hypothesis 2, the researcher indicated that social influence has a direct impact on students' perceived ease of use. The results indicated that the social influence of teachers and other classmates can make students feel that the application of interactive teaching methods in digital media technology professional learning is easily accepted. Venkatesh & Davis (2000) confirmed the relationship between social influence and perceived ease of use. In addition, social influence is the main influencing factor of perceived ease of use.

After testing hypothesis 3, the results showed that trust directly affects perceived usefulness. When teachers use interactive teaching methods, students improve and enhance their learning, making it easier to master difficult-to-understand problems, thereby enhancing students' trust in teachers and interactive teaching methods. Therefore, it strengthens students' perception of usefulness. According to Teo et al. (2008) and Donovan (2012), a positive correlation between trust and perceived usefulness has been confirmed.

By testing hypothesis 4, it is evident that perceived ease of use directly affects perceived usefulness. Since the outbreak of COVID-19 in China in December 2019, the application of online teaching methods has increased significantly, and interactive teaching methods are the main means of online teaching. In this process, the ease of use of interactive teaching methods is particularly important, directly affecting students' perception of usefulness. The positive impact of perceived ease of use on perceived usefulness has been confirmed in many previous studies (Davis et al., 1989; Thompson et al., 1991; Venkatesh and Davis, 2000).



Regarding hypothesis 5, the relationship between students' perceived usefulness and attitude has not been confirmed in this study, which means that students believed that this approach is useful for their learning through experiential interactive teaching, which cannot change students' attitudes towards accepting this approach. This result is inconsistent with previous research findings, with most studies suggesting that perceived usefulness affects attitudes toward usage. However, the data results of students majoring in digital media technology in this study indicate that usefulness cannot directly affect their attitudes.

Through data analysis, the researchers concluded that hypothesis 6, which states that trust affects attitude, is not supported. This result indicates that the level of trust in interactive teaching among students majoring in digital media technology does not affect their attitude. Gefen et al.'s study (2003) validated this by examining the impact of distrust on attitudes.

Through hypothesis 7, perceptions of students towards ease of use in interactive teaching have a direct impact on their acceptance attitude. The results indicated that students have a positive attitude towards interactive teaching. Park et al. (2009); Teo, T., & Schaik, P. (2009); Teo & van Schaik's (2009) study confirmed the relationship between perceived ease of use and attitude, and pointed out that perceived ease of use is one of the main influencing factors of attitude.

For hypothesis 8, the result revealed that students' attitudes toward interactive teaching have a direct impact on their behavioral intentions. The results indicated that influenced by perceived ease of use, students have a positive attitude towards using interactive teaching, which motivates them to accept this approach for learning. Other studies by Hu & Zhang (2015) and Perry (2017) have confirmed the relationship between attitude and behavioral intention. In addition, Bashir and Madhavaiah (2015) pointed out that attitude is the main influencing factor of behavioral intention.

According to the test results of hypothesis 9, behavioral intention directly affects usage behavior. Under the influence of attitude, the students in this study have a positive behavioral intention to receive interactive teaching in their learning. This behavioral intention has a strong positive impact on students' acceptance of interactive teaching methods. This has been confirmed in previous studies that the positive behavioral intentions generated by students have a positive impact on their usage behavior (Ukut & Krairit, 2019; Gupta & Arora, 2020).

## Recommendations

This study utilized an integrated media training platform to identify core factors that affect the behavioral intention and usage behavior of students majoring in digital media technology at three comprehensive universities in Chengdu, Sichuan Province. Therefore, in the interactive teaching of digital media technology, the influence of these factors has been considered to promote the reform of digital media technology courses.

Behavioral intention as an important influencing factor of usage behavior has been recognized by many studies (Ukut & Krairit, 2019; Gupta & Arora, 2020), which has been confirmed in this study. Therefore, in the interactive teaching design of courses, teachers should pay attention to cultivating students' willingness to use.

According to the results of Hypothesis 2 and Hypothesis 7, social influence directly affects students' perceived ease of use, and perceived ease of use directly affects students' attitudes. Therefore, in the design of interactive teaching, it is necessary to promote the connection between the class and the enterprise, encourage students to participate in social practice projects and add social practice-related content to interactive teaching, making students believe that interactive teaching is easier to master knowledge and skills.

According to hypothesis 8, students' attitudes are an important factor affecting their behavioral intentions. Therefore, when designing interactive teaching content for courses, teachers should emphasize the close connection between interactive content and the industry, improve students' understanding of digital media technology, and cultivate students' positive learning attitudes.

According to the validation results of hypothesis 9, behavioral intention has a direct positive impact on usage behavior. Therefore, teachers need to improve the social environment of students, increase the ease of students' skill acquisition, improve students' attitudes, and enhance students' behavioral



intentions towards interactive teaching methods during the teaching process. Ultimately, it will increase students' acceptance of interactive teaching.

From this study, it can be concluded that social influence, perceived ease of use, and attitudes directly or indirectly have a positive impact on the behavioral intention of digital media technology majors to accept interactive teaching methods. At the same time, the three potential variables mentioned above also have a direct or indirect positive impact on students' usage behavior, thereby ensuring the improvement of academic performance and the cultivation of practical skills for students majoring in digital media technology.

### Recommendations for future research

Firstly, in subsequent research, researchers can continue to focus on advanced scientific research results, continuously optimize the conceptual framework of this study, and increase research on other potential variables. Enrich research on students' behavioral intentions and usage behavior.

Secondly, this study only collected student data from three comprehensive universities in Chengdu, Sichuan Province, resulting in limited research results. In subsequent research, it can increase research on universities in other provinces.

Finally, research on interactive teaching has been ongoing, and the technology may not be mature enough. In future research, researchers can continue to focus on the development of interactive teaching and continuously improve the construction of relevant course content and research content.

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