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Original Paper

Chinese Students' Intention to Use Online Homework Systems for English Learning: Interest and Hedonic Motivation in the UTAUT Model

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Abstract

The emergence of online homework systems supplements the requirement of online education for learning consolidation. However, there is a lack of exploration of intention to use this facilitator for English learning at the secondary education level of Chinese students. Hence, this study proposed an extended Unified Theory of Acceptance and Use of Technology (UTAUT) model with interest and hedonic motivation to explore the determinants behind the intention to embrace online homework systems for English learning. Data were randomly collected from 277 out of 1,466 Chinese secondary school students via validated questionnaires. Correlational analyses showed that five out of six postulated variables were significantly related to students' behavioral intention when using an online homework system for learning. Positive and significant associations existed between interest, facilitating conditions, performance expectancy, hedonic motivation, social influence and behavioral intention. However, there was a nonsignificant relationship between effort expectancy and behavioral intention. Additionally, interest was found to be the strongest factor related to the acceptance of the system among students. Enhancing interest and hedonic motivation, providing sufficient facilitating conditions and social support, as well as customizing reachable performance expectancy may promote the acceptance of online homework systems for English learning among Chinese secondary school students.

Keywords

English learning, behavioral intention, online homework systems, secondary school students, UTAUT model

1. Introduction

Technological advances have entrenched spectacular transformations across diverse fields (Alkhabra et al., 2023) and in various education sectors. The penetration of technology in education heralds the emergence of online homework systems in secondary student learning. Online homework systems, as a type of technology-assisted homework, can efficiently coordinate learning activities, offer prompt feedback, assess learning progress, and customize individual learning programs (Parker & Loudon, 2013). Due to their efficiency and benefits for student learning (Wiggins & van der Hoff, 2021; Chen et al., 2024b), online homework systems have gained widespread adoption (Smolinsky et al., 2019). Notably, using these systems to help secondary school students in science, technology, engineering, and mathematics (STEM) education has been well-documented (Smolinsky et al., 2019; Stickles, 2017). However, in other pre-college course domains, such as languages or social sciences, relevant studies are scarce and insufficient (Chen et al., 2023; Magalhães et al., 2020).

English, as one of the significant subjects in the Chinese educational context, holds significant weight in the scores of the Entrance Exam of Senior High School and University. In accordance with the new curriculum standards, mastery of competency skills in this subject demand students to acquire four fundamental learning abilities: listening, speaking, reading, and writing. The test of the English course comprises two parts in the entrance exams, including written tests and listening and speaking tests. The computer-based English Listening and Speaking Test (CELST) is administered to evaluate students' listening and speaking abilities in the exam. Specifically, the score of CELST has been gradually adjusted to 30 points out of 120 from city to city in the Entrance Exam of Senior High School in 2022 and 20 points out of 150 in the Entrance Exam of University in 2023. To enhance performance and attain higher scores in the exam, students are encouraged to utilize online homework systems, such as Ekwing and ETS100, for English learning.

However, past studies indicate that Chinese students are dissatisfied with the acceptance or utilization of online homework systems in their learning process (Cao et al., 2022). It is typical that students show lower intention to complete their homework. However, in the absence of proper guidance, individuals may become susceptible to distractions stemming from unrelated matters (Cao & Song, 2020). To illustrate, students might frequently find themselves entangled in procrastination or recreational activities while attempting to complete online assignments (Solyst et al., 2021). Furthermore, their retention of online homework is also claimed to be dissatisfactory (Cao et al., 2022). Despite the significant advantages students derive from the utilization of online homework systems (Caitlin & Dustin, 2018; Xu et al., 2020), their inclination to employ the system remain low. There is a scarcity of relevant studies that delve into the determinants affecting high-school students' willingness to embrace online homework (Cao & Song, 2020). Consequently, it becomes imperative to investigate this topic more thoroughly.

The Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) is a well-known and widely-used theory of user acceptance of technology. User acceptability and use of technology have been demonstrated to be highly correlated with individuals' inclination to use technology

(Tey & Moses, 2018). The successful promotion of an online homework system to enhance student learning is strongly associated with their behavioral intention to use this facilitator (Cao & Song, 2020; Chen et al., 2024a; Xu, 2021). To provide insights to encourage the efficient utilization of online homework systems for English learning, understanding the important determinant variables predicting Chinese secondary school students' behavioral intention is significant and meaningful.

Many researchers have modified the UTAUT model with new variables to demonstrate the acceptance of technology by students (Chao, 2019; Khechine et al., 2020; Tewari et al., 2023), such as system quality (Batucan et al., 22), satisfaction (Maxwell et al., 2018) and anxiety (Gunasinghe & Nanayakkara, 2021). In light of these advancements, this study aims to examine the factors predicting secondary school students' intention to use an online homework system based on an extended UTAUT model with the interest and hedonic motivation constructs as antecedent variables. It is a novel try to unveil the predictive function for behavioral intention from interest and hedonic motivation, respectively. Particularly, the investigation of the best predictor on behavioral intention may assist future investigators, administrators, and teachers to formulate practical recommendations for promoting technology use for student learning.

2. Literature Review

2.1 Theoretical Background

The UTAUT model (Venkatesh et al., 2003) has been employed to explain the acceptance of technology, predict system usage, and testify the acceptant availability by users in various fields (Chao, 2019; Chauhan & Jaiswal, 2016; Chhonker et al., 2018; Mishra et al., 2023). Notably, studies that use the model in the educational context are found to be well-documented (Chao, 2019; Halili & Sulaiman, 2018; Hoi, 2020; Raffaghelli et al., 2022; Suki & Suki, 2017). Furthermore, many extended models have been developed and tested to include additional variables and determinants, or to modify existing determinants and moderators (Barrett et al., 2021; Butucan et al., 2022; Hanham et al., 2021; Huang, 2023), such as UTAUT 2 (Venkatesh et al., 2012) and UTAUT3 (Farooq et al., 2017).

The incorporation of the subjective task value variable into the UTAUT model by Chiu and Wang (2008) has sparked investigations underpinned by the expectancy-value model of achievement motivation (EVMAM) (Eccles et al., 1983) to elucidate users' intention to employ technology for educational purposes. In fact, subjective task value comprises four constructs, namely intrinsic value, attainment value, utility value and cost. The authors found that the first three constructs significantly predicted users' intention to use the web-based learning in their study. In alignment with this previous study, Khechine et al. (2020) completely incorporated the extrinsic drivers of technological acceptance from the UTAUT model and added the intrinsic value construct to investigate the adoption of a learning system among college students, as shown in Figure 1. The rational for excluding attainment value, utility value, and cost is grounded on their similarity with the four main determinants of the UTAUT model. Besides, the intrinsic value construct has been demonstrated to explore the reasons why higher education students are inclined to engage in learning via technology (Vanslambrouck et al., 2018).

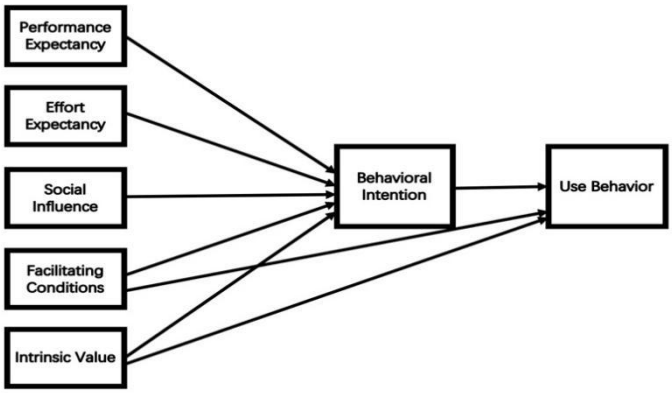

Figure 1. The Model of UTAUT with Intrinsic Value Construct by Khechine et al. (2020)

Hence, the four core determinants, including performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC), as well as the newly-added construct intrinsic value were proposed to assess their impact on behavioral intention of students regarding the use of technology. To stress, the intrinsic value construct was expanded on the hedonic motivation construct by including both the enjoyment and interest dimensions to test its prediction on technology adoption among college students (Khechine et al., 2020). As a result, the intrinsic value encompassed two components, enjoyment and interest. The findings revealed that the enhancement of students' enjoyment and interest can strengthen their intention to accept and adopt the technology. As one of the four constructs within the subjective task value in the expectancy value theory (Eccles et al., 1983), intrinsic value was associated with well-developed individual interest. Children often intended to emerge themselves into the activity when they were interested in an activity (O'kefe et al., 2017; Wigfield & Cambria, 2010).

Hedonic motivation is defined as the extent of the enjoyment, amusement, or pleasure experienced by users when using technology (Venkatesh et al., 2012). While enjoyment represented the level of pleasure that users anticipated while using technology (Davis et al., 1992; Sudono et al., 2020; Yi & Hwang, 2003). Previous studies have consistently highlighted the significant impact of enjoyment on behavioral intention to use technology (Butucan et al., 2022; Luo et al., 2019; Sudono et al., 2020; Winarno et al., 2021). According to Khechine et al. (2020), the intrinsic value variable serves as an extension of hedonic motivation. Besides, this construct can be measured from enjoyment and interest. Therefore, enjoyment can be considered akin to hedonic motivation.

As such, it is justified to propose that hedonic motivation and interest may independently predict users' behavioral intention to use technology. Hence, the variables from the model proposed by Khechine et al. (2020) are completely adopted in the current study. In particular, the analysis of intrinsic value in this study is conducted from interest and hedonic motivation, respectively.

2.2 Online Homework Systems

Homework serves as a crucial instructional tool that significantly influences student learning (Cooper, 2001). Commonly, it consists of learning tasks defined by instructors for students to review, practice, and

solidify knowledge after school (Cooper, 2001; Rosário et al., 2019). The integration of online homework systems into student learning has gained popularity in education with the development of technology subsequently (Liu et al., 2022; Salame & Hanna, 2020). Relevant studies have demonstrated that online homework systems benefit student learning, including promoting academic performance (González et al., 2022; Hanham et al., 2021; Murphy et al., 2020), providing instant feedback (Elias et al., 2017; Lunsford & Pendergrass, 2016), as well as enlarging learning envision (Richards-Babb et al., 2011; Salame & Hanna, 2022).

The original or extended UTAUT model has been employed to examine factors influencing students' adoption of various technologies (Khechine & Augier, 2019; Khechine et al., 2020; Raffaghelli et al., 2022). Furthermore, determinants, including PE, EE, SI, FC, and interest have been discovered to impact students' intention to use online homework systems for learning. Performance expectancy (PE) is defined as students' perception that using the online homework system will enhance their performance (Venkatesh et al., 2003). This construct was proven to effectively affect the inclination to use the online mathematics homework tool among students from one of the international schools in Kuala Lumpur (Albelbisi & Yusop, 2018). In addition, based on the UTAUT model, Muneer (2021) explored four principal determinants of intention and use of Moodle among students and highlighted that PE affected students' BI to use Moodle to learn. Effort expectancy (EE) describes the ease that students perceive in using the online homework system (Venkatesh et al., 2003). In the study conducted by Balta et al. (2018) among 85 undergraduate students, the findings released that students were inclined to do online homework due to the ease of using the system. This finding is consistent with the study conducted by Muneer (2021), who found that the EE construct impacted students' intention to use Moodle to complete homework as well. Social influence (SI) refers to the perception of the important others believe in the use of the online homework system by the students (Venkatesh et al., 2003). Maxwell et al. (2018) claimed in their report that faculty who set examples to students can trigger their willingness to employ online homework tools for learning. This finding was also in align with the conclusion by Murphy et al. (2020), highlighting the effect of feedback from instructors on the intention of students to accept online homework. Facilitating conditions (FC) encompass students' perception of support available when utilizing an online homework system (Venkatesh et al., 2003). Based on the extension of the UTAUT model, the study by Khechine et al. (2020) detected that FC variable can predict the students' BI. What is more, the relationship was positive.

Interest in online homework (IOHW) is conceptualized as the passionate involvement and preference to use the online homework system for learning among students (Renninger & Hidi, 2016; Sun et al., 2019; Xu, 2021). As Wheeler and Blanchard (2019) declared, the students who were motivated by interests to use the online homework system WebAssign were likely to use the system for learning. A study by Kurt (2021) depicted the effects of technology integration on student learning based on the quasi-experiential study conducted in the Turkish context. Based on the investigation on the students' opinions, the findings revealed the agreements among the students that the technology-mediated homework contributed to their

foreign language development. Moreover, their self-perceived higher ability in English, efficacy beliefs in technology use, and positive attitudes towards the technology-mediated homework were explored to be correlated with their interests to use the technology. Hedonic motivation (HM) is identified as the enjoyment and pleasure gained by students in using technology (Venkatesh et al., 2012). Extant studies have explored that HM impact students' inclination to use technology for learning. Krishna et al. (2019) applied the UTAUT2 model to investigate a study with the data from 358 accounting students and further proved that HM was the strongest variable influencing the learning behaviors among the higher education students in Malaysia. Simultaneously, Aijaz et al. (2019) discovered that hedonic motivation strongly influenced students' desire to use technology for learning. Hartelina et al. (2021) concluded the same findings that hedonic motivation impacted students' decision to use online learning applications.

Till now, studies on online homework systems have been predominately focused on college students (Fatmawati, 2021; Salame & Hanna, 2020; Wiggins & van der Hoff, 2021; Xu et al., 2020). Evidently, there is a noticeable gap in attention to K12 school students, with few scholars delving into this area (Albelbisi & Yusop, 2018; Alshehri, 2017; Murphy et al., 2020), particularly among Chinese secondary school students (Cao et al., 2022; Cao & Song, 2020, He, 2018). What is more, researchers have yet to adequately address the utilization of online homework systems among Chinese students for English learning (Ji, 2019). Studies focusing on primary school students indicate that, due to its individualized content and varied homework types, the use of online homework systems has led to an increased homework completion rate. This, in turn, has resulted in steadily enhanced English performance and heightened interest in learning among students (Kong & Huang, 2020; Wang, 2021). Regarding secondary school students, scholars have found that learning English via the online homework system is beneficial to students (Li, 2022; Xu, 2021), and many students hold positive attitudes towards the system, expressing interest in using it for doing English homework (Ji, 2019; Zhang, 2022). However, there is a scarcity of studies investigating what factors determining secondary school students to use this learning facilitator (Cao et al., 2022).

Research on online homework systems is recommended to be targeted at language courses and K12 students (Chen et al., 2023; Magalhães et al., 2020). In addition, the increasing popularity of learning with technology as well as its inherent usefulness of technology underline the necessity of promoting this instructional facilitator for student learning. However, students' intention to use online homework systems is not as high as expected (Cao et al., 2022; Cao & Song, 2020). As such, understanding the behavioral intention to use online homework systems becomes crucial for optimizing the usage of this educational technology among Chinese secondary school students. To address this gap, this study aims to explore the following research questions:

RQ1: Is there a significant relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, interest, and behavioral intention of Chinese secondary school students when using an online homework system for English learning?

RQ2: Which is the best predictor of behavioral intention of Chinese secondary school students in relation

to performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, and interest, when using an online homework system for English learning?

3. The Conceptual Model

Behavioral intention, technology acceptance, and use are significantly associated with. Thus, the successful promotion of online homework systems among students should consider the behavioral intention variable and related variables determining their intentions. Furthermore, the impact of all moderators in the UTAUT model is contingent upon the particular context (Dwivedi et al., 2019). It is rational for the present study opts not to incorporate these moderators into the proposed model. Therefore, based on the Model of UTAUT with Intrinsic Value Construct by Khechine et al. (2020), this research proposes that PE, EE, SI, FC, HM, and IOHW all have a strong bearing on behavioral intention of students when using an online homework system, as illustrated in Figure 2. In addition, the proportion variance of behavioral intention can be explained by the postulated variables are also examined.

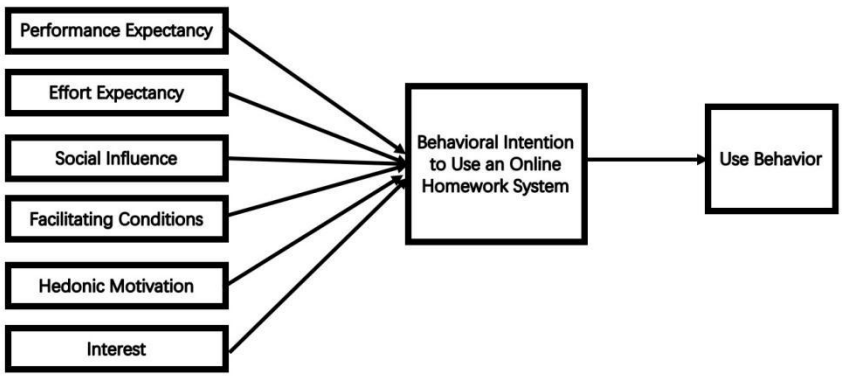

Figure 2. The Conceptual Model of the Study

4. Methodology

4.1 Research Approach

A coefficient correlation analysis was employed to address the research questions of this study. It is justified to employ this analysis, because this method enables us to examine whether there was any significant correlation between the postulated variables, including PE, EE, SI, FC, HM, IOHW, and BI to use the online homework system. Besides, a multiple linear regression analysis was conducted to testify the best predictors of BI to use the system in this model.

4.2 Participants

The accessible population of this study consisted of 1,466 secondary school students enrolled in four public schools in Huicheng District, Huizhou, Guangdong, during the academic year 2021-2022. The sample size of 226 participants from the population was considered adequate for the study based on Cochran's formula. Besides, oversampling was used for potential non-responses or incomplete responses.

As such, 339 was included in the study according to the formula of Bartlett et al. (2001). The minimum sample size was also validated based on the criteria of the Multiple Linear Regression (MLR) by Tabachnick and Fidell (2007), indicating that N > 50 + 8*6 = 50 + 48 = 98. Hence, the sample size of 339 cases with six independent variables satisfied the MLR requirement. Besides, a proportional stratified cluster sampling technique was applied to collect representative informants from the target population. Ultimately, 278 questionnaires with complete data were returned.

4.3 Research Ethics

For the research ethics, Research Ethics Committee for Research Involving Human Subjects, Universiti Putra Malaysia, and the principals of the participating schools approved this study. All participants were informed that they obtained their right to withdraw from this study. The researchers also ensured anonymity throughout the research process.

4.4 Instrument

The survey questions, comprising demographic information and determinants, were initially written in English, then translated into Chinese by experts. A double-back language translation was employed so as to fulfill the absolute consistency of the construct's conceptual value. Upon a comprehensive review and validation process conducted by experts, the questionnaires, comprising 44 items available in both English and Chinese, were duly completed. The Likert-type scale with five points dimensions was used for the analysis. To measure the variable, items were adapted from Venkatesh et al. (2003), Venkatesh et al. (2012), Khechine et al. (2020), Xu (2008) and other informed literature sources. Cronbach's alpha was employed and carefully monitored to meet or exceed the threshold of .70, as advised by Hair et al. (2018), to achieve the necessary levels of internal consistency and reliability. The reliability statistics of the instruments were shown in Table 1.

Table 1. Reliability Statistics of the Instruments

	Cronbach's Alpha	
	Actual study	Pilot study
BI	.71	.71
PE	.90	.89
EE	.73	.73
SI	.71	.71
FC	.82	.80
HM	.90	.89
IOHW	.81	.80

4.5 Ekwing: An Online Homework System

Ekwing online homework system provides synchronous teaching and learning for English course based

on the national curriculum standards of China. The implementation of big data, cloud computing, artificial intelligence, and mobile Internet technology enables the system to fully meet the needs of teachers, students, and parents. Unlike traditional homework, this system can generate relevant user data and provide instant feedback to students, which is possible to strengthen user learning motivation, cultivate self-regulated learning habits, and evoke learning interests. The utilization of this system can realize the learner-centered educational concept, and help to develop students' core literacy (Li, 2022).

4.6 Data Analysis

The questionnaires were distributed by the researchers in person. After completing the survey, the data were coded into SPSS software. The exploratory data analysis (EDA) was employed firstly to explore the features of the data among 278 questionnaires with complete data. Finally, a total of 277 valid paper-version questionnaires remained, because one case was found to be extreme outlier via Multivariate detection with the Mahalanobis D^2 measure. As such, the valid return rate of this study was 81.7%, which was considered to be good for data analysis and report according to Babbie (1990). Besides, it also satisfied the minimum requirement of 226 based on Cochran's suggestion (Cochran, 1977). Descriptive statistics were also conducted to determine the skewness and kurtosis values of the variables to ensure the normality of data, as illustrated in Table 2. According to George and Mallery (2009), the values of skewness and kurtosis from -1.00 to + 1.00 are considered excellent. Thus, the assumptions were met because the values for skewness ranged from -0.162 to -0.845 and the values of kurtosis ranged from -0.350 to 0.936.

Table 2. Skewness and Kurtosis Values of the Variables

	N	Mean	Std. Deviation	Skewness		Kurtosis	
					Std. Error		Std. Error
PE	277	2.60	.700	-.162	.146	.913	.292
EE	277	2.57	.616	-.534	.146	.139	.292
SI	277	2.88	.455	-.271	.146	.388	.292
FC	277	2.90	.563	-.610	.146	-.051	.292
HM	277	2.85	.683	-.835	.146	.498	.292
IOHW	277	2.94	.554	-.531	.146	-.350	.292
BI	277	2.73	.632	-.845	.146	.936	.292

5. Results

5.1 Demographic Profile

From Table 3, the demographic information showed 46.9% of males and 53.1% of females. In addition, about 93.1% of respondents were feasible to access the Internet, while 88.1% were using a mobile phone to complete homework. A total of 32.9% of the respondents used the system for English learning once

per week, while 23.6% of the respondents used it four times per week or more.

Table 3. Demographic Profile

		Frequency(f)	Percent (%)
Gender	Male	130	46.9
	Female	147	53.1
	Total	277	100.0
Internet accessibility	Yes	258	93.1
	No	19	6.9
	Total	277	100.0
Usage of mobile phone	Yes	244	88.1
	No	33	11.9
	Total	277	100.0
Use of frequency	Less than one time per week	42	15.2
	Once per week	91	32.9
	Twice per week	29	10.5
	Three times per week	50	18.1
	Four times per week or more	65	23.6
	Total	277	100.0

5.2 Relationship between the Postulated Variables and Behavioral Intention to Use Ekwing

The Pearson product-moment coefficient was conducted to answer RQ1. The statistical results of the relationship between the postulated variable and behavioral intention were present. Besides, the correlation coefficient was abided by Cohen's criteria (Cohen, 1988).

Given that the statistical results displayed in Table 4, it can be observed that all six variables had a significant correlation with behavioral intention. Furthermore, the results of the correlation coefficient analysis demonstrated that FC and IOHW were recorded with a very high association with BI among students when using the system for learning.

Table 4. Relationships between the Postulated Variables and BI

Variables	BI	PE	EE	SI	FC	HM	IOHW
BI	1.000						
PE	.702**	1.000					
EE	.585**	.736**	1.000				
SI	.684**	.685**	.511**	.1000			
FC	.798**	.686**	.565**	.673**	1.000		

HM	.777**	.635**	.518**	.633**	.804**	1.000	
IOHW	.797**	.641**	.501**	.628**	.738**	.733**	1.000

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

5.3 Proportion of Variance in Behavioral Intention by the Postulated Variables

Multiple regression was employed to answer RQ2. Preliminary assessments were made to ensure that assumptions for multicollinearity and singularity were met. According to Coakes et al. (2010), multicollinearity occurs when independent variables exhibit high correlation (r = + .9 or greater), while singularity refers to a scenario with perfect correlation among independent variables. In this case, the assumptions for multicollinearity and singularity were not violated, as illustrated in Table 5.

Table 5. Collinearity Statistics

	Collinearity	
Constructs	Tolerance	Variance Inflation (VIF)
PE	0.296	3.380
EE	0.449	2.225
SI	0.436	2.292
FC	0.275	3.631
HM	0.279	3.585
IOHW	0.342	2.926

a. Dependent variable: BI

Besides, depending on the nature of the questions proposed to address, stepwise regression was employed in this study. Hence, the postulated variables were entered based on the multiple correlation *R* and the contribution to the prediction equation. The amount of unique variance of the dependent variable from each postulated variable was illustrated in Table 6.

As shown in Table 6, a significant model emerged which explained 76.5% of the variance (adjusted R^2 = 0.765). Based on the information reported, IOHW, FC, PE, HM, and SI predicted Chinese students' BI to use the Ekwing system. However, EE was excluded from this model.

Table 6. Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate	R Square Change	F Change	Sig. F Change
	0.877[a]	0.770	0.765	0.306	0.005	6.136	0.000[b]

a. Predictors: (Constant), IOHW, FC, PE, HM, SI

b. Dependent variable: BI

The absolute values of the standardized estimate (β) were recorded as follows, IOHW (β = 0.327, t = 6.540, p < 0.05), FC (β = 0.262, t = 4.718, p < 0.05), PE (β = 0.136, t = 3.033, p < 0.05), HM (β = 0.163, t = 2.945, p < 0.05), and SI (β = 0.109, t = 2.477, p < 0.05), as illustrated in Table 7. The postulated variable that explained the greatest amount of variance in the analysis was IOHW. Hence, it may mean that students who were with great interest in doing online homework may tend to use the Ekwing system for English learning.

Table 7. Multiple Regression on Dependent Variable (BI)

	Unstandardized Coefficients		Standardized Coefficients	
	B	Std. B	β	t
IOHW	0.372	0.057	0.327	6.540
FC	0.293	0.062	0.262	4.718
PE	0.123	0.040	0.136	3.033
HM	0.150	0.051	0.163	2.945
SI	0.152	0.061	0.109	2.477

a. Dependent variable: BI

6. Discussion

The postulated research model explained 76.5% of the variance in intention to use the online homework system. Suggested by Cohen (1988), this value indicated a large effect. Based on Table 7, five out of six postulated variables were confirmed to associate with intention to use the online homework system. Besides, the beta weights suggested that IOHW, FC, PE, HM, and SI contributed to predict BI to use the system. However, EE was not discovered to predict BI in the model.

The most crucial factor predicting BI was Interest in online homework (IOHW), with the highest variance proportion in the model, aligning with the findings from other researchers (Aksenova et al., 2015; Wheeler & Blanchard, 2019; Kurt, 2021). According to Schiefele (1996), interest is regarded as a pivotal component in learning that also influences students' intention to complete homework (Sun et al., 2019; Xu, 2021). Moreover, the spurring of interest in a learning activity can transform into doing with interests while learning (Chan et al., 2019). Online homework is acknowledged as assignment given by instructors but facilitated by technology, hence students' interest in this homework type may link to their intention to do homework via the system as well. Furthermore, Khechine et al. (2020) demonstrated that interest served as a measurement of intrinsic value, proving to be an important determinant of behavioral intention. Given the substantial explained variance of 32.7% of this variable in this model, it is justified that interest is an important element that should be taken into consideration when instructing students to learn English with the assistance of technology.

Facilitating Condition (FC) emerged to be a second predictor of BI to use the system among students for

learning. This finding aligns with the previous conclusions that FC significantly and positively affected BI to use technology (Singh & Gaffar, 2013; Khechine et al., 2020; Raza et al., 2021). In this study, facilitating conditions (FC) included that some students lacked ownership of mobile phone and others faced challenges to access internet as revealed by the demographic information. This underscores the importance of ensuring that sufficient facilitating resources, such as sound internet and mobile devices, are provided and made accessible for secondary school students. It is crucial to recognize that the targeted population of this study is secondary school students. The infrastructure and technological equipment of secondary schools may be insufficient, compared to colleges. Hence, special attention should be given to providing necessity conditions for student learning via the system.

Performance Expectancy (PE) is the primary driver of users' intention to use technology, supported by existing research (Albelbisi & Yusop, 2018; Muneer, 2021; Venkatesh et al., 2012). The association between PE and BI also turned out to be significant and positive in this study. The result finds explanation in the Chinese educational context, where students experience a heavy emphasis on examination-driven learning. Hence, students may perceive doing homework as a means to achieve higher scores. In this context, it is reasonable for students to anticipate improved exam performance when using the system for learning. This finding is also corroborated by the studies conducted by He (2018) and Wang (2021).

Hedonic Motivation (HM) is a crucial factor influencing technology adoption among users in the educational context (Hartelina & Ayuk, 2021; Krishna et al., 2019). It is also found to contribute to the explanation of behavioral intention among Chinese secondary school students to use Ekwing for English learning in this model. The result can be attributed to the developmental characteristics of students. They are much possible to engage in interesting, vivid, amusing, and funny activities. Given the natural inclination of children to accept enjoyable and pleasing experience, hedonic motivation, described as the pleasure and enjoyment that students perceive when using the system, should be taken into account when promoting the utilization of technology among secondary school students. Recognizing the importance of hedonic motivation can enhance efforts to engage students in technology-based learning experiences that are not only educational but also enjoyable and satisfying.

Social Influence (SI) is also found to predict BI of students when using the system in this study. This finding is confirmed by other academicians as well (Alqasa et al., 2014; Alshehri, 2017; Maxwell et al., 2018). The demographic information reveals that students typically use the system for English learning after school, and as children, they often need parental permission to use mobile phones. It is plausible that students who gain parental support are more likely to access homework via the system, vice versa. Besides, considering the Chinese educational context, where students typically demonstrate respect for their instructors and parents by adhering to their instructions, the influence of social factors becomes especially pronounced. Hence, it is much justified to emphasize the significance of social influence when encouraging students to learn via the system, acknowledging the role of parental support and societal expectations in shaping students' intentions to use educational technology.

Effort Expectancy (EE) was found to be insignificant in predicting students' BI to use the system in this

study. This finding is confirmed by Morgan (2013) who observed no significant relationship between EE and BI for account learning via an online homework system among 76 college students. Likewise, Hoi (2020) asserted that the effect of EE on BI did not outweigh other determinants in the view of students, particularly when the technology was perceived as simple to handle. The popularity of technology and the promotion of technological courses among secondary schools in China suggest that students are likely to be well-acquainted with various learning systems and applications. Additionally, the simplicity of technology designed for secondary school students might contribute to their ease of use. As a result, EE may not be a significant factor in shaping students' intentions to use educational technology, as the perceived effort involved may not outweigh the perceived ease of use. This insight underscores the importance of considering the familiarity and simplicity of technology when assessing its impact on students' behavioral intentions to use the facilitator for learning.

7. Limitations and Recommendations

Several limitations should be acknowledged in this study. Firstly, the study exclusively focuses on the Ekwing online homework system for English learning. It is essential to recognize that different systems and applications for learning diverse subjects may yield different outcomes. Therefore, caution should be exercised when generalizing these findings to other educational platforms for other subject learning. Secondly, the participants in this study are limited to secondary school students from four public schools in Huicheng District, Huizhou, Guangdong. The outcomes may not be representative of students in other public schools or private institutions. The unique characteristics and educational environments of diverse schools could influence the results. Thirdly, the data were collected through questionnaires, introducing the possibility of respondents providing dishonest or biased answers. This potential response bias may affect the overall accuracy and reliability of the study's results. Finally, it is crucial to note that the correlational nature of the analysis employed in this study does not establish causal relationships between the postulated variables and the dependent variable. As highlighted by Wong (2013), correlation does not imply causation, and caution is required in inferring cause-and-effect relationships from the observed associations.

Recommendations for future studies are also include herein. Some studies may target other types of online homework systems, such as the 17zuoye platform. Investigating how different platforms impact students' intentions and learning outcomes could provide valuable insights. Further studies may focus on diverse regions in China and pay attention to the students from private schools, which may offer a more comprehensive understanding of how educational contexts and resources influence students' intention to use online homework systems. Complementing quantitative findings with qualitative research is also recommended so as to get a further understanding of students' intention to use this educational facilitator. Exploring students' perceptions, experiences, and attitudes through interviews or focus groups could unveil valuable insights into the nuances of their decision-making process. Other potential factors influencing students' intention, such as satisfaction (Chao, 2019), also should be embraced for study.

Furthermore, examining the moderating effects of variables of the UTAUT model, such as gender (Park et al., 2019), on students' intention to adopt the system for learning would refine the proposed model. Particularly, assessing how demographic information influences the relationship between predictors and the dependent variable could provide a more nuanced understanding of technology adoption (Baron & Kenny, 1986). Last but not least, expanding the scope beyond English learning to include other subjects would broaden the applicability of the findings and reveal subject-specific dynamics in technology adoption.

8. Conclusion

The integration of online homework systems and English learning promises benefits for students to acquire conceptual and procedural knowledge. Hence, understanding factors predicting students' intention to use such a facilitator is essential. Conjointly, this study examines the acceptance of the system based on the extension of the UTAUT model, by adding interest and hedonic motivation. The findings reveal a positive and significant linkage between IOHW, FC, PE, HM, SI, and BI exists. Importantly, IOHW emerges as the strongest predictor of BI of students when using the system for English learning. The findings of this study contribute valuable insights into the intrinsic determinants shaping students' intentions to adopt online homework systems.

The implications of this study suggest that instructors and educators should pay more attention to boosting students' interest in English learning in their teaching procedures. The design of homework should be interesting and enjoyable to motivate the intention to use the system for learning among students as well. Sufficient facilitators should be guaranteed to be accessible to students. Guiding students to set up reachable performance expectancy as well as offering them essential support for them to carry on their studies also should be highlighted.

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References

Aijaz, A. A., Zahid, H., Wajid, H. R., & Muhammad, S. V. (2019). Extending UTAUT2 toward acceptance of mobile learning in the context of higher education. *Universal Access in the Information Society*, *18*(3), 659-673.

Aksenova, A. V., Shepetovsky, D. V., Mironova, V. E., Stepura, S. N., & Pichugova, I. L. (2015). Developing students’ motivation to learn foreign language in tertiary classroom and beyond. *Mediterranean Journal of Social Sciences*, *6*(5), 240-247.

Albelbisi, N. A., & Yusop, F. D. (2018). Secondary school students' use of and attitudes toward online mathematics homework. *Turkish Online Journal of Educational Technology, 17*(1), 144-153.

Alkhabra, K. Y., Ibrahem, U. M., & Alkhabra, S. A. (2023). Augmented reality technology in enhancing learning retention and critical thinking according to STEAM program. *Humanities and Social Sciences Communication, 10*(1). 1-10. https://doi.org/10.1057/s41599-023-01650-w

Alqasa, K. M., Mohd Isa, F., Othman, S.N., & Zolait, A. H. S. (2014). The impact of students' attitude and subjective norm on the behavioral intention to use services of banking system. *International Journal of Business Information System, 15*(1), 105-122.

Alshehri, A. A. (2017). The perception created of online homework by high school students, their teacher and parents in Saudi Arabia. *Journal of Education and Practice, 8*(13), 85-100.

Awang, Z. (2012). *Research Methodology and Data Analysis* (2nd ed.). UiTM Press.

Balta, N., Perera-Rodríguez, V., & Hervás-Gómez, C. (2018). Using Socrative as an online homework platform to increase students' exam scores. *Education and Information Technologies, 23,* 837-850. http://doi.org/10.1007/s10639-017-9638-6

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182. https://dx.doi.org/10.1037/0022-3514.51.6.1173

Barrett, A. J., Pack, A., & Quaid, E. D. (2021). Understanding learners' acceptance of high-immersion virtual reality systems: Insights from confirmatory and exploratory PLS-SEM analyses. *Computers & Education, 169,* 104214. https://doi.org/10.1016/j.compedu.2021.104214

Batucan, G. B., Gonzales, G. G., Balbuena, M. G., Pasaol, K. R., Seno, D. N., & Gonzales, R. R. (2022). An extended UTAUT model to explain factors affecting online learning system amidst covid-19 pandemic: The case of a developing economy. *Frontiers in Artificial Intelligence, 5,* 768831. https://doi.org/10.3389/frai.2022.768831

Cao, M., & Song, J.H. (2020). Research on user experience of online homework and its influencing factors: reflection on the promotion and application of online homework. *Modern Educational Technology, 30*(2), 79-84. https://doi.org/10.3969/j.issn.1009-8097.2020.02.011

Cao, M., Zhu, X. Y., & Shen, S. S. (2022). A study on grade 7-12 students' online learning performance with their parental involvement: Investigation and research report I on online teaching in primary and secondary schools in Jiangsu province. *Journal of East China Normal University (Educational Sciences), 40*(4), 16-28.

Chan, T. W., Looi, C. K., Chang, B., & Chen, W. L. et al., (2019). IDC theory: creation and the creation loop. *Research and Practice in Technology Enhanced Learning, 14*(26), 1-29. https://doi.org/10.1186/s41039-019-0120-5

Chao, C. M. (2019). Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model. *Frontiers in Psychology, 10,* 1652. https://doi.org/10.3389/fpsyg.2019.01652

Chauhan, S., & Jaiswal, M. (2016). Determinants of acceptance of ERP software training in business schools: empirical investigation using UTAUT model. *International Journal of Management Education*, *14*, 248-262. https://doi.org/10.1016/j.ijme.2016.05.005

Chen, L., Wong, S. L., & How, S. P. (2023). A systematic review of factors influencing student interest in online homework. *Research and Practice in Technology Enhanced Learning*, *18*(39). https://doi.org/10.58459/rptel.2023.18039

Chen, L., Wong, S. L., & How, S. P. (2024a). A systematic review of factors influencing students' behavioral intention to adopt online homework. *Journal of Computers in Education*, *11*(4), 1157-1180. https://doi.org/10.1007/s40692-023-00295-7

Chen, L., Wong, S. L., Zeng, S. N., & How, S. P. (2024b). Exploring Chinese secondary students' behaviors towards online homework based on the UX model: Does homework completion relate to academic performance?. *Heliyon*, *10*(23), e40472. http://doi.org/10.1016/j.heliyon.2024.e40472

Chhonker, M. S., Verma, D., Kar, A. K., & Grover, P. (2018). M-commerce technology adoption-Thematic and citation analysis of scholarly research during 2008-2017. *The Bottom Line*, *31*, 208-233. https://doi.org/10.1108/BL-04-2018-0020

Chiu, C.-M., & Wang, E. T. G. (2008). Understanding web-based learning continuance intention: The role of subjective task value. *Information & Management*, *45*(3), 194-201. https://doi.org/10.1016/j.im.2008.02.003

Coakes, S., Steed, L. & Ong, C. (2010). *SPSS: analysis without anguish*. Brisbane: John Wiley & Sons, Australia.

Cohen, L., Manion, L., & Morrison, K. (2017). *Research Methods in Education* (8th ed.). Routledge, London.

Cooper, H. M. (2001). *The battle over homework: Common ground for administrators, teachers, and parents* (2nd ed.). Corwin Press: Thousand Oaks, CA.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, *22*(14), 1111-1132.

Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019). Re-examining the unified theory of acceptance and use of technology (UTAUT): Towards a revised theoretical model. *Information Systems Frontiers*, *21*(3), 719-734. https://doi.org/10.1007/s1-79-017-9774-y

Eccles, J., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L. & Midgley, C. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives: Psychological and sociological approaches* (pp. 75–146). W. H. Freeman, San Francisco.

Elias, A. L., Elliott, D. G., & Elliott, J. A. W. (2017). Student perceptions and instructor experiences in implementing an online homework system in a large second-year engineering course. *Education for Chemical Engineers*, *21*, 40-49. https://doi.org/10.1016/j.ece.2017.07.005

Farooq, M. S., Salam, M., Jaafar, N., Fayolle, A., Ayupp, K., Radovic-Markovic, M., & Aajid, A. (2017). Acceptance and use of lecture capture system (LCS) in executive business studies: Extending

UTAUT2. *Interactive Technology and Smart Education*, *14*(4), 329-348. https://doi.org/10.1108/ITSE-06-2016-0015

Fatmawati, O. A. (2021). Does Kahoot challenge mode motivate students' better than google form in doing online homework? *Journal of English Language Teaching Learning and Literature*, *4*(2), 15-27. https://doi.org/10.55933/lng.v4i2.266

George, D., & Mallery, M. (2009). *Using SPSS for Windows step by step: A simple guide and reference*. Allyn & Bacon, Boston, MA.

González, J.A., Giuliano, M. & Pérez, S.N. (2022). Measuring the effectiveness of online problem solving for improving academic performance in a probability course. *Education and Information Technologies*, *27*(5), 6437-6457. https://doi.org/10.1007/s10639-021-10876-7

Gunasinghe, A., & Nanayakkara, S. (2021). Role of technology anxiety within UTAUT in understanding non-user adoption intentions to virtual learning environments: The state university lectures' perspective. *International Journal of Technology Enhanced Learning*, *13*(3), 284-308. https://doi.org/10.1504/IJTEL.2021.10036681

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis* (8th ed.). United Kingdom: Cengage Learning.

Halili, S. H., & Sulaiman, H. (2018). Factors influencing the rural students' acceptance of using ICT for educational purposes. *Kasetsart Journal of Social Sciences*, *40*(3), 574-579.

Hanham, J., Lee, C. B., & Teo, T. (2021). The influence of technology acceptance, academic self-efficacy, and gender on academic achievement through online tutoring. *Computers & Education*, *172*, 104252. https://doi.org/10.1016/j.compedu.2021.104252

Hartelina, H., Batu, R., & Hidayanti, A. (2021). What can hedonic motivation do on decisions to use online learning service? *International Journal of Data and Network Science*, *5*, 121-126. https://dx.doi.org/10.5267/j.ijdns.2021.2.002

Hoi, V. N. (2020). Understanding higher education learners' acceptance and use of mobile devices for language learning: A Rasch-based path modeling approach. *Computer & Education*, *146*, 103761. https://doi.org/10.1016/j.compedu.2019.103761

Huang, F., Teo, T., & Zhou, M. M. (2019). Chinese students' intention to use the internet-based technology for learning. *Educational Technology Research and Development*, *68*, 575-591. https://doi.org/10.1007/s11423-019-09695-y

Huang, Y. C. (2023). Integrated concepts of the UTAUT and TPB in virtual reality behavioral intention. *Journal of Retailing and Consumer Services*, *70*, 103127. https://doi.org/10.1016/j.jretconser.2022.103127

Ji, L. T. (2019). A comparative study of five primary school English online homework platforms. *English Teaching and Research in Primary and Secondary Schools*, *9*, 2-7.

Khechine, H., & Augier, M. (2019). Adoption of a social learning platform in higher education: An extended UTAUT model implementation. *Hawaii International Conference on System Science*. https://doi.org/10.24251/HICSS.2019.008

Khechine, H., Raymond, B., & Augier, M. (2020). The adoption of a social learning system: Intrinsic value in the UTAUT model. *British Journal of Educational Technology*, *5*(6), 2306-2325.

Kong, W. H., & Huang, J. X. (2022). The effect of online homework platform to assist in primary school students for learning: An empirical study. *China Information Technology Education*, *11*, 96-99.

Krishna, M., Tsen, T. Y., Loh, C. T., & Vikniswari, V. K. (2019). Habit and hedonic motivation are the strongest influences in mobile learning behaviors among higher education students in Malaysia. *Australasian Journal of Educational Technology*, *35*(4), 174-191. https://doi.org/10.14742/ajet.4432

Kurt, G. (2021). Technology-mediated tasks in the young learners' EFL classroom. *Elementary Education Online*, *20*(1), 327-340.

Li, F. (2022). Application research of online homework platform in junior high school English listening teaching. [Master Degree]. Haerbin Normal University.

Liu, Y., Wen, W., Gao, Y., Zhang, X., Qu, T. Y, D., Peng, X., & Shi, Y. (2022). Online homework intelligent platform based on self-regulated learning (SRL): Essential for sustainable development of online higher education. *Sustainability*, *14*, 16904. https://doi.org/10.3390/su142416904

Lunsford, M. L., & Pendergrass, M. (2016). Making online homework work, *Primus*, *26*(6), 531-544. https://doi.org/10.1080/10511970.2015.1110219

Luo, Y., Xie, M., & Lian, Z. (2019). Emotional engagement and student satisfaction: A study of Chinese college students based on a nationally representative sample. *The Asia-Pacific Education Researcher*, *28*(4), 283-292. https://doi.org/10.1007/s40299-019-00437-5

Magalhães, P., Ferreira, D., Cunha, J., & Rosário, P. (2020). Online vs traditional homework: A systematic review on the benefits to students' performance, *Computer & Education*, *152*, 1-17. https://doi.org/10.1016/j.compedu.2020.103869

Maxwell, P., Smoker, K., & Stites-Doe, S. (2018). Does the homework format really matter? The impact of online homework assignments and learning style fit on accounting students' learning engagement and academic achievement. *Journal of Educational Multimedia and Hypermedia*, *27*(3), 343-366. https://www.learntechlib.org/primary/p/178529/

Mishra, A., Baker-Eveleth, L., Gala, P., & Stachofsky, J. (2023). Factors influencing actual usage of fitness tracking devices: Empirical evidence from the UTAUT model. *Health Marketing Quarterly*, *40*(1), 19-38. https://doi.org/10.1080/07359683.2021.1994170

Mishra, A., Shukla, A., & Sharma, S. K. (2022). Psychological determinants of users' adoption and word-of-mouth recommendations of smart voice assistants. *International Journal of Information Management*, *67*. https://doi.org/10.1016/j.ijinfomg.2021.102413

Muneer, M.M. A. (2021). Using the UTAUT model to understand students' usage of e-learning systems in developing countries. *Education and Information Technologies*, *26*, 7205-7224. https://doi.org/10.1007/s10639-021-10573-5

Murphy, R., Roschelle, J., Feng, M. Y, & Mason, C. A. (2020). Investigating efficacy, moderators and mediators for an online mathematics homework intervention. *Journal of Research on Educational Effectiveness*, *13*(2), 235-270. https://doi.org/10.1080/19345747.2019.1710885

O'Keefe, P. A., Horberg, E. J., & Plante, I. (2017). The multifaceted role of interest in motivation and engagement. P.A. O'Keefe, J.M. Harackiewicz (eds.), *The Science of Interest*, 49-67. https://doi.org/10.1007/978-3-319-55509-6_3

Park, C., Kim, D. G., Cho, S., & Han, H. J. (2019). Adoption of multimedia technology for learning and gender difference. *Computers in Human Behavior*, *92*, 288-296. https://doi.org/10.1016/j.chb.2018.11.029

Parker, L. L., & Loudon, G.M. (2013). Case study using online homework in undergraduate organic chemistry: Results and student attitudes. *Journal of Chemical Education*, *90*, 37-44. https://doi.org/10.1021/ed300270t

Raffaghelli, J. E., Rodríguez, M. E., Guerrero-Roldán, A. E., & Baneres, D. (2022). Applying the UTAUT model to explain the students' acceptance of an early warning system in Higher Education. *Computers & Education*, *182*, 104468. https://doi.org/10.1016/j.compedu.2022.104468

Raffaghelli, J. E., Rodríguez, M. E., Guerrero-Roldán, A. E., & Baneres, D. (2022). Applying the UTAUT model to explain the students' acceptance of an early warning system in Higher Education. *Computers & Education*, *182*, 104468. https://doi.org/10.1016/j.compedu.2022.104468

Raza, S. A., Qazi, W., Khan, K. A., & Salam, J. (2021). Social isolation and acceptance of the learning management system (LMS) in the time of COVID-19 pandemic: an expansion of the UTAUT Model. *Journal of Educational Computing Research*, *59*(2),183-208.

Renninger, K. A., & Hidi, S. (2016). *The power of interest for motivation and engagement*. Routledge, New York.

Richards-Babb, M., & Jackson, J. K. (2011). Gendered responses to online homework use in general chemistry. *Chemistry Education Research and Practice*, *12*, 409-419.

Rosário, P., Núñez, J. C., Vallejo, G., Nunes, T., Cunha, J., Fuentes, S., & Valle, A. (2018). Homework purposes, homework behaviors, and academic achievement. Examining the mediating role of students' perceived homework quality. *Contemporary Educational Psychology*, *53*, 168-180. https://doi.org/10.1016/j.cedpsych.2018.04.001

Salame, I. I., & Hanna, E. (2020). Studying the impact of online homework on the perceptions, attitudes, study habits, and learning experiences of chemistry students. *Interdisciplinary Journal of Environmental and Science Education*, *16*(4), 1-8. https://doi.org/10.29333/ijese/8543

Schiefele, U. (1996). Topic interest, text representation, and quality of experience. *Contemporary Educational Psychology*, *21*(1), 3-18. https://doi.org/10.1006/ceps.1996.0002

Smolinsky, L., Olafsson, G., Marx, B. D., & Wang, G. (2021). Online and handwritten homework in calculus for STEM majors. *Journal of Educational Computing Research*, *57*(6), 1513-1533.

Solyst, J., Thakur, T., Dutta, M., Asano, Y., Petersen, A., & Williams, J. J. (2021). Procrastination and gaming in an online homework system of an inverted CS1. *In Proceedings of the 52nd ACM Technical Symposium on Computer Science Education*, 789-795. https://doi.org/10.1145/3408877.3432440

Stickles, P. R. (2017). The implementation of online homework in college algebra and its results. *Illinois Mathematics Teacher*, 1-10.

Sudono, F. S., Adivijaya, M., & Siagian, H. (2020). The influence of perceived security and perceived enjoyment on intention to use with attitude towards use as intervening variable on mobile payment customer in Surabaya. *International Journal of Business Studies*, *3*, 37-46. https://doi.org/10.9744/ijbs.3.1.37-46

Suki, N.M., & Suki, N. M. (2017). Determining students' behavioral intention to use animation and storytelling applying the UTAUT model: The moderating roles of gender and experience level. *The International Journal of Management Education*, *15*, 528-538. http://dx.doi.org/10.1016/j.ijme.2017.10.002

Sun, M., Du, J., Xu, J., & Liu, F. (2019). Homework goal orientation scale: measurement invariance and latent mean differences across gender and grade level. *Psychology in the Schools*, *56*, 465-477. https://doi.org/10.1002/pits.22206

Tewari, A., Singh, R., Mathur, S., & Pande, S. (2023). A modified UTAUT framework to predict students' intention to adopt online learning: Moderating role of openness to change. *The International Journal of Information and Learning Technology*, *40*(2), 130-147. https://doi.org/10.1108/ijilt-04-2022-0093

Tey, T.C.Y., & Moses, P. (2018). UTAUT: Integrating achievement goals and learning styles for undergraduates' behavioral intention to use technology. *EAI Endorsed Transactions on e-Learning*, *5*(17). https://doi.org/10.4108/eai.25-9-2018.155573

Vanslambrouck, S., Zhu, C., Lombaerts, K., Philipsen, B., & Tondeur, J. (2018). Students' motivation and subjective task value of participating in online and blended learning environments. *The Internet and Higher Education*, *36*, 33-40. https://doi.org/10.1016/j.iheduc.2017.09.002

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: toward a unified view. *MIS Quarterly*, *27*(3), 425-478. https://doi.org/10.2307/30036540

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, *36*(1), 157-178. https://doi.org/10.2307/41410412

Wang, X. (2021). Research on personalized online learning system model based on internet of things technology and data mining. *IEEE 4th International Conference on Information Systems and*

Computer Aided Education, *ICISCAE*, 344-348. https://doi.org/10.1109/ICISCAE52414.2021.9590659

Wang, Y. L. (2021). *Action research on the effects of the online homework platform on primary school oral English learning*. [Master Thesis]. Northwest Normal University of China.

Wheeler, S. R., & Blanchard, M. R. (2019). Contextual choices in online physics problems: Promising insights into closing the gender gap. *Frontiers in Psychology, 10*(3), *594*, 1-14. https://doi.org/10.3389/fpsyg.2019.00594

Wigfield, A., & Cambria, J. (2010). Students' achievement values, goal orientations, and interest: Definitions, development, and relations to achievement outcomes. *Developmental Review, 30*, 1-35. https://doi.org/10.1016/j.dr.2009.12.001

Wiggins, H. & van der Hoff, Q. (2021). Using an online homework system for fostering self-directed learning. *International Journal of Technology in Education and Science*, *5*(3), 323-335. https://doi.org/10.46328/ijtes.199

Winarno, W. A., MAS'UD, I., & Palupi, T. W. (2021). Perceived enjoyment, application self-efficacy, and subjective norms as determinants of behavior intention in using OVO applications. *The Journal of Asian Finance, Economics and Business*, *8*(2), 1189-1200. https://doi.org/13106/jafeb.2021.vol8.no2.1189

Wong, S. L. (2013). Assessing the relationship between student teachers' computer attitudes and learning strategies in developing country. *International Journal of Quantitative Research in Education*, *1*(1), 3-19. https://doi.org/10.1504/IJQRE.2013.055638

Xu, J. Z. (2021). Homework goal orientation, interest, and achievement: Testing models of reciprocal effects. *European Journal of Psychology of Education*, *36*(2), *359-378*. https://doi.org/10.1007/s10212-020-00472-7

Xu, J., Núñez, J. C., Cunha, J., & Rosário, P. (2020). Online homework distraction scale: A validation study. *Psicothema*, *32*(4), 469-475. https://doi.org/10.7334/psicothema2020.60

Yi, M. Y., & Hwang, Y. J. (2003). Predicting the use of web-based information systems: self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model. *International Journal of Human-Computer Studies, 59*, 431-449.

Zhang, H. P. (2020). *Research on personalized homework practice of junior high school mathematics based on wisdom homework platform*. [Master Thesis]. Nanchang University of China.