

THE ROLE OF STUDENTS' EFFECTIVE LEARNING AND TECHNOLOGICAL SUPPORT ON THE PERCEPTION OF TEACHERS TOWARDS TECHNOLOGY-BASED TEACHING FOR ESL IN CHINA

Saima Javed¹, Zhang Wenlan², Kamran Ijla³, Uzma Sarwar⁴, Samina Zamir⁵, Tariq Mehmood Bhuttah⁶

^{1,2,4,5}School of Education, Shaanxi Normal University, No. 199, South Chang'an Road, Xi'an, 710062, CHINA

³ School of Business, Zhengzhou University, Zhengzhou 450001, China

⁶Khawaja fareed University of engineering and information Technology , Rahim Yar Khan,64200, Pakistan

E-mail: mbhuttah@kfueit.edu.pk

ABSTRACT

This study examined the impact of students' effective learning based on technology-based teaching and technological support on the perceptions of teachers regarding technology-integrated teaching of (ESL) in China through the structural equation model (SEM). This study is based on the collected data obtained through an online questionnaire. The online survey was distributed in several foreign teachers groups on WeChat in China. A total of three hundred and ninety-five foreigners as English teachers filled the questionnaire. The descriptive statistics showed that the number of males as English teachers is higher than females, and 61.6 percent of teachers prefer to use modern teaching methods. Structural Equation Modeling (SEM) revealed that the active learning of students and technological support significantly determine the teachers' perceptions of technology used for teaching the English language.

Keywords: Technology-based teaching, effective- learning, technical support, English language

I. INTRODUCTION

Information and Communication Technology (ICT) is taking over in all the fields of life, including education. It is transforming education from all aspects, including teaching, learning, classroom, learning activities, and so on. The effectiveness of traditional teaching was highly dependent on higher qualification and teaching experience, but now with the technological advancement into the education system, effective teaching also requires an integration of technology in teaching and learning. In this digital era, ICT integration in the classroom provides opportunities for students to learn and teachers to teach via vital skills of the twenty-first

century. ICT improves pedagogical setting and help a teacher by making his teaching attractive for all level of students (Ratheeswari, 2018) through adopting modern and updated educational teaching methods (Weinburgh, Collier, & Rivera, 2003).

Studies have ensured that students learn well in the presence of a technology-based environment (Jamieson-Procter et al., 2013). It helps students to engage well (Javed, Wenlan, Ghaffari, & Bhuttah, 2019), and learn all the subjects more effectively (Jorge, Jorge, Gutiérrez, García, & Díaz, 2010). A technology-oriented study environment may include videos, music, and the internet related to the topic that makes the learning exciting and significant (Finger & Trinidad, 2002). Technology not only stimulates the understanding of students but also helps teachers in lesson planning more creatively and excitingly, which results in active learning (Finger & Trinidad, 2002; Young, 2003) higher academic attainment of students (Nakayima, 2011; Jamieson-Procter, 2013).

In this digital era, it is the sole responsibility of educational institutes to prepare students so that they can face the upcoming technological challenges in the field of education, in terms of quality, accessibility, as well as cost-efficiency (Albirini, 2006; Ghavifekr, Afshari, & Salleh, 2012; Young, 2003). The adoption of ICT is a process of constant actions of teaching and learning under technological support (Young, 2003) in the government's policy as well as in implementation.

1.1.Role of English as a Secondary Language in China

English language played an active part in the national modern and developing era of China. The national modernization program launched by Deng Xiaoping was mainly attributed to the English language and technology. (Chen, 2011; Zhang, 2012). The English language has become the second dominant language in mainland China for the last three decades. The following efforts were made along the way: (a) in the early 1970s, the English language started to appear as a second language in the secondary curriculums though there were not proper practical implications, (b) later, in 1978, the era of modernization, the first schools' curriculum draft included English as syllabus but earlier policy confronted severe constraints in the form of teachers and teaching materials (G. Hu, 2005), (c) the educational reforms in 1985 emphasized the policy formulation for English language education at its core, (d) the new reforms emphasized on bringing change in the prevailing educational structure, especially on the various components of English provision, including teaching content, and updated, innovative pedagogy as well as infrastructure, (e) earlier main efforts for English provision were merely for the secondary students on national level, whereas the developed regions of China created their own English subject's curriculums, including syllabuses and textbooks at their own (Hu, 2002a).

Nowadays, in secondary schools, English has become a compulsory subject at the national as well as provincial levels (Liu & Gong, 2000). However, teachers' education in English language teaching is still one of the primary concerns for which several English language teacher-training programs and

other curriculum reform-oriented programs were launched (Zhang, 2012). Still, there is more need to train teachers and more funding for updated learning aids (Lam, 2002). Technology integration in the classroom for active learning has gained a lot of importance in China (Negoescu & Boștină-Bratu, 2016a; Zhang, 2013), thus gradually leaving behind the conventional teaching settings. Although with time, the teachers are getting more and more professional qualifications over time, yet it is not enough to meet the standards (NUNAN, 2003).

The significance of English in the educational progression is also evident through the number of candidates who are trying to pass the exam of gaokao every year (China Daily, 2012). Therefore, every parent in china tries to give their children an educational background of English in various ways, including home tuition, kindergartens, or training centers from a very young age (Bolton & Graddol, 2012). Today, English teaching and learning are at its peak in every kindergarten, school, and training center. So every institution is trying its best to provide more good English learning opportunities.

1.2. Significance of ICT at the kindergarten level

Since childhood is the most appropriate age for kids to acquire several concepts, skills, and experiences, it implants a sense of cooperation, participation, self-reliance, confidence, and a better attitude towards education. Thus, children must get introduced to recent technology as well at the kindergarten level. Kindergartens, as an essential social and educational institution, are supposed to prepare children from early stages by eliminating technical illiteracy (Brubaker, 2004; Meckes, 2004; Turow & Nir, 2000). kindergartens need teachers who take into account children's needs and competencies, including the skills of information and communication technology (Weinburgh et al., 2003).

Children tend to learn faster from the world around them, and nowadays, technology is playing a significant role in children learning. The provision of TV, white touch boards in the form of educational and extracurricular activities have become necessary items in each classroom of kindergartens as it enriches the environment of the classroom. These activities not only help the current digital-savvy generation to have fun but also bring inclusiveness in children (Al-Natour & Al-Ajlouni, 2009). Introducing technology in kindergartens not only mesmerize children but also provide a chance for teachers to get familiar with technology as well (Plowman & Stephen, 2005). The technical support gives freedom to teacher for teaching according to the needs of the learners (Al-Kamel, 2018; Jayanthi & Kumar, 2016; Raval, 2014). In recent years, schools, kindergartens, and training centers, almost all educational institutes in China, are trying harder to transform the modes of teaching and learning by integrating technologies (Chien, Wu, & Hsu, 2014).

1.3.Importance of ICT in teaching ESL

In China, almost all the schools and kindergarten or training centers are using ICT in English language teaching as a teacher, tool, communication facilitator, and data source because it makes class appealing for students and keep students engaged (Padurean & Margan, 2009). ICT tools are widely used due to their convenience and effectiveness. These tools include TV, Computer, internet, multimedia, mobile learning applications, social media platform, white touch boards, Notebooks, Tablets, Smart Phones, Recorded audio-video materials, and so on.

In the last two decades, the ICT integration not only in language teaching has gotten prominent (Al-Kamel, 2018; Çakici, 2016) but also have proved substantial in English language teaching (Al-Kamel, 2018; Bilyalova, 2017; Drigas & Charami, 2014; Parvin & Salam, 2015; Tsou, Wang, & Tzeng, 2006; Wheeler, 2001). ICT as an innovative teaching aid is not only intensifying EFL learning, but also the speedy development of ICT has been transforming all the perspective of the English language. The technological tools including multimedia, internet, smart boards, cell phones, educational video, and music can motivate students and develop more language awareness (Altun, 2015; S. Ammanni & U.Aparanjani, 2016; Jayanthi & Kumar, 2016; Solanki D. Shyamlee & Patel, 2012; Rahma Al-Mahrooqi & Troudi, 2014).

A teacher is a vital source of delivering education, and the implementation of ICT is incomplete without a teacher. The successful use of technology in education is mostly determined by the teachers' personal beliefs and concerns (Angers & Machtmes, 2005; Hermans, Tondeur, van Braak, & Valcke, 2008; Russell, Bebell, O'Dwyer, & O'Connor, 2003). On one side, teachers are confident, passionate, motivated, and competent in ICT utilization in the classroom. In contrast, other teachers still consider ICT a source of discomfort, anxiety, and insecurity for many teachers around the world. The primary reason is a lack of interest in technology (Garcia Laborda & Magal-Royo, 2007; Zhang, 2013).

The new, rapidly evolving technology requires English language teachers to integrate ICT into their lessons and renew their teaching methods so that students can learn a foreign language effortlessly. Most of the teachers prefer ICT integrated teaching in ESL because of the convenience and support it provides during English language teaching (Al-Kamel, 2018; Barnawi, 2009). It also offers an opportunity for teachers to fulfill the need for tradition as well as a modern and innovative way of teaching by using technology (Al-Kamel, 2018; Jayanthi & Kumar, 2016; Raval, 2014). ICT creates a 'techno-humanistic' system among teachers, learners, and technology, which makes it easy for students to adopt new words and pronunciation of a different language. Further, ICT reduces the language barrier and make it easy to communicate all over the world. The use of ICT in foreign language teaching makes the learner more active, enthusiastic and engaged during language learning (Abdalla, Hadidi, & Rahman, 2019;

Baylor & Ritchie, 2002; Ghasemi & Hashemi, 2011; Liu, Moore, Graham, & Lee, 2002; Negoescu & Boștină-Bratu, 2016b; Pourhosein Gilakjani, 2018; Saeed, 2015).

II. LITERATURE REVIEW AND HYPOTHESES

The current study highlights the effectiveness of technology in the classroom through ICT integrated teaching and learning for English as a secondary language (Lai, 2017). The Technology Acceptance Model (TAM) by (Davis & Davis, 1989) has been adopted as a conceptual foundation (Mugo, Njagi, Chemwei, & Motanya, 2017) in many studies. It is widely used to discover the opinions and behaviors of the users about usefulness and ease in information technology usage (Amornkitpinyo & Piriyaawong, 2017).

Factors which affect the intention of a user for using technology include perceived usefulness (PU), perceived ease of use (PE), attitude toward using technology (AT), and behavioral intention to use technology (BT) (Lederer, Maupin, Sena, & Zhuang, 2000; Silviyanti & Yusuf, 2015). Besides the beliefs of a teacher like teachers' reluctance, incapability, as well as preferred pedagogy (Amornkitpinyo & Piriyaawong, 2017), there may also be some other external variables that can influence TAM. Difficulties in using technology such as inadequate electrical support, low Internet access, unavailability of equipment, may also affect teachers' motivation for the implementation of ICT (Al-Mekhlafi, 2004; Lederer et al., 2000; Silviyanti & Yusuf, 2015).

However, studies have shown teachers' positive attitude towards ICT is crucial for teaching and learning for English as a second language (EFL/ESL) through quantitative, qualitative, and mixed methodology, which are summarized in the following table 1.

Table 1: Literature Review

Qualitative studies	Quantitative studies	Mixed-Method
Teachers have positive perceptions of ICT in teaching (Alakrash & Razak, 2018; Lubis, 2018; Raman & Yamat, 2014). The utilization of ICT in ESL can improve students' abilities in acquiring and learning of second language (Samuel & Bakar, 2006).	Teachers are very positive about ICT use in teaching English (Aydin, 2013). Teachers are not only familiar with modern technology, but also they are willing to use it in their teaching (Al-Mekhlafi, 2004; Al-Zaidiyeen, Mei, & Fook, 2010; Alakrash & Razak, 2018; Albirini,	Teachers have a positive attitude and highly motivated towards the use of technology to teach English and also used it (Abdullah, Abidin, Luan, Majid, & Atan, 2006; Chen, 2008). They consider ICT as a tool to help in correct pronunciation, boosting

<p>ICT helps teachers to make learning activities more enjoyable by motivating students (Al-Munawwarah, 2015).</p> <p>However, some challenges encountered by the teachers in using ICT include lack of proper functioning ICT tools, support from the school, time allocation, and technical problems, (Al-Munawwarah, 2015; Lubis, 2018; Samuel & Bakar, 2006).</p>	<p>2006; Saeed, 2015; Zhang, 2013).</p> <p>Even pre-service teachers of ESL also have positive attitudes towards the use of Computer Assisted Language Learning (Başöz & Çubukçu, 2014; Özer, 2018).</p> <p>Teachers believe that ICT enhances English Language teaching and learning abilities, and they are willing to indulge in ICT training to improve their teaching methods (Lu, Hou, & Huang, 2010; Mafuraga & Moremi, 2017).</p> <p>However, there is a low level of ICT usage for teaching (Al-Zaidiyeen et al., 2010) because of some barriers. These barriers are in the form of lack of ICT skills, Insufficient technical or instructional supports, limited access to internet and ICT, preventing teachers from integrating ICT into the curriculum (Al-Mekhlafi, 2004; Aydin, 2013; Salehi & Salehi, 2012).</p>	<p>confidence, and motivating students (Pourhosein Gilakjani, 2018).</p> <p>However, their primary concerns are related to ICT skills and access to ICT tools (Al-Natour & Al-Ajlouni, 2009; Bordbar, 2010; Mahdi & Al-Dera, 2013).</p> <p>Simply introducing computer technology resources does not guarantee teachers' actual use of ICT in practice. The lack of time, support, resources, teachers' training, uncertainty about course content and ICT skills, also restrict teachers from the use of ICT-integrated learning activities during teaching (Arkin, 2003; Chen, 2008; Farid, 2010; Z. Hu & McGrath, 2011; Silviyanti & Yusuf, 2015).</p>
---	--	---

Teachers work as a connection between institute and students. The perception of teachers towards ICT highly depends on the active learning of students and ICT support given by the institution. It is evident from the previous studies that teachers' perception of ICT is positive; however, ICT support has been found a significant obstacle in ICT usage. A large number of studies are related to technology usage in teaching and learning in science subjects. Still, there are very few studies, which have considered it for teaching the English language as a secondary language in China.

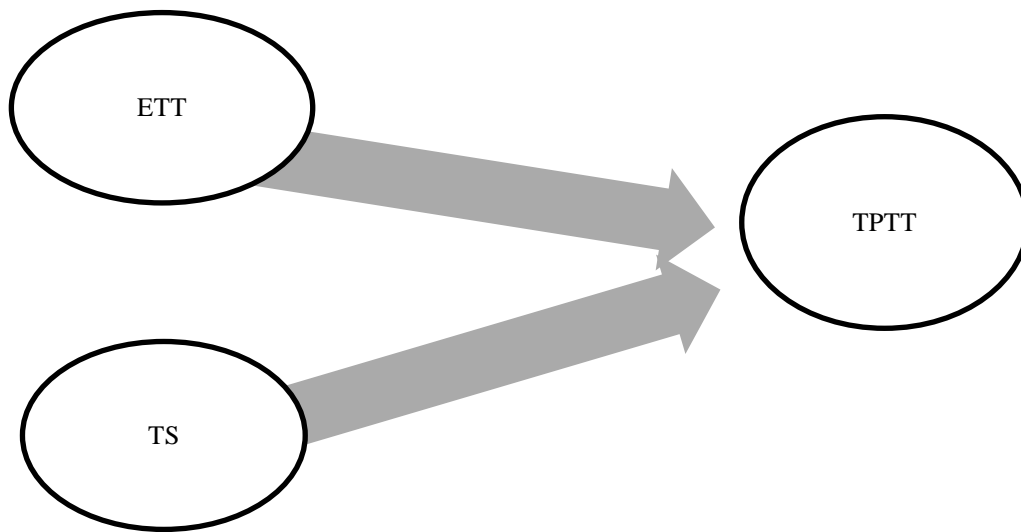
China has been significantly focusing on English as a foreign language for the last three decades. A Large number of foreigners are working in various universities, schools, training centers, and kindergartens for teaching English as a secondary language. The native countries, speakers, or foreigners with excellent English speaking skills are preferred in China for teaching English. Yet, there are very few studies about English teachers in China (Lu et al., 2010; Zhang, 2013). It is essential to know their perception and technology usage in their English teaching class as well as students learning at a given technology-oriented environment. In China, currently, Class timing is limited, based on the kindergartens and training centers. In training centers, a maximum of 90 to 60 minutes twice a week, whereas in kindergarten, a maximum of 30 minutes and 20 minutes are minimum once a week. The number of students in each class is almost 30 in kindergarten, 10-12 in training centers, and the minimum age for admission in kindergarten of China is three years.

There are several studies related to teachers' attitudes towards ICT based on the teachers' perceptions. Still, none of the studies analyzed foreign teachers' attitudes towards ICT for teaching English as a secondary language in China or English teachers working in kindergarten or training centers. All existing studies have shown the positive and significant correlation between technology and teachers' positive attitude. However, only teachers' positive attitude is not the only factor that determines the teachers' perception of ICT in teaching practice; ICT support and students' active learning are also essential factors.

In light of the gap mentioned above, this study intends to explore the role of ICT support and students' active learning with ICT on the teachers' perception towards ICT during teaching ESL through the Structural Equation Model. This study will help to describe the level of students' learning as well as the ICT support in the kindergartens or training centers of China that can affect teachers' perceptions at the given tech assistance provided by institutes. A very few studies have used structural equation model including (Badri, Alnuaimi, Yang, Al Rashidi, & Al Sumaiti, 2017; Homeida, 2007; Teo, 2008, 2011; Teo & Noyes, 2011) for the perception and attitude of teachers' towards the use of ICT in their teaching specifically for English as a second language.

The purpose of this study is to explore the role of the effectiveness of students' learning based on technology-based teaching and technical support on the teachers' perception towards technology-based teaching for teaching ESL in China. The study creates a plausible structural equation model (SEM). It tests the impact of Information and Communication Technology in English language teaching from the perspective of foreigners as English teachers in China. This study is intending to explore the foreign teachers' perceptions regarding technology integration in teaching English as a secondary language in China through the effectiveness of technology in students learning and technological support. Figure 1 shows the conceptual illustration:

Figure 1: Conceptual Model



Where

TPTT = Teachers' perception regarding tech-based teaching

ETT = Effectiveness of tech-based teaching

TS = Technological support

1.4. Hypothesis and Data Collection procedure

Hypothesis

H1: Students' effective learning based on technology-based teaching has a positive influence on the teachers' perception of technology-integrated teaching.

H2: The technological support has a positive effect on the teachers' perception towards technology- integrated teaching.

Sample

The required data were collected through the online survey. The questionnaire contained demographic and items for three variables as teachers' perceptions towards technology-based teaching (TPTT), the effectiveness of technology-based teaching (ETT), and technological support (TS). A total of 395 foreign teachers filled the questionnaire in a certain period. These teachers were currently employed and teaching English in various kindergartens and training centers in China. The survey was randomly distributed among several WeChat groups of foreign teachers irrespective of their gender or race.

The current study employs the structural equation modeling (SEM) approach to explore the influence of the effectiveness of technology-based teaching (ETT) and technological support (TS) on the teachers' perceptions towards technology-based teaching (TPTT) (Teo & Noyes, 2011).

Survey Instrument

A survey questionnaire was adopted from (Ghavifekr, 2015), which was borrowed and modified version from (Gulbahar & Ismail, 2008). The inquiry in this study used 19 items to analyze the perceptions of 395 teachers regarding the efficiency of ICT integration for teaching and learning in kindergartens and training centers in China. The questionnaire included IV sections. Demographic background includes gender, qualification, teaching experience, teaching institutes, skill to handle ICT in teaching as well as the preferred teaching method. The remaining questionnaire covers the teacher's perception regarding technology usage, the efficiency of technology usage in students learning, and technological support provided by institutes. Section II has eight items, section III consists of six questions, and section IV has five elements that look into the institution's support regarding ICT in teaching.

(I) Teachers' Perception of Technology-based Teaching (TPTT) indicates their awareness regarding the usefulness of ICT in teaching. They believe that the use of technology improves teaching by adding updated online materials. (II) Effectiveness of Technology-based Teaching (ETT) shows the effectiveness of technology integration for students in terms of best-learning experience. It measures the degree of technology effectiveness from the perspective of students' learning, which leads to better academic performance (Amornkitpinyo & Piriyastrawong, 2017). (III) Technological Support (TS) means the provision of ICT integrated classroom, ICT integrated teaching methods, technical facilities, well function, and ICT management in school. Teachers may incline towards technology usage in teaching, but a lack of supports from the school or institution may discourage technology integration in their pedagogy. (IV) Demographic items include gender, qualification, teaching experience, institutes, necessary ICT skills, and preferred teaching method.

III. ANALYSIS PROCEDURES AND RESULTS

The collected data through questionnaire were analyzed by using Statistical Package for Social Science (SPSS) program and AMOS 21.0 for the following purposes as (I) The descriptive analysis helped to find frequency and percentage of the study data which includes, the demographic background, teachers' perception towards technology-based teaching, the effectiveness of technology-based teaching, and support regarding technology integration for teaching English in kindergartens and training centers in China. The descriptive statistics were obtained through SPSS for summing up the demographic data in frequencies, means, and standard deviations. (II) The data was examined under the structural equation model

(SEM) approach. The structural equation model helped us in analyzing the relationship between studied variables. We examined the influence of the effectiveness of technology-based teaching (ETT) and technological support (TS) on the teachers' perception of technology-based teaching (TPTT). The standardized coefficient values, t-values, and p-values for the proposed hypotheses were achieved by using AMOS 21.0. (III) The reliability of the proposed model through confirmatory factor analysis (CFA) and discriminant validity was observed by AVE square root values.

Descriptive statistics

The results of descriptive analysis (Means, Std. Deviations, and Percentages) are in Table 1. The responses are based on the 4-Likert scale. Means, Std. Deviations and Percentages confirm that the ratio of males (56.4%) as an English teacher is higher than females (43.5%). Most of the teachers are young teachers, as 50.9% of teachers' ages are between 20 and 30. Teachers are well qualified, 42.4 % of teachers have bachelor's degree holders, and 36.2 % have masters' degrees. Only 25.8% of teachers have experience in English teaching above eight years, while 40.6 % of teachers have experienced between four to eight years. Almost half of the English teachers (48.7%) have a medium level of skills for handling technology in teaching. In contrast, teachers with lower and higher levels of technical skills are about 12.9% and 38.4%, respectively. The number of teachers working in Chinese kindergartens is higher than in training centers (57.2% > 42.8%). Moreover, 61.6% of teachers preferred technology usage in teaching English.

Common method variance (CMV)

CMV can influence the results negatively, so it is essential to address and avoid the occurrence of common method variance (CMV). The following results confirmed that CMV is not a problem in this current study because first, the three factors were 70.76% and generated with eigenvalues >1. Second, the first factor is only 35.09% and is less than the 50% threshold. Third, the comparison of the method load and squared values analyses indicated that average squared substantive loading (0.79%) is greater than the average of squared method loading (0.64%) and method-loading values of all the items are also insignificant.

Validity and reliability of the model

According to the two steps of the Structural equation model approach, In the first step, we analyzed the measurement model, and in second, the structural model was measured. The measurement model, also known as confirmatory factor analysis shows the reliability and validity of the measures. The maximum likelihood values of confirmatory factor analysis (CFA) in Table 3 confirmed that the proposed model of this study is reliable.

The discriminant validity was observed by all AVE square root values given in Table 4. It was found that all AVE square root values are higher than the inter-correlation of each construct, showing that all variables are

different from each other. Thus, the measurement model is reliable, and the structural relationships among the variables can be examined.

The Measurement and Structural model

The SEM model of this study contained 19 items for three variables. The measurement model helped us to analyze the model fit. According to the results of the measurement model, the values of the fit criteria are within suggested values (χ^2/Df 2.474, RMSEA=0.074, CFI=0.94, NFI=0.91, and IFI =0.94). This study intends to explore the relationship between the perception of teachers regarding ICT usage with the effectiveness

Table 2: Descriptive statistics

Descriptive statistics			
Demographics	Sample (n=395)	Frequencies	Percentages
Gender	Male	153	56.4
	Female	118	43.5
Age	20-30	138	50.9
	31-40	65	24
	41-50	48	17.7
	Above 50	20	7.4
Education	Diploma	58	21.4
	Bachelors	115	42.4
	Masters	98	36.2
Experience	1-4 years	91	33.6
	4-8 years	110	40.6
	Above 8	70	25.8
Skills	Low	35	12.9
	Medium	132	48.7
	High	104	38.4
Insitute	Kindergarten	155	57.2
	Training Center	116	42.8
Prefferd teaching Method	Traditional	104	38.4
	Modern	167	61.6

Table 3: Common Method Variance (CMV)

Common Method Variance					
Construct	ITEM	Substantive R1	R1 Square	Common Method Loading R2	R2
TPTT	PTR_1	0.786	0.617796	0.884	0.781456
	PTR_2	0.928	0.861184	0.937	0.877969
	PTR_3	0.741	0.549081	0.736	0.541696
	PTR_4	0.649	0.421201	0.64	0.4096
	PTR_5	0.883	0.779689	0.872	0.760384
	PTR_6	0.913	0.833569	0.918	0.842724
	PTR_7	0.841	0.707281	0.837	0.700569
	PTR_8	0.376	0.141376	0.37	0.1369
ETT	EUI_1	0.83	0.6889	0.328	0.107584
	EUI_2	0.739	0.546121	0.271	0.073441
	EUI_3	0.736	0.541696	0.35	0.1225
	EUI_4	0.877	0.769129	0.287	0.082369
	EUI_5	0.871	0.758641	0.252	0.063504
	EUI_6	0.651	0.423801	0.262	0.068644
TS	SUP_1	0.815	0.664225	0.163	0.026569
	SUP_2	0.819	0.670761	0.192	0.036864
	SUP_3	0.9	0.81	0.228	0.051984
	SUP_4	0.873	0.762129	0.237	0.056169
	SUP_5	0.884	0.781456	0.209	0.043681
	Average	0.795368421	0.648844	0.472263158	0.304453

Table 4: Confirmatory Factor Analysis

Confirmatory Factor Analysis					
	Items	Factor Loadings	CA	CR	AVE
TPTT	8	0.786	0.919	0.924	0.614
		0.928			
		0.741			
		0.649			
		0.883			
		0.913			
		0.841			
		0.376			
ETT	6	0.83	0.905	0.907	0.621
		0.739			
		0.736			
		0.877			
		0.871			
TS	5	0.815	0.932	0.934	0.738
		0.819			
		0.9			
		0.873			
		0.884			

of using ICT and ICT support through SEM maximum likelihood. The results of the structural model also revealed that the fit values are within the prescribed thresholds, so the model is acceptable ($\chi^2/D.F=2.736$, RMSEA =0.08, CFI =0.93, NFI=0.9, and IFI=0.93).

Table 5: Means, Standard Deviation, and Correlations.

Means, Standard Deviation, and Correlations.					
Variable	M	SD	Perception	Effectiveness	Support
TPTT	4.00	0.54	0.784		
ETT	2.93	0.75	0.353***	0.788	
TS	2.29	0.80	0.244***	0.408***	0.859

Note: ***p < 0.05, figures in bold are values of square root of AVE.

Table 6: Comparison of the measure model and structural model.

Comparison measure model and structural model.							
Model	Absolute fit measure	RMSEA	Incremental fit measures	PNFI	Parsimonious fit measure	IFI	TLI
	X ² /DF		NFI		CFI		
MM	2.474	0.074	0.91	0.793	0.944	0.944	0.936
SEM	2.736	0.08	0.9	0.789	0.934	0.934	0.925

Hypotheses testing

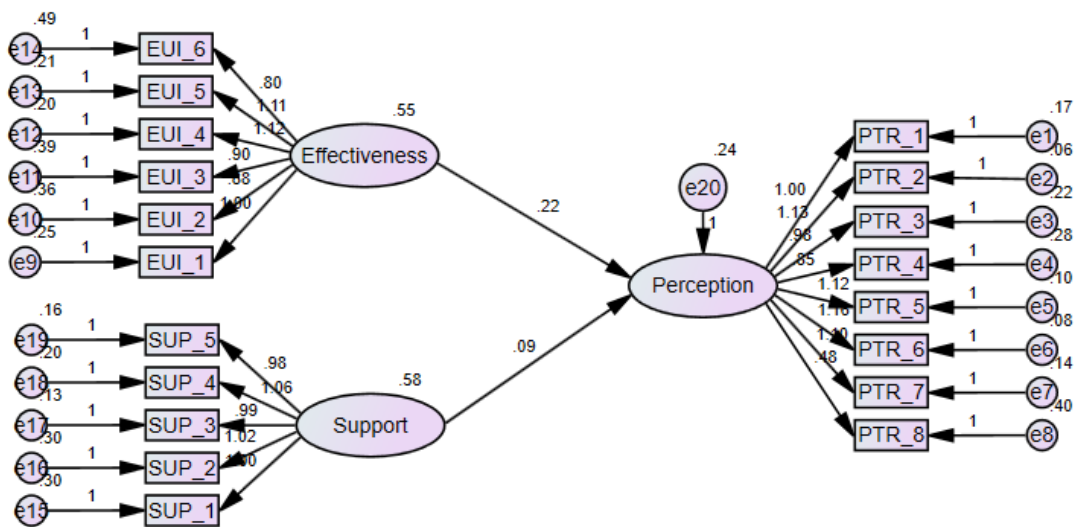
The proposed hypotheses of this study were tested through the standardized coefficient values, t-values, and p-values in AMOS 21.0. The dependent variable was the teachers' perceptions of technology-based teaching (TPTT). The effectiveness of technology-based teaching (ETT) and Technology support (TS) were independent variables in this study. Figure 2 showed the acceptance of hypothesizes by stating that the effectiveness of technology-based teaching (ETT), as well as Technology support (TS), has a significant positive effect on the teachers' perception towards technology-based teaching (TPTT).

Table 6 indicates the acceptance of our proposed hypotheses. The significant positive relationship was found between with TPTT for teaching ESL and ETT as ($\beta = 0.216$, $t = 4.745$, $p < 0.05$). Results accepted H1 stating that the effectiveness of technology-based teaching (ETT) has a significant positive effect on the teachers' perception towards technology-based teaching (TPTT). Technology support (TS) also revealed a positive and significant relationship with teachers' perception of using technology in teaching English as a secondary language as ($\beta = 0.091$, $t = 2.147$, $p > 0.05$), which validated our H2.

Table 7: Path Analysis

PATH ANALYSIS			
Path	Standard Coefficient	t-value	Result
ETT ---> TPTT	0.216	4.745	Supported
TS ---> TPTT	0.091	2.147	Supported

Figure 2: Structure equation model



IV. CONCLUSION AND RECOMMENDATION

The current study employs structural equation modeling (SEM) approach for exploring the influence of the effectiveness of technology-based teaching (ETT) and technological support (TS) on the teachers' perceptions towards of technology-based teaching (TPTT) (Badri et al., 2017; Teo & Noyes, 2011). The finding of this study is in alignment with the previous research by showing the positive effect of effectiveness of technology-based teaching on the perceptions of teachers. Besides, it is also apparent through results that technological support provided by the institutes also plays a crucial role in determining a teacher's perception towards technology-integrated teaching.

The demographic data of this study have also exposed that foreign teachers are competent in handling ICT, and their most preferred teaching method is a modern teaching method. We can conclude that only teachers' perception and students' effective learning is not only vital; technical support, technology-integrated classroom are also crucial for this tech-savvy generation. Thus, removing tech-barriers in institutions can help teachers in

providing unlimited and updated information for ELT. Moreover, it can also be prepared teachers to deal with new challenges in the field of education and technology (Alakrash & Razak, 2018; Silviyanti & Yusuf, 2015). Further, allocating additional time for technology-related lessons plan and tech professional development can reduce many problems among teachers and thus would enable them to use it in the classroom effectively (Andrei, 2016).

Teachers themselves also should adopt new ways of teaching corresponding to the rapid change in society. For this purpose, there is a need to explore particular ICT skills to enhance language learning abilities. On the other side, this will make it not only fast and easy for Chinese students to learn English but also exciting. The current study can be extended through qualitative research by taking interview of a few international English teachers, which can also give a depth understanding of this topic. Further, an experiment can be done on teachers by testing teachers' perceptions towards technology- based teaching, the effectiveness of technology- based teaching methods, and tech-support on teachers' preferred teaching method for teaching English as a secondary language in China.

Research has shown the acceptance of ICT among teachers and students within as well as outside of the school. However, there is more use of technology outside of the school because of the withing school constraints, including teachers' interest, lack of self-assurance, capability, and attitudes of teachers. The success of the technology program depends on its design, implementation, and how the teachers are trained for using it (Parvin & Salam, 2015). For Technology-based teaching and learning, there is a need for proper policymaking. National ICT policies work in various crucial ways. It not only can provide a foundation but also a vision to run ICT in education systems. A proper strategy for ICT integration in teaching can be beneficial for students, teachers, and, thus, a country.

Abdalla, O. H. O., Hadidi, M. B. M., & Rahman, I. A. A. (2019). Exploring the Impact of ICT on Promoting Scholastic Activities: A Case Study of Omdurman Area 2015-2016.

Abdullah, N. A., Abidin, M. J. Z., Luan, W. S., Majid, O., & Atan, H. (2006). The attitude and motivation of English language teachers towards the use of computers. *Malaysian Online Journal of Instructional Technology*, 3(1), 57-67.

Al-Kamel, M. (2018). *The positive Effect of ICT on the English Language Learning and Teaching*.

Al-Mekhlafi, A. (2004). The Internet and EFL teaching: The reactions of UAE secondary school English language teachers. *Journal of Language and Learning*, 2(2), 88-113.

Al-Munawwarah, S. F. (2015). TEACHERS'PERCEPTIONS ON THE USE OF ICT IN INDONESIAN EFL LEARNING CONTEXT. *English Review: Journal of English Education*, 3(1), 70-80.

Al-Natour, M., & Al-Ajlouni, K. (2009). An Evaluative Study of the KidSmart Program as Viewed by Public Jordanian Kindergartens Teachers.

International Journal of Instructional Technology and Distance Learning, 6, 27-46.

I-Zaidiyeen, N. J., Mei, L. L., & Fook, F. S. (2010). Teachers' Attitudes and Levels of Technology Use in Classrooms: The Case of Jordan Schools. *International education studies*, 3(2), 211-218.

Alakrash, H., & Razak, N. (2018). ENGLISH LANGUAGE TEACHERS' READINESS FOR THE APPLICATION OF TECHNOLOGY TOWARDS FOURTH INDUSTRIAL REVOLUTION DEMANDS. *vol 7*, 89-98.

Albirini, A. (2006). Teachers' attitudes toward information and communication technologies: The case of Syrian EFL teachers. *Computers & Education*, 47, 373-398. doi:10.1016/j.compedu.2004.10.013

Amornkitpinyo, T., & Piriyastrawong, P. (2017). The concept framework of structural equation model of mobile cloud learning acceptance for higher education students in the 21st Century. *TEM Journal*, 6, 464-468. doi:10.18421/TEM63-05

Andrei, E. (2016). Technology in teaching English language learners: The case of three middle school teachers. 8. doi:10.1002/tesj.280

Angers, J., & Machtmes, K. (2005). An ethnographic-case study of beliefs, context factors, and practices of teachers integrating technology. *The qualitative report*, 10(4), 771-794.

Arkin, E. İ. (2003). *Teachers' attitudes towards computer technology use in vocabulary instruction*. Bilkent University,

Aydin, S. (2013). Teachers' perceptions about the use of computers in EFL teaching and learning: the case of Turkey. *Computer Assisted Language Learning*, 26(3), 214-233. doi:10.1080/09588221.2012.654495

Badri, M., Alnuaimi, A., Yang, G., Al Rashidi, A., & Al Sumaiti, R. (2017). A Structural Equation Model of Determinants of the Perceived Impact of Teachers' Professional Development—The Abu Dhabi Application. *SAGE Open*, 7(2), 2158244017702198. doi:10.1177/2158244017702198

Barnawi, O. Z. (2009). The internet and EFL college instruction: A small-scale study of EFL college teachers' reactions. *International Journal of Instructional Technology and Distance Learning*, 6(6), 47-64.

Başöz, T., & Çubukçu, F. (2014). Pre-service EFL teacher's attitudes towards computer assisted language learning (CALL). *Procedia-Social and Behavioral Sciences*, 116, 531-535.

Baylor, A. L., & Ritchie, D. (2002). What factors facilitate teacher skill, teacher morale, and perceived student learning in technology-using classrooms? *Computers & Education*, 39(4), 395-414.

Bilyalova, A. (2017). ICT in Teaching a Foreign Language in High School. *Procedia - Social and Behavioral Sciences*, 237, 175-181. doi:<https://doi.org/10.1016/j.sbspro.2017.02.060>

Bolton, K., & Graddol, D. (2012). English in China today. *English Today*, 28, 3-9. doi:10.1017/S0266078412000223

Bordbar, F. (2010). a. *International Journal of Language Studies*, 4(3).

Brubaker, D. D. (2004). *An assessment of technology learning styles, skills, and perceptions among teachers of grades pre-kindergarten through four*: University of North Texas.

Çakici, D. (2016). *The use of ICT in teaching English as a foreign language*.

- Chen, Y.-L. (2008). A mixed-method study of EFL teachers' Internet use in language instruction. *Teaching and Teacher Education*, 24(4), 1015-1028.
- Davis, F., & Davis, F. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13, 319. doi:10.2307/249008
- Drigas, A., & Charami, F. (2014). ICTs in English Learning and Teaching. *International Journal of Recent Contributions from Engineering, Science & IT (iJES)*, 2, 4-10. doi:10.3991/ijes.v2i4.4016
- Farid, B. (2010). English teachers' attitudes toward computer-assisted language learning. *International Journal of Language Studies*, 4.
- Finger, G., & Trinidad, S. (2002). ICTs for learning: An overview of systemic initiatives in the Australian States and Territories. 17, 3-14.
- Garcia Laborda, J., & Magal-Royo, T. (2007). How to teach English with Technology. *Educational Technology & Society*, 10, 320-324.
- Ghasemi, B., & Hashemi, M. (2011). ICT: Newwave in English language learning/teaching. *Procedia - Social and Behavioral Sciences*, 15, 3098-3102. doi:<https://doi.org/10.1016/j.sbspro.2011.04.252>
- Ghavifekr, S. (2015). Teaching and Learning with Technology: Effectiveness of ICT Integration in Schools. *International Journal of Research in Education and Science (IJRES)*, 1, 175-191. doi:10.21890/ijres.23596
- Ghavifekr, S., Afshari, M., & Salleh, A. (2012). Management strategies for e-learning system as the core component of systemic change: A qualitative analysis. *Life Science Journal*, 9, 2190-2196.
- Gulbahar, Y., & Ismail, G. (2008). A Survey on ICT Usage and the Perceptions of Social Studies Teachers in Turkey. *Educational Technology & Society*, 11, 37-51.
- Hermans, R., Tondeur, J., van Braak, J., & Valcke, M. (2008). The impact of primary school teachers' educational beliefs on the classroom use of computers. *Computers & Education*, 51(4), 1499-1509. doi:<https://doi.org/10.1016/j.compedu.2008.02.001>
- Homeida, A. H. (2007). The impact of instructional technology on teaching English in high secondary school. *Unpublished Phd. Dissertation. University of Khartoum.*
- Hu, G. (2005). English Language Education in China: Policies, Progress, and Problems. *Language Policy*, 4, 5-24. doi:10.1007/s10993-004-6561-7
- Hu, Z., & McGrath, I. (2011). Innovation in higher education in China: are teachers ready to integrate ICT in English language teaching? *Technology, Pedagogy and Education*, 20(1), 41-59. doi:10.1080/1475939X.2011.554014
- Jayanthi, N. S., & Kumar, R. V. (2016). Use of ICT in English language teaching and learning. *Journal of English Language Teaching and Learning*, 3(2), 34-38.
- Jorge, C., Jorge, M., Gutiérrez, E., García, E., & Díaz, M. (2010). Use of the ICTs and the Perception of E-learning among University Students: a Differential Perspective according to Gender and Degree Year Group.
- Lai, P. C. (2017). THE LITERATURE REVIEW OF TECHNOLOGY ADOPTION MODELS AND THEORIES FOR THE NOVELTY TECHNOLOGY. *Journal of Information Systems and Technology Management*, 14, 21-38. doi:10.4301/s1807-17752017000100002

- Lam, A. (2002). English in education in China: policy changes and learners' experiences. *World Englishes*, 21(2), 245-256. doi:10.1111/1467-971x.00245
- Lederer, A. L., Maupin, D. J., Sena, M. P., & Zhuang, Y. (2000). The technology acceptance model and the World Wide Web. *Decision support systems*, 29(3), 269-282.
- Liu, M., Moore, Z., Graham, L., & Lee, S. (2002). A Look at the Research on Computer-Based Technology Use in Second Language Learning. *Journal of Research on Technology in Education*, 34(3), 250-273. doi:10.1080/15391523.2002.10782348
- Lu, Z., Hou, L., & Huang, X. (2010). A research on a student-centred teaching model in an ICT-based English audio-video speaking class. *International Journal of Education and Development using ICT*, 6(3), 101-123.
- Lubis, A. (2018). ICT Integration in 21st-Century Indonesian English Language Teaching: Myths and Realities. 37, 11-21. doi:10.21831/cp.v37i1.16738
- Mafuraga, M., & Moremi, M. (2017). Integrating Information and Communication Technology in English Language teaching: A case study of selected Junior Secondary Schools in Botswana. *International Journal of Education and Development using ICT*, 13(1).
- Mahdi, H. S., & Al-Dera, A. S. a. (2013). The Impact of Teachers' Age, Gender and Experience on the Use of Information and Communication Technology in EFL Teaching. *English Language Teaching*, 6(6), 57-67.
- Meckes, S. A. (2004). *The effect of using the computer as a learning tool in a indergarten curriculum*. Salve Regina University,
- Mugo, D. G., Njagi, K., Chemwei, B., & Motanya, J. O. (2017). The technology acceptance model (TAM) and its application to the utilization of mobile learning technologies. *Journal of Advances in Mathematics and Computer Science*, 1-8.
- Negoescu, A., & Boștină-Bratu, S. (2016a). Teaching and Learning Foreign Languages with ICT. *Scientific Bulletin*, 21. doi:10.1515/bsaft-2016-0032
- Negoescu, A., & Boștină-Bratu, S. (2016b). Teaching and learning foreign languages with ICT. *Scientific Bulletin*, 21(1), 21-27.
- NUNAN, D. (2003). The Impact of English as a Global Language on Educational Policies and Practices in the Asia-Pacific Region*. *TESOL Quarterly*, 37(4), 589-613. doi:10.2307/3588214
- Özer, Z. (2018). An investigation of prospective ELT teachers' attitudes towards using computer technologies in foreign language teaching. *Journal of Language and Linguistic Studies*, 14(1), 328-341.
- Padurean, A., & Margan, M. (2009). Foreign language teaching via ICT. *Revista de Informatica Sociala*, 7(12), 97-101.
- Parvin, R., & Salam, S. (2015). The Effectiveness of Using Technology in English Language Classrooms in Government Primary Schools in Bangladesh. *FIRE: Forum for International Research in Education*, 2. doi:10.18275/fire201502011049
- Plowman, L., & Stephen, C. (2005). Children, play, and computers in pre-school education. *British journal of educational technology*, 36(2), 145-157. doi:10.1111/j.1467-8535.2005.00449.x

- Pourhosein Gilakjani, D. A. (2018). Teaching Pronunciation of English with Computer Technology: A Qualitative Study. *International Journal of Research in English Education*, 3(2), 94-114. doi:10.29252/ijree.3.2.94
- Raman, K., & Yamat, H. (2014). Barriers Teachers Face in Integrating ICT During English Lessons: A Case Study. *Malaysian Online journal of educational technology*, 2(3), 11-19.
- Ratheeswari, K. (2018). Information Communication Technology in Education. *Journal of Applied and Advanced Research*, 3, 45. doi:10.21839/jaar.2018.v3iS1.169
- Raval, M. (2014). Use of ICT in English language teaching. *International Journal of Research in all Subjects in multi Languages*, 2(2), 21-24.
- Russell, M., Bebell, D., O'Dwyer, L., & O'Connor, K. (2003). Examining teacher technology use: Implications for preservice and inservice teacher preparation. *Journal of teacher Education*, 54(4), 297-310.
- Saeed, Y. B. M. (2015). The effect of using computer technology on English language teachers' performance. *SUST Journal of Humanities*, 16(1), 64-79.
- Salehi, H., & Salehi, Z. (2012). Challenges for Using ICT in Education: Teachers' Insights. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 2, 40-43.
- Samuel, R., & Bakar, Z. (2006). The utilization and integration of ICT tools in promoting English language teaching and learning: Reflections from English option teachers in Kuala Langat District, Malaysia. *International Journal of Education and Development using ICT*, 2(2), 4-14.
- Silviyanti, T., & Yusuf, Y. (2015). EFL teachers' perceptions on using ICT in their teaching: To use or to reject? *Teaching English with Technology*, 15, 29-43.
- Teo, T. (2008). Pre-service teachers' attitudes towards computer use: A Singapore survey. *Australasian Journal of Educational Technology*, 24. doi:10.14742/ajet.1201
- Teo, T. (2011). Factors influencing teachers' intention to use technology: Model development and test. *Computers & Education*, 57(4), 2432-2440. doi:<https://doi.org/10.1016/j.compedu.2011.06.008>
- Teo, T., & Noyes, J. (2011). An assessment of the influence of perceived enjoyment and attitude on the intention to use technology among pre-service teachers: A structural equation modeling approach. *Computers & Education*, 57(2), 1645-1653. doi:<https://doi.org/10.1016/j.compedu.2011.03.002>
- Tsou, W., Wang, W., & Tzeng, Y. (2006). Applying a multimedia storytelling website in foreign language learning. *Computers & Education*, 47, 17-28. doi:10.1016/j.compedu.2004.08.013
- Turow, J., & Nir, L. (2000). The internet and the family: The view from parents, the view from kids.
- Weinburgh, M., Collier, S., & Rivera, M. (2003). Preparing elementary teachers: Infusing technology as recommended by the international society for technology in education's national educational technology standards for teachers (NETS. T). *TechTrends*, 47(4), 43.
- Wheeler, S. (2001). Information and Communication Technologies and the Changing Role of the Teacher. *Journal of Educational Media*, 26(1), 7-17. doi:10.1080/1358165010260102

Young, S. S. C. (2003). Integrating ICT into second language education in a vocational high school. *Journal of Computer Assisted Learning*, 19(4), 447-461. doi:10.1046/j.0266-4909.2003.00049.x

Zhang, C. (2013). A Study of Internet Use in EFL Teaching and Learning in Northwest China. *Asian Social Science*, 9, 48-52. doi:10.5539/ass.v9n2p48