

Article

The Impact of Quality of Experience of Chinese College Students on Internet-Based Resources English Learning

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Abstract: Since Internet-based resources provides various and practical forms of English learning materials, Internet-based resources English learning is a common way for the younger generation. However, not like adult learning, university students need stronger motivation to learn English from Internet-based resources. This study surveyed Chinese college students in Central China to reveal the relationship between cultural intelligence, hedonic motivation, English self-efficacy, online experience quality, and willingness to continue learning online English. Using online media platforms and convenient sampling methods, a total of 385 questionnaires were collected. The data analysis was divided into three phases, descriptive analysis, measurement model evaluation, and structural equation model examination. The results showed Internet quality of experience significantly impacted English continuous learning intention. Cultural intelligence, English self-efficacy, and hedonic motivation all influenced significantly on Internet quality of experience and hedonic motivation had the strongest impact. In addition, the mediation effects of Internet quality of experience to these three factors and Internet-based resources English continuous learning intention all existed. Finally, the research results show cultural intelligence, English self-efficacy, and hedonic motivation were all examined significantly impacting Internet quality of experience statistically. English learning hedonic motivation is the most influencing factor. Therefore, English learning material should be attractive, fun, and enjoyable. This is what the teachers should think of and emphasize when to recommend learning material for students.



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Keywords: internet-based resources learning; quality of experience; hedonic motivation

1. Introduction

For non-native English learning, the Internet is a very useful learning platform. It can not only provide learners with on-demand content, learning content presented in the form of text, voice, and video but also easy to obtain. In addition, the purpose of learning by native speakers can be achieved through the Internet-based resources, thus breaking the geographical environment, time, and space constraints. The young generation commonly uses smartphones for communication, entertainment, and learning [1]. As Donald Tapscott mentioned, “to them, the Internet is like air.” When we talk about learning on the Internet that means talking about contemporary education. The Internet is already an important part of education. We can be sure that Internet-based resources learning will continue to grow globally in the future [2]. Information and communication have brought a direct impact on the education sector [3,4].

English has been used as the international communication language in business, academic, entertainment, and other areas [5,6]. Chinese parents attach great importance to cultivating their children's English skills. It is also the consensus of the education circle to improve the English level of Chinese college students. However, despite the rich content and various benefits provided by the Internet-based resources for English learning, Chinese college students still rarely use the Internet-based resources for English learning [7,8]. Research shows that college students mainly spend their time on online entertainment [9]. One reason is that most college students have not yet confirmed the

professional English skills they will need in the future [10]. Another reason may be the insufficient self-learning ability of college students [8], and it is difficult for college students to continue learning. Understanding the factors that affect college students' use of the Internet-based resources to learn English can find ways to improve their willingness to learn [11].

Moreover, Li discussed how to provide adequate support for the English majors' online learning where Internet technology is used to help learners learn autonomously [12]. Liu mentioned the advent of the "Internet +" blending learning of English writing and promoting students' subjectivity and improving their English writing skills. The study also mentioned about "online self-study phase, students can independently manage and adjust the learning rhythm according to their own situation and learning status and can watch the communication videos and extended materials provided by the learning online platform, and they can enter the question bank area to test their own learning at any time [13]." Moreover, Li studied the English mixed teaching mode in the Internet education environment. The article mentioned that "with the rapid development of the Internet, a new teaching mode can not only improve students' interest in learning, meet the needs of modern students. There is also a great advantage that students can learn anytime and anywhere. On this basis, a large number of learning resources may also be in the invisible students' learning burden is also increasing [14]." These researches all provided the observation of students' Internet learning practices.

There are few studies on continuing to use the Internet-based resources for learning [15]. English language learning should not be only a well-designed course or program but also need to practice in learners' daily lives. The Internet provides practical English learning material of all sorts of realities. According to personal interests, learners would have wide range of selection. In short, Internet-based resources English learning is different from e-learning, mobile learning, or distance learning provided by school courses or programs. While discussing the Internet-based resources continuing usage of the young generation, hedonic motivation must be included. Hedonic motivation can be defined as the fun part or the pleasure enjoyed in the process of using technology [16]. In addition, quality of experience (QoE) should be an important consideration since the better QoE of users, they will be more satisfied and loyal [17]. Previous studies verified that QoE also would affect users' well-being [18]. For learning on the Internet, QoE will provide a good explanation for users' continuous learning intentions [11]. Furthermore, cultural intelligence can explain why certain students in culturally different circumstances would perform more effectively than others. A different level of cultural intelligence would cause different learning strategies [19]. Cultural intelligence is now considered a vital skill for contemporary workers and has been adopted in university courses [20]. Finally, English self-efficacy has been proven to be one of the important factors in English learning [21,22]. When discussing learning English on the Internet-based resources, the student's abilities need to be considered, because they will learn by themselves.

In short, the purpose of this study is to provide insights into the factors of Internet-based resources English learning in Chinese college students. A quantitative research model will be proposed and verified by implementing a questionnaire survey. The research results should be able to provide empirical evidence for the stakeholders to find the right strategies to improve students' continuing learning intention of Internet-based resources English learning.

2. Literature Review

2.1. Cultural Intelligence (CQ)

According to Schmidt and Hunter, general intelligence (IQ) can be defined as the ability of an individual to master, reason, and solve problems correctly [23]. IQ can be built and accumulated based on attention in a certain reality, such as social intelligence, emotional intelligence, and cultural intelligence. Cultural intelligence (CQ) originally comes from Sternberg and Detterman's study about multiple aspects to define and assess

intelligence [24]. CQ can be defined as the ability of an individual to operate and manage effectively under different cultural backgrounds [25]. Moreover, it can be decomposed into metacognition, cognition, motivation, and behavioral intelligence [24]. Metacognitive intelligence is the process when an individual obtains knowledge. Cognitive intelligence is the knowledge structure. Then, motivational intelligence is the enthusiasm to search for solutions or knowledge for certain tasks. Lastly, behavioral intelligence is the action or manifestations an individual does. In short, the first three subconstructs are the thinking abilities in the brain and the last one is what an individual takes actions [26].

CQ has been studied in sorts of researches in years. For example, Lee and Templer mentioned that people with high CQ can handle new tasks and find solutions [27]. Then, Imai and Gelfand verified CQ can predict across culture negotiation outcomes in an empirical study for 124 American and East Asian negotiators [28]. Moreover, Rehg, Gundlach, and Grigorian verified the relationship between CQ and specific self-efficacy. They concluded that cultural training can be an effective tool to improve employee's CQ in cognitive and behavioral dimensions [29]. In addition, Cabral, Carvalho and Ferreira concerned about if the EQ and CQ of top managers would be the abilities of the firms' international strategy and as major antecedents of top managers' networking behaviors [30].

In education research, lots of researchers discussed the CQ feature. For example, Eisenberg et al. studied the effects of cross-cultural management courses on student's CQ [31]. Then, Suharti, Handoko and Huruta confirmed the prediction of CQ to adaptive performance and quality of experience for the students with international experience in an exchange program [32]. In addition, Morrell, Ravlin, Ramsey and Ward examined the relationship between prior international experience, CQ, and satisfaction with international business students in the U.S. The result showed that prior international experience had positively impacted CQ [33]. Moreover, Hu, Gu, Liu, and Huang verified the moderating role of social media usage in the relationship among multicultural experiences, CQ, and creativity for students of three public universities in China [34]. Lastly, Alahdadi and Ghanizadeh proved that Iranian EFL learners' CQ had a significantly positive impact on their language achievement [35]. In short, since English is a second or foreign language in China, English learning does not only need language skills but also CQ development and accumulation.

2.2. English Self-Efficacy

Bandura defines self-efficacy as a belief in an individual's ability to organize and perform necessary actions to achieve a specific achievement [36]. The belief in self-concept refers to a person's self-cognition and self-worth judgment when an individual is capable of completing a certain task, such as writing, or completing a specific field task, such as English performance [37]. From the perspective of social cognitive theory (SCT), self-efficacy would be the best way to evaluate an individual's sense of personal action [38]. Many studies have proved that self-efficacy has a direct and powerful influence on students' academic performance. In addition, English self-efficacy refers to students' judgments of English learning ability. It is the student's belief or confidence in the ability to use English to communicate with others, understand English conversations, read materials and write in English [37]. When English as a foreign language (EFL) learners have enough English skills, they will be more willing to work hard [38].

English self-efficacy has been studied in academic research from different scenario. For example, Chauvin, Fenouillet, and Brewer surveyed French-speaking workers' views on the health industry. They developed a professional English self-efficacy questionnaire (PESEQ) to measure employees' EFL self-efficacy, which is derived from four language skills in an organizational environment [39]. Then, Yang discussed the impact of general-purpose e-book reading activities on English learners' English self-efficacy and language learning concepts. The survey results showed that after the e-book reading activity, the participants' overall English ability and self-confidence have been enhanced [40]. Moreover, Li has found that college students' English anxiety would be affected by internal factors

to varying degrees, including self-efficacy, motivation, attribution, and business English perspectives [41].

2.3. Hedonic Motivation

Since Holbrook and Hirschman separated the shopping motivations of customers from utilitarian and hedonic perspectives [42], hedonic shopping motivation is defined as the fun behavior of delight, fantasy, and stimuli feeling aspects [43]. It can be explained as shopping behaviors related to internal reasons, multi-sensory, fantasy, and emotional aspects of satisfying needs [39]. In the technology context, hedonic motivation is defined as playfulness, fun, enjoyment, and entertainment while using technology [44].

Hedonic motivation has been studied in sorts of scenarios, for example, Tyrväinen, Karjaluoto, and Saarijärvi studied the influence of hedonistic motivation on customer experience in an omnichannel retail environment, which had a positive relationship [45]. Then, Trajkovic, Malinovski, Vasileva-Stojanovska, and Vasileva's empirical study, relationships of student's personality traits, motivation and experience with learning outcomes, confirmed that motivation has a direct impact on experience [41]. Moreover, hedonic motivations, including idea and adventure, were proved that had a significant impact on user intention to use media [42].

Moreover, hedonic motivation is also included in technology acceptance related research. For example, Alalwan, Dwivedi and Rana examined the performance expectancy, effort expectancy, hedonic motivation, price value and trust were all proven significant impacting the behavioral intention of mobile banking by an extended model of Unified Theory of Acceptance and Use of Technology (UTAUT2) [46]. In addition, Venkatesh et al. pointed out that when consumers intended to use technological equipment and services, they were directly linked to hedonic motivations [47]. Then, Trajkovic, Malinovski, Vasileva-Stojanovska, and Vasileva's empirical study, relationships of student's personality traits, motivation and experience with learning outcomes, confirmed that motivation has a direct impact on experience [41]. Moreover, hedonic motivations, including idea and adventure, were proved that had a significant impact on user intention to use mediums [42]. Furthermore, Tamilmani, Rana, Prakasam and Ewivedi had verified hedonic motivation as an affective construct in UTAUT2 by a meta-analysis. The result discovered that there were 46 of 79 studies (58%) applied hedonic motivation as a construct in UTAUT2 empirical research. The findings also revealed an important relationship between hedonic motivation and effort expectancy [48]. Moorthy, Yee, T'ing, and Kumaran had proved the strong influence of habit and hedonic motivation in higher education students' mobile learning behaviors [49]. When considering the usage of technology, almost 60% of research included the hedonic motivation aspect. Especially for the young generation, they connect to the Internet for communication, information retrieval, learning, shopping, and entrainment. In short, hedonic motivation should be considered as an important factor influencing Internet QoE.

2.4. Quality of Experience

Goodchild defined quality of experience (QoE) as the user's point of view of the whole performance of a system. According to the "Qualinet White Paper on Definitions of Quality of Experience" [50], QoE is the degree to which users of an application or service are happy or annoyed. It is based on the user's personality, current state, and expectations for the utility and/or enjoyment of the application service. Moreover, perceived QoE is related to the user's evaluation of the environmental and the personal capabilities in facing them [51]. In addition, Bandura's self-efficacy theory could explain the quality of experience as the users enjoy when using IT may affect users' beliefs about their ability [44]. In fact, the term QoE has been used to describe all these aspects, which ultimately leads to the acceptability of the system, application, or service. In short, QoE can describe well the acceptability level of students using the Internet as media to learn English from all aspects.

QoE has been applied in learning research in recent years. For example, different levels of academic self-efficacy beliefs in students has been investigated in regards to their learning activities and associated QoE. The high self-efficacy students had proved enjoyment experience in learning with higher academic aspirations [52]. Then, Yang, Shao, Liu and Liu verified the impact of system quality, course quality, and service quality students' continuance intention to learn significantly in MOOCs classes [53]. Moreover, Das et al.'s research identified that QoE of using videos before classes had a positive impact on perceived helpfulness in the flipped classroom method [46].

In short, while students learning English through internet-based resources, their CQ level, English self-efficacy, and perceived hedonic motivation would influence their QoE of Internet-based resources English learning. Since the English learning content is highly related to western culture, students' CQ levels will impact their Internet QoE, obviously. Then, with better English self-efficacy, students will be able to have higher QoE while learning English through the internet-based resources. After that, hedonic motivation always is related to students' internet QoE. Therefore, three hypotheses can be proposed in the following list.

Hypothesis 1 (H1). *EFL students' cultural intelligence has a significant and positive influence on the quality of experience on the internet.*

Hypothesis 2 (H2). *EFL students' English self-efficacy has a significant and positive influence on the quality of experience on the internet.*

Hypothesis 3 (H3). *EFL students' hedonic motivation has a significant and positive influence on the quality of experience on the internet.*

2.5. English Continuous Learning Intention

The Intention construct provides researchers a psychological antecedent factor of human behavior, as defined as a user's willingness to carry out a particular behavior [51]. This construct appears in sorts of technology acceptance related theories, such as the theory of reasoned action (TRA), theory of planned behavior (TPB), technology acceptance model (TAM), and other extended models. In addition, the intention is a popular dependent variable for predicting or explaining human behavior. Lots of learning research, especially using technology, adopt intention as a construct to understand learners' behaviors. For example, Chiu and Wang extended the unified theory of acceptance and use of technology (UTAUT) to test learners' continuance intentions in web-based learning [54]. Moreover, Yang, Shao, Liu, and Liu combined IS success model and TAM model for MOOCs learners' continuance intentions. Their findings include system quality, curriculum quality, and service quality were important prerequisites for learners' continuous intentions [53]. In addition, Fu, Gu and Yang studied language learners using digital learning tools to see if the automatic scoring mechanisms of the application would impact learners' continuous learning intention [48]. In this present study, EFL English learners' continuous learning intention is the dependent variable on Internet-based resources in the English learning environment. According to the mentioned literature, learners' Internet QoE will impact their English continuous learning intention. Hypothesis H4 is proposed as follows:

Hypothesis 4 (H4). *EFL students' internet quality of experience has a significant and positive influence on their English continuous learning intention.*

In addition, this study would examine the mediation effect of internet QoE between CQ, English self-efficacy and hedonic motivation. Therefore, there are three more hypotheses in the following list.

Hypothesis 5 (H5). *Internet quality of experience has a mediation effect between cultural intelligence and English continuous learning intention.*

Hypothesis 6 (H6). *Internet quality of experience has a mediation effect between English self-efficacy and English continuous learning intention.*

Hypothesis 7 (H7). *Internet quality of experience has a mediation effect between hedonic motivation and English continuous learning intention.*

The following figure, Figure 1, shows the proposed research model of this study.

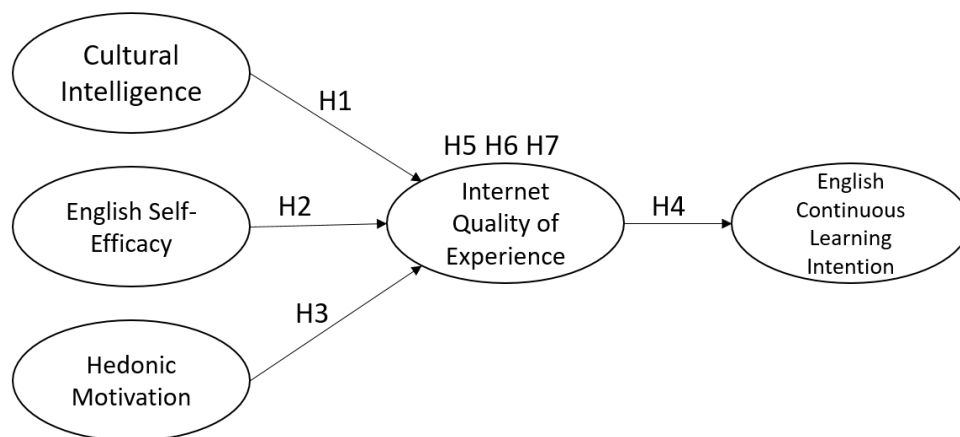


Figure 1. Research Model.

3. Methodology

This study uses the quantitative research method to analyze the causal relationship of variables affecting university students' English continues learning intention through the Internet-based resources in China. Five latent variables measurements were developed by referencing related literature. Seven-point Likert scales were used for these measurements where 1 equals 'strongly disagree' and 7 equals 'strongly agree'. Further, the demographic statistics variables were gender, major and grade.

3.1. Measures

3.1.1. Cultural Intelligence (CQ)

Cultural intelligence is the ability that an individual can receive, handle, and realize the information derived from the cultural backgrounds and interact with the nationals suitably in the host country [25,55]. Ang et al.'s 20-item scale of cultural intelligence measurement was adopted to test student's cultural intelligence, including four dimensions: meta-cognitive, cognitive, motivational, and behavioral dimensions. These four dimensions well defined the conceptual definitions of students' cultural intelligence. For example, an item of the meta-cognitive dimension is like "I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds". In the cognitive dimension, an item is as "I know the legal and economic systems of other cultures". For the motivational dimension, an item is stated as "I am confident that I can socialize with locals in a culture that is unfamiliar to me". Last, the item of the behavioral dimension is like "I use to pause and silence differently to suit different cross-cultural situations".

3.1.2. English Self-Efficacy (ESE)

Self-efficacy can be defined as a person who has confidence in himself or herself to perform a certain task with the skill he or she has [36]. In this study, a student's English self-efficacy is defined as the belief in a student's capabilities to be able to use English to communicate when the student needs it. Kim, Wang, Ahn and Bong developed a measurement scale for testing learner's English self-efficacy, QESE, containing four language areas with 32 items. The four language areas are self-efficacy for English listening, self-efficacy for English speaking, self-efficacy for English reading, and self-efficacy for English writing [53]. The study used 12 items in the QESE measure, and 3 items in each field of English self-efficacy skills. For example, an item of the self-efficacy for English listening is like "I can understand American TV programs in English". Then, one item of self-efficacy for English speaking is as

“I can introduce myself in English”. “I can understand messages or news items in English on the internet-based resources” is one of the items in self-efficacy for English reading. The last single item of self-efficacy for English writing is like “I can compose messages in English on the internet-based resources (Facebook, Twitter, blogs, etc.).”

3.1.3. Hedonic Motivation (HM)

According to Babin et al. definition, hedonic is a motivation of consumer behavior related to sensory stimuli aspects, such as fun, amusement, and fantasy [43]. Therefore, in this study, hedonic motivation was what students learning English on Internet-based resources with fun, amusement, or fantasy. The hedonic motivation measure was developed according to Mikalef, Giannakos, and Pateli’s study. There were five items originally designed for the hedonic motivation of studying shopping intention on social media. To test students’ hedonic learning motivation, the items were modified as “learning English through Internet-based resources is fun/exciting/delightful/enjoyable/thrilling.”

3.1.4. Quality of Experience (QE)

Quality of experience is the construct concerning how well a system provides functions for a user to complete particular tasks [44]. In Morris and Turner’s study, they suggested 10 items to measure the user’s perceived value of quality of experience, such as the relevance of information, search engine, available information, and so on. Since this study focused on English learning on the Internet-based resources, 6 relevant items were chosen to evaluate the quality of experience. In addition, the items were modified for student’s learning English scenarios. For instance, there was an item like “I can have the relevant English learning information through Internet-based resources”. In addition, designed items stated as “I have a sufficient amount of English learning information available on Internet-based resources”, “I can easily use the browser to learn English”, and “I have a reliable Internet connection”.

3.1.5. English Continues Learning Intention (ECL)

Behavioral intention is a very popular construct as a prediction or explanation of a person’s behavior [51,56]. Students’ English continuous learning intention is the resulting construct of this study. It represents the possibility that students would continue to learn English through the Internet-based resources. The construct measurement was designed according to Yang, Shao, Liu and Liu’s study, which were the items for testing continuance intention to use MOOCs platform [53]. Further, the items from Bhattacheerjee’s study were adapted into the measurement design [57]. In short, there were four items to test for student’s English continues learning intention through the Internet-based resources, such as “I think using the Internet-based resources to learn English is a great idea”, “If I could, I would like to continue using the Internet-based resources in my learning activities in the future”, and “It is likely that I will continue using the Internet-based resources to learn English in the future”.

3.2. Data Collection

A convenient sampling method was used to collect samples in this study. From 20 February 2021, to 10 March 2021, an online survey has been implemented. Most of the students participated in the study from two universities in North China. The English version of the questionnaire is listed in the Appendix A of this article. A total of 385 samples were collected. Among them, men accounted for 68.75% and women accounted for 31.43%. Sophomores accounted for 25.97%, third-year students—36.62%, and last year students—29.35%. Most of the participants are in Engineering-related majors, 71.43%. Table 1 shows the demographic data analysis.

Table 1. The demographic result of the respondents.

Variable	Value Label	Value	Frequency	Valid Percent
Gender	Male	1	264	68.57
	Female	2	121	31.43
	Total		385	100.0
Major	Science	1	74	19.22
	Engineering	2	275	71.43
	Economics/Management	3	17	4.42
	Liberal Arts	4	12	3.12
	Languages	5	3	0.78
	Others	6	4	1.04
	Total		385	100.0
Grade	Freshman	1	20	5.19
	Sophomore	2	100	25.97
	Junior	3	141	36.62
	Senior	4	113	29.35
	Others	5	11	2.86
	Total		385	100.0

3.3. Data Analysis

First of all, the descriptive statistics, including a demographic profile of items, skewness, and kurtosis, would be analyzed by using SPSS Statistics 24.0. Then, the reliability and validity of the instrument would be tested by confirmatory factor analysis according to the structural equation modeling (SEM) method. In addition, the research model fit would be examined to make sure it is suitable for the sample set. After that, the causal relationship between research variables would be verified to see if the coefficient of determination of regression analysis reached a significant level. The statistics software would be IBM SPSS Amos 24.0.

4. Analysis Results

This study uses a two-step method of structural equation modeling (SEM) to evaluate measurements and the structural model. The first step checked the reliability and validity of the measurement model using confirmatory factor analysis (CFA). Then, the second step examined the path effects of the structural model. By using maximum likelihood estimation (MLE), the measurement model was evaluated factor loading, measurement reliability, convergence validity, and discriminant validity, respectively.

4.1. Measurement Model

4.1.1. Convergent Validity

The following Table 2 demonstrates the measurement model evaluation results. First, the standardized factor loading should be 0.7 or above 0.6 above was acceptable. The standardized factor loadings of items are from 0.667 to 0.951. It shows that all items have acceptable convergent validity. Then, the construct reliability of all constructions ranged from 0.882 to 0.968, exceeding the suggested value proposed by Nunnally [58], 0.7. Lastly, all average variance extracted (AVE) ranging from 0.557 to 0.86, exceed 0.5 suggested by Hair, Anderson, Tatham, and Black and Fornell and Larcker. That means all constructs have acceptable convergent validity [59,60].

Table 2. Results for the measurement model assessment.

Construct	Item	Significance of Estimated Parameters				Item Reliability		Construct Reliability	Convergence Validity
		Unstd.	S.E.	Unstd./S.E.	<i>p</i> -Value	Std.	SMC	CR	AVE
HM	HM1	1.000				0.875	0.766	0.968	0.860
	HM2	1.137	0.040	28.528	0.000	0.931	0.867		
	HM3	1.177	0.039	29.997	0.000	0.951	0.904		
	HM4	1.172	0.040	29.395	0.000	0.947	0.897		
	HM5	1.178	0.042	28.191	0.000	0.931	0.867		
QoE	QE1	1.000				0.728	0.530	0.882	0.557
	QE2	1.168	0.076	15.319	0.000	0.793	0.629		
	QE3	1.262	0.085	14.857	0.000	0.786	0.618		
	QE4	1.041	0.084	12.324	0.000	0.667	0.445		
	QE5	1.214	0.094	12.907	0.000	0.737	0.543		
	QE6	1.181	0.088	13.393	0.000	0.758	0.575		
ECL	ECL1	1.000				0.837	0.701	0.928	0.764
	ECL2	1.011	0.051	19.950	0.000	0.824	0.679		
	ECL3	1.037	0.045	22.802	0.000	0.894	0.799		
	ECL4	1.117	0.046	24.259	0.000	0.937	0.878		

Note: Unstd.: unstandardized factor loadings; Std: standardized factor loadings; SMC: square multiple correlations; CR: composite reliability; AVE: average variance extracted; HM: hedonic motivation; QoE: quality of experience; ECL: English continuous learning intention.

4.1.2. Second-Order Confirmatory Factor Analysis

The definition of a second-order structure is that several first-order potential factors are affected by a higher level of common factors. There are no observed variables of second-order factors which are directly related to the first-order factors. Each first-order factor, otherwise, is related to its observed variable. A second-order model needs to evaluate by confirmatory factor analysis as the first-order factor does.

The reliability and validity of the first-order factors should be confirmed before the evaluation of the second-order factor model. The factor loading between the second-order factor and first-order factors should be 0.7 or above, 0.6 above was acceptable. As shown in Table 3, the reliability and validity of all constructs meet the level recommended by Fornell and Larcker.

Table 3. Confirmatory factor analysis of the second-order model.

Construct	Item	Significance of Estimated Parameters				Item Reliability		Construct Reliability	Convergence Validity
		Unstd.	S.E.	Unstd./S.E.	<i>p</i> -Value	Std.	SMC	CR	AVE
MCQ	MCQ1	1.000				0.764	0.584	0.759	0.515
	MCQ2	0.757	0.072	10.522	0.000	0.620	0.384		
	MCQ3	1.008	0.083	12.193	0.000	0.759	0.576		
CCQ	CCQ6	1.000				0.642	0.412	0.870	0.575
	CCQ7	1.113	0.091	12.203	0.000	0.730	0.533		
	CCQ8	1.323	0.105	12.547	0.000	0.774	0.599		
	CCQ9	1.395	0.111	12.600	0.000	0.801	0.642		
	CCQ10	1.430	0.111	12.899	0.000	0.830	0.689		
OCQ	OCQ11	1.000				0.647	0.419	0.845	0.522
	OCQ12	1.350	0.110	12.310	0.000	0.771	0.594		
	OCQ13	1.073	0.090	11.982	0.000	0.725	0.526		
	OCQ14	1.400	0.114	12.278	0.000	0.762	0.581		
	OCQ15	1.138	0.099	11.512	0.000	0.702	0.493		
BCQ	BCQ16	1.000				0.699	0.489	0.771	0.457
	BCQ18	0.802	0.069	11.606	0.000	0.706	0.498		
	BCQ19	0.889	0.083	10.737	0.000	0.665	0.442		
	BCQ20	0.869	0.086	10.155	0.000	0.630	0.397		

Table 3. Cont.

Construct	Item	Significance of Estimated Parameters				Item Reliability		Construct Reliability	Convergence Validity
		Unstd.	S.E.	Unstd./S.E.	p-Value	Std.	SMC	CR	AVE
ESEL	ESEL1	1.000				0.900	0.810	0.908	0.768
	ESEL2	0.926	0.041	22.475	0.000	0.845	0.714		
	ESEL3	1.021	0.042	24.600	0.000	0.883	0.780		
ESES	ESES4	1.000				0.819	0.671	0.860	0.672
	ESES5	0.972	0.052	18.551	0.000	0.840	0.706		
	ESES6	1.101	0.066	16.644	0.000	0.799	0.638		
ESER	ESER7	1.000				0.807	0.651	0.859	0.671
	ESER8	1.130	0.061	18.624	0.000	0.874	0.764		
	ESER9	0.935	0.058	15.999	0.000	0.773	0.598		
ESEW	ESEW10	1.000				0.783	0.613	0.836	0.631
	ESEW11	0.907	0.052	17.286	0.000	0.845	0.714		
	ESEW12	0.912	0.061	14.963	0.000	0.752	0.566		
CQ	MCQ	1.000				0.649	0.421	0.851	0.593
	CCQ	1.205	0.151	8.002	0.000	0.808	0.653		
	OCQ	1.352	0.164	8.248	0.000	0.852	0.726		
	BCQ	1.213	0.151	8.012	0.000	0.766	0.587		
ESE	ESEL	1.000				0.742	0.551	0.905	0.706
	ESES	0.909	0.073	12.491	0.000	0.852	0.726		
	ESER	0.891	0.074	12.072	0.000	0.845	0.714		
	ESEW	1.165	0.094	12.336	0.000	0.917	0.841		

Note: Unstd.: unstandardized factor loadings; Std: standardized factor loadings; SMC: square multiple correlations; CR: composite reliability; AVE: average variance extracted; MCQ: meta-cognitive cultural intelligence; CCQ: cognitive cultural intelligence; OCQ: motivational cultural intelligence; BCQ: behavioral-cultural intelligence; ESEL: English self-efficacy listening; ESES: English self-efficacy speaking; ESER: English self-efficacy reading; ESEW: English self-efficacy writing; CQ: cultural intelligence; ESE: English self-efficacy.

4.1.3. Target Coefficient

The target coefficient is calculated by comparing the Chi-square of the fully-correlated model (structural saturated model) with the Chi-square of the second-order model. For the construct CQ, the Chi-square of the structural saturated model is 353.771. The Chi-square of the second-order model is 362.002. The target coefficient equals $353.771/362.002 = 0.977$. For the construct ESE, the Chi-square of the structural saturated model is 161.225. The Chi-square of the second-order model is 178.127. The target coefficient equals to $161.225/178.127 = 0.905$. The target coefficient 0.977 provides the evidence of the second-order factor existence. Specifically, 97.7% variance of the fully correlated model can be explained by the second-order factor. The target coefficient 0.905 provides the evidence of second-order factor existence. Namely, 90.5% variance of the fully correlated model can be explained by the second-order factor. The results are shown in Table 4.

Table 4. Confirmatory factor analysis of second-order model.

Construct	Model	χ^2	DF	$\Delta\chi^2$	ΔDF	p-Value	Target Coefficient
CQ	First order	353.771	113	8.231	2	0.016	0.977
	Second-order	362.002	115				
ESE	First order	161.225	48	16.902	2	0.000	0.905
	Second-order	178.127	50				

Note: χ^2 : Chi-square DF: degree of freedom; CQ: cultural intelligence; ESE: English self-efficacy.

4.1.4. Discriminant Validity

To distinguish effectiveness, the square root of the average variance (AVE) of a given structure was compared with the correlation between that structure and other structures [60]. If the square root of the constructed AVE is greater than the off-diagonal elements in the corresponding rows and columns, it indicates that the index is more closely

related to the structure. In Table 5, the numbers in bold on the diagonal indicate the square root of AVE. Since all the numbers in the diagonal direction are larger than the non-diagonal numbers, the validity of the discrimination seems to be satisfactory for all constructions.

Table 5. Discriminant validity for the measurement model.

	AVE	HM	QE	ECL	CQ	ESE
HM	0.860	0.927				
QE	0.557	0.642	0.746			
ECL	0.764	0.463	0.721	0.874		
CQ	0.593	0.628	0.579	0.417	0.770	
ESE	0.706	0.554	0.557	0.401	0.633	0.84

Note: The items on the diagonal in bold represent the square roots of the AVE; off-diagonal elements are the correlation estimates. AVE: average variance extracted; HM: hedonic motivation; QoE: quality of experience; ECL: English continuous learning intention; CQ: cultural intelligence; ESE: English self-efficacy.

4.2. Structural Model Analysis

This study conducted a structural model to test the hypothetical relationship of the proposed model using the maximum likelihood method. The model fit index determines whether the sample data conforms to the suggested structural equation model. Table 6 presents several model fits indicators as well as the recommended thresholds. After a Satorra–Bentler scaled Chi-square process, all the model fit indicators have been significantly improved as shown in Table 6.

Table 6. Model fit.

Model Fit	Criteria	Model Fit of the Research Model
ML χ^2	The small the better	2177.135
DF	The large the better	887.000
Normed Chi-sqr (χ^2/DF)	$1 < \chi^2/DF < 3$	2.454
RMSEA	<0.08	0.061
SRMR	<0.08	0.064
TLI (NNFI)	>0.9	0.889
CFI	>0.9	0.896
GFI	>0.9	0.837
AGFI	>0.9	0.827

Note: DF: degree of freedom; RMSEA: root mean square error of approximation; SRMR: standardized root mean square residual; TLI: Tucker–Lewis index; NNFI: non-normed fit index; CFI: comparative fit index; GFI: goodness of fit index; AGFI: adjusted-goodness-of-fit index.

4.2.1. Path Analysis

The Table 7 shows the results of path coefficients. Hedonic motivation (HM) ($b = 0.301$, $p < 0.001$), cultural intelligence (CQ) ($b = 0.277$, $p = 0.012$) and English self-efficacy (ESE) ($b = 0.189$, $p = 0.002$) significantly impact to quality of experience (QoE). Quality of experience (QoE) ($b = 0.829$, $p < 0.001$) significantly impact to English continues learning intention (ECL).

Table 7. Regression coefficient.

DV	IV	Unstd.	S.E.	Unstd./S.E.	p-Value	Std.	R ²
QoE	HM	0.301	0.048	6.319	0.000	0.405	0.488
	CQ	0.277	0.111	2.500	0.012	0.190	
	ESE	0.189	0.060	3.158	0.002	0.213	
ECL	QE	0.829	0.068	12.172	0.000	0.721	0.519

Note: DV: dependent variable; IV: independent variable; Unstd.: unstandardized; S.E.: standard error; Std.: standard.

The results support the research question regarding the validity of the research model. A total of 48.8% of the quality of experience (QoE) can be explained by hedonic motivation (HM), cultural intelligence (CQ) and English self-efficacy (ESE) constructs. Further,

51.9% of English continues learning intention (ECL) can be explained by the quality of experience (QoE) constructs, as Figure 2 shows. In the figure, * means the regression coefficient's p -value less than 0.05, ** means the p -value less than 0.01, and *** means the p -value less than 0.001, as the figures in Table 7.

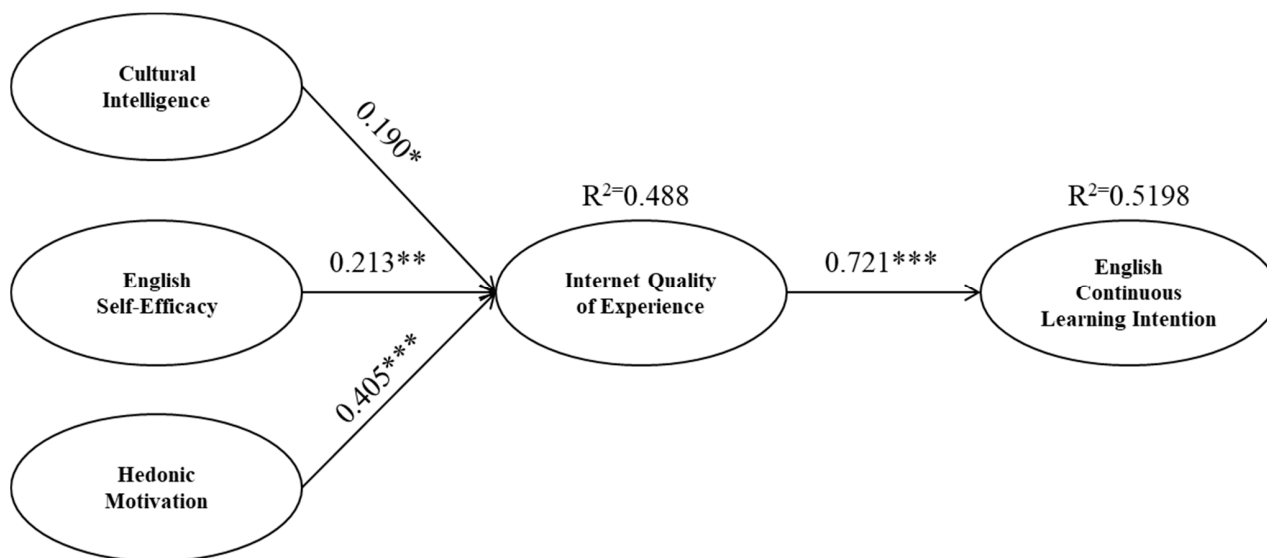


Figure 2. Path analysis results. Note: * means $p < 0.05$; ** means $p < 0.01$; *** means $p < 0.001$.

4.2.2. Indirect Effects Analysis

As shown in Table 8, the total indirect effect $HM \rightarrow QoE \rightarrow ECL$, $p < 0.05$, bias-corrected confidence interval (CI) does not include 0 (CI of $HM \rightarrow QoE \rightarrow ECL = [0.124, 0.403]$). The existence of a total indirect effect was supported. The total indirect effect $CQ \rightarrow QoE \rightarrow ECL$, $p < 0.05$, bias-corrected confidence interval (CI) does not include 0 (CI of $CQ \rightarrow QoE \rightarrow ECL = [0.006, 0.458]$). The existence of a total indirect effect was supported. The total indirect effect $ESE \rightarrow QoE \rightarrow ECL$, $p < 0.05$, bias-corrected confidence interval (CI) does not include 0 (CI of $ESE \rightarrow QoE \rightarrow ECL = [0.039, 0.3]$). The existence of a total indirect effect was supported.

Table 8. The analysis of indirect effects.

Effect	Point Estimate	Product of Coefficients			Bootstrap 1000 Times Bias-Corrected 95%	
		S.E.	Z-Value	p -Value	Lower Bound	Upper Bound
Total indirect effect						
$HM \rightarrow QoE \rightarrow ECL$	0.249	0.071	3.503	0.000	0.124	0.403
Total indirect effect						
$CQ \rightarrow QoE \rightarrow ECL$	0.230	0.115	2.001	0.045	0.006	0.458
Total indirect effect						
$ESE \rightarrow QoE \rightarrow ECL$	0.157	0.066	2.383	0.017	0.039	0.300

Note: HM: hedonic motivation; QoE: quality of experience; ECL: English continuous learning intention; CQ: cultural intelligence; ESE: English self-efficacy; S.E.: standard error.

5. Discussion and Conclusions

This study mainly investigated Internet-based resources English learning intention and its influencing factors on college students in China. According to the literature review, cultural intelligence, English self-efficacy, hedonic motivation, quality of experience, and English continuous learning intention were included as a proposed research framework.

After data collection, the structural equation model was applied to examine the research model and test the proposed hypotheses. The research results are as follows.

5.1. *The Influence of Internet QoE on English Continuous Learning Intention*

The Internet has been affecting the young generation's life in every aspect. Especially since the COVID-19 pandemic spreading, the Internet becomes more and more important. Internet-based resources learning is a common and vital self-learning. Most students rely on smartphones/mobile phones to access the Internet through subscriptions from Internet providers and rely too much on search engines and open electronic journals [54]. This study verified the influence of Internet QoE on English continuous learning intention. Since Internet-based resources provides a huge amount of content, various platforms, search engines, and social media—not every user can have a satisfying quality of user experience. From the path analysis result, the non-standardized regression coefficient of Internet QoE on English continuous learning intention was 0.721. That was a powerful factor causing students' learning intention. The R^2 value of the dependent variable is 0.5195, indicating that Internet QoE explained 51.95% of the continuous learning intention variation. The result showed similar outcomes as the previous studies [49,52,53]. Moreover, the average score of the QoE construct was 5.44. The highest average item score was, "I can have the relevant English learning resources through the Internet", 5.74. The standard deviation was 1.21, which is the smallest one compared to the rest of the items. This means the participants of this survey agreed that they have enough English learning resources on the Internet.

5.2. *The Influence of English Learning Hedonic Motivation on Internet QoE*

Cultural intelligence, English self-efficacy, and hedonic motivation had been proposed as the antecedent elements of Internet QoE in this research model. Three of them were all examined significantly impacting Internet QoE statistically. The regression coefficient figures were 0.190, 0.213, and 0.405 respectively. Within them, hedonic motivation was the most influencing factor. Hedonic motivation impacted technology usage has been verified from previous studies [41,42,47,61]. As Venkatesh et al. pointed out, when consumers intended to use technological equipment and services, they were directly linked to hedonic motivations [47]. This study also verified the importance of hedonic motivation while using the Internet-based resources to learn English. Especially, since the young generation grew up in the Internet age, Internet learning is a part of their usage of the Internet. Hedonic motivation seriously impacted Internet QoE. In addition, with the mediation effects examined in this study, hedonic motivation impacted Internet-based resources English continuous learning intention through Internet QoE significantly. The mediation effect of hedonic motivation was also stronger than cultural intelligence and English self-efficacy.

The research results displayed the factors impacting Internet-based resources English continuous learning intention of China university students. To increase the English continuous learning intention, it is necessary to emphasize Internet QoE. Since hedonic motivation is the most important factor, English learning material should be attractive, fun, and enjoyable. From this aspect, the traditional, formal, standardized, lecture-based English teaching method is difficult to remain students' English continuous learning intention. Instead, question-based, interaction, student-center, story, drama, or even game-based approaches would be the direction of English learning. Internet-based resource English self-learning may not totally be considered as "learning" by the young generation. This may be because of an interesting English TV show, an attractive English movie, or an addictive online game. In the nature of languages, communication is the main function. Understanding interesting Internet-based English content keeps students learning. This is what teachers should think of and emphasize when to recommend learning material for students.

5.3. Conclusion, Limitation, and Future Work

This research focuses on the factors related to the influencing factors of college students in northern China who use the Internet-based resources to learn English and their intention to continue learning English. This research verifies that students' Internet quality of experience positively and significantly impacts their English continuous learning intention. Cultural intelligence, English self-efficacy, and hedonic motivation positively and significantly affect students' Internet quality of experience while learning English. Among them, hedonic motivation has the highest regression coefficient and has the greatest influence among the three factors. The mediation effects of Internet quality of experience are all significant, indicating that the QoE of the Internet is an important reason for students to use the Internet. It also explains the reasons for students' Internet-based resources continuous learning intention. In the research aspect, students scored the highest in the questionnaire for English continuous learning intention, with an average of 5.76. The second is Internet quality of experience with an average of 5.50. It can be seen that students have a strong intention to continue learning English on the Internet.

The study is limited to research resources and time, and only collects the questionnaire data on the basic background information and research aspects of college students. There is no understanding of the current situation of students using Internet-based resources to learn English. Due to differences in the English abilities of different students, differences in their perception of Internet-based English learning resources may be caused. For future research suggestions, researchers can first investigate students' English ability with data, which can further explore the reasons for the continuous learning of Internet-based resources English learning.

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Data Availability Statement: The data presented in this study are openly available in <https://data.mendeley.com/datasets/vf8w6nx2hp/draft?a=52dc9deb-c761-429e-abc2-9492e326f9d7> or <https://data.mendeley.com/drafts/vf8w6nx2hp> (accessed on 17 June 2021).

Conflicts of Interest: The author declares no conflict of interest.

Appendix A

The impact of Quality of Experience of Chinese College Students on Internet English Learning

Hello there:

First of all, thank you for your assistance and cooperation, and take the time to fill out this questionnaire. The purpose of this questionnaire is to understand the impact of the quality of the experience of learning English on the Internet. The results obtained from the research are only used for academic research and will never disclose personal information. The questionnaire is anonymous, please feel free to fill it out. Your valuable opinions will be the key to the success or failure of this research. Thank you again for taking the time to answer. I wish you happiness,

yours truly

Figure A1. Cont.

Cultural Intelligence, CQ

Please tick the appropriate <input type="checkbox"/> according to your personal actual feelings.	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly agree
1. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I am conscious of the cultural knowledge I apply to cross-cultural interactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I check the accuracy of my cultural knowledge as I interact with people from different cultures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I know the legal and economic systems of other cultures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I know the rules (e.g., vocabulary, grammar) of other languages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I know the cultural values and religious beliefs of other cultures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I know the marriage systems of other cultures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I know the arts and crafts of other cultures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I know the rules for expressing nonverbal behaviors in other cultures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I enjoy interacting with people from different cultures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I am confident that I can socialize with locals in a culture that is unfamiliar to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure A1. Cont.

Please tick the appropriate <input type="checkbox"/> according to your personal actual feelings.	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly agree
13. I am sure I can deal with the stresses of adjusting to a culture that is new to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I enjoy living in cultures that are unfamiliar to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I am confident that I can get accustomed to the shopping conditions in a different culture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I use pause and silence differently to suit different cross-cultural situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I vary the rate of my speaking when a cross-cultural situation requires it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I change my nonverbal behavior when a cross-cultural situation requires it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I alter my facial expressions when a cross-cultural interaction requires it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

English Self-Efficacy, ESE

Please tick the appropriate <input type="checkbox"/> according to your personal actual feelings.	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly agree
1. I can understand American TV programs in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I can understand stories told in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I can understand radio programs in English-speaking countries.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I can introduce myself in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I can answer my teacher's questions in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I can discuss subjects of general interest with my fellow students in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I can understand messages or news items in English on the internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I can read English-language newspapers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure A1. Cont.

Please tick the appropriate <input type="checkbox"/> according to your personal actual feelings.	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly agree
9. I can understand English articles on Chinese culture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I can compose messages in English on the internet (Facebook, Twitter, blogs, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I can leave a note for another student in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I can write an essay in about two pages about my lecturer in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hedonic Motivation, HM

Please tick the appropriate <input type="checkbox"/> according to your personal actual feelings.	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly agree
1. Learning English through Internet is Fun.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Learning English through Internet is Exciting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Learning English through Internet is Delightful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Learning English through Internet is Enjoyable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Learning English through Internet is Thrilling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Quality of Experience, QE

Please tick the appropriate <input type="checkbox"/> according to your personal actual feelings.	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly agree
1. I can have the relevant English learning resources through the Internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have a sufficient amount of English learning resources available on the Internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I can easily use the browser to learn English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I have a reliable Internet connection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure A1. Cont.

Please tick the appropriate <input type="checkbox"/> according to your personal actual feelings.	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly agree
5. The website where I study English has clear website navigation instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The website where I learn English provides the latest links.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

English Continues Learning Intention, ECI

Please tick the appropriate <input type="checkbox"/> according to your personal actual feelings.	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly agree
1. I think using the Internet to learn English is a great idea.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. If I could, I would like to continue using the Internet in my learning activities in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. It is likely that I will continue using the Internet to learn English in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I expect to continue using the Internet to learn English in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basic information

1. Gender (1) ☐ Male (2) ☐ Female
2. Major (1) ☐ Science (2) ☐ Engineering (3) ☐ Economics/Management (4) ☐ Liberal Arts
 (5) ☐ Languages (6) ☐ Others
3. Grade (1) ☐ Freshman (2) ☐ Sophomore (3) ☐ Junior (4) ☐ Senior
 (5) ☐ Others

This is the end of the questionnaire. Please check if there are any missing entries. Thank you again.

Figure A1. The impact of Quality of Experience of Chinese College Students on Internet English Learning.

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