

The Information and Communication Technology (ICT) in English Teaching Learning: Towards Enhanced Instructional Practice

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Abstract:

This study aimed to determine English foreign language (EFL) teachers' perception on information and communication technology (ICT) and the competency in using ICT as well as the relationship between their competency on the use of ICT and the academic performance of students as perceived by the teachers and students with the end view of developing an instructional model. With a quantitative research, it is found that EFL teachers in Changde hold a manifested level of positive attitudes towards using ICT and they use different types of ICT means to certain extent, and teachers' ICT competency is positively correlated with the students' academic performance in EFL. Based on the results, recommendations are made.

Keywords:

ICT, Instruction, Perception, Competency, Academic Performance

1. Introduction

The rapid development of information and communication technology (ICT) puts forward greater challenges and higher requirements for education, and offers new opportunities. It is not only helpful in classroom teaching and learning but it also provides foreign language learners with opportunities for self-learning outside classroom [1]. How to encourage English teachers to use the existing informatized teaching resources and network resources more effectively, making full use of equipment, platforms and software as well as online materials to attract students' attention to effectively carry out both online and offline instruction and enhance students' self-study effectiveness and efficiency so as to improve teaching-learning quality, has become a top priority.

There are numerous literature and related studies concerning this area. The most stressed topic is the factors that affect teachers' competency in the use of ICT. Mahdi

and Al-Dera investigated the influence of teachers' age, experience, and gender on the incorporation of information and communication technologies into language education among Saudi EFL instructors found that the age of the instructor had no influence on the usage of technology. The results cannot be generalized considering the small sample size [2]. In China, many factors influence the development of teachers' information-based teaching, according to Du Ping, including the importance of social policies, funds, and leaders, the creation of an information-based teaching environment in schools, teachers' age, teaching subjects, and teaching tasks, and teachers' own information-based teaching awareness and technical literacy [3]. Kinik revealed that Turkish EFL teachers in general have favourable attitudes about the usage and integration of technology in English language instruction [4]. Hu and McGrath found that majority of teachers had favorable and enthusiastic attitude toward integrating ICTs into English language education, according to the finding [5]. ICT alters students' perceptions of English language learning. Sound clips, video, and whiteboards are used to make the lesson more thought-provoking, and students are encouraged to participate completely. Students are aware of the importance of the internet in today's world. Therefore it's no surprise that they think ICT may help them learn better [6]. Sadeghi et al claimed ICT tools save time, energy, and money; that they reduce cultural barriers by facilitating exposure to authentic materials; that they enable teachers to encourage students beyond the constraints of time and space; that they allow students to learn at their own pace; and that they are engaging for students [7]. TAM deals with the relationship between attitude, intention, and behavior. Previous studies into the relationship between these variables found that an individual's perception of ease of use directly impacts his or her perception of usefulness. Liu et al found that TAM was positively acknowledged on one condition that teachers integrated technology effectively, so a shift from traditional transmissive pedagogy to constructive one would necessarily take place. Teachers' perception of ICT in education, in general, has a significant impact on the actual use of ICT in EFL teaching-learning [8].

In view of the above, this study adopted a quantitative research to collect data and SPSS to run correlation test to exam the relationship between EFL teacher's perception on ICT and their actual use of ICT means as well as the relationship between students' academic performance and teachers' ICT proficiency.

2. Materials and Methods

The research design used in this study was the quantitative analysis method. It tested the following hypotheses at 0.05 level of significance.

- a. There is no significant difference in the use of ICT by EFL teachers when their profile is taken as the test factor.
- b. There is no significant difference in the academic achievement among students respondents when their personal profile is taken as the test factor.
- c. There is no significant relationship between teachers' perception on ICT and their use of ICT means
- d. There is no significant relationship between students' academic achievements and the ICT competency of their teachers.

This study mainly uses quantitative research and adopts questionnaire survey as major research method. The EFL teachers and students in rural junior middle schools of Changde City were taken as the survey object. The teacher questionnaire is adapted from the one designed by Ahmed, S. T. S., Qasem, B. T., & Pawar, S. V. [9] with minor changes. The student questionnaire is designed by the researcher based on the The Standards for Information Technology Application proficiency of Primary and Secondary School Teachers (Trial) (2014) [10] issued by Chinese Ministry of Education [26]. These respondents are drawn with a simple random sampling technique and a stratified sampling technique.

3. Results and Discussion

3.1. Respondents' Profile

There are 58 EFL teachers respondents in this study. Among them, 8 are male while 50 are female. They are from different age group with different educational attainment and working experience. There are 318 students questionnaires recovered, two were invalid. Among all the 316 students, 211 are male, and 105 are females. They are aged from 12 to 15 years old covering all the grade levels 7, 8, and 9 in junior middle school.

3.2. The Status of Teacher Respondents on the Use of ICT in EFL Teaching-Learning

In terms of perception, the mean for perceived usefulness (PU) is 2.80, while perceived ease of use (PEU) and attitude share the same mean value of 2.92, which results in an overall composite mean value of 2.88 indicating that teacher respondents' perception on ICT is manifested. The results indicate that EFL teachers in Changde rural junior middle schools have positive sense of perception on ICT in EFL teaching and learning.

In terms of the use of ICT means, a composite mean value of 2.70 indicates that teacher respondents' use ICT means to certain extent. This result indicates that EFL teachers have shown a certain extent of adoption on different types of ICT means in EFL teaching and learning. But the approaches are not equally adopted. Simple and basic means such as ICT-based classroom facilities, presentation tools, presentation modes and home-school communications are used more frequently. While high-level approaches such as auxiliary learning apps (Micro-class, MOOC or SPOC), Class management apps (Rain Class, Flipped Campus or Perfect Campus) and processing software to edit EFL resources (PDF, PHOTOSHOP, Mind Master or Adobe Audition) are not widely used.

3.3. Teachers' Competency on the Use of ICT in EFL Teaching-Learning

The result in Table 1 shows that student respondents have seen their EFL teachers to be more competent on the use of ICT in terms of the training and self-development with the highest rating of 2.85, while evaluation and improvement was found to be the least assessed competency as perceived by the student respondents.

Table 1. Teachers' Competency on the Use of ICT Assessed by the Student Respondents.

Indicators	Mean	Qualitative Description	Interpretation
1. Planning and Preparation	2.77	Agree	Manifested
2. Organization and	2.77	Agree	Manifested

Administration			
3. Evaluation and Improvement	2.54	Agree	Manifested
4. Training and Self-Development	2.85	Agree	Manifested
Over-all Mean	2.73	Agree	Manifested

Legend: 3.51-4.00 Strongly Agree; 2.51-3.50 Agree; 1.51-2.50 Disagree; 1.00-1.50 Strongly Disagree

3.4. Differences in the Self- Assessment of EFL Teachers on the Use of ICT When They Are Grouped by Personal Profile

In terms of gender, the mean value obtained by the male teacher respondents is 2.74 with the standard deviation of 0.70 while the female student athletes has obtained a mean value of 2.80 with the standard deviation of 0.47. The computed t-value is -0.34 and the significance value of 0.74 which is higher than the set 0.05 level of significance. Hence, there is no significant difference in the use of ICT by teachers in EFL teaching and learning when their gender is taken as test factor. This indicates that male and female teachers have relatively high level of positive perception on ICT and use of ICT means in EFL teaching and learning.

In terms of age, the yielded a computed t-value of 3.46 and a significance value of 0.02 which is lower than the set 0.05 level of significance. Hence, there is a significant difference in the self-assessment of use of ICT by teachers in EFL teaching and learning when their age is taken as test factor.

In terms of educational background, the yielded computed t-value is 3.94 with a significance value of 0.01 which is lower than the set 0.05 level of significance. Hence, there is a significant difference in the use of ICT by teachers in EFL teaching and learning when their educational attainment is taken as test factor.

In terms of working experience, the yielded a computed t-value is 0.21 with a significance value of 0.89 which is higher than the set 0.05 level of significance. Hence, there is no significant difference in the assessment of the teacher respondents on the use of ICT in terms of perception and types of ICT means used regardless of how long they have been teaching EFL.

3.5. The Differences on the Academic Performance of Students When Their Profile Is Taken as Test Factor

In terms of students' self-assessed academic achievement, English writing has a mean value of 2.93. English reading, a highest mean of 3.08, while English listening has the lowest mean of 2.85. Student respondents manifested a good academic performance in English specifically in writing, reading, and listening.

In terms of gender, male student respondents have obtained a mean value of 2.84 with the standard deviation of 0.79, while the female student respondents have obtained a mean value of 3.18, with the standard deviation of 0.73. This yielded a computed t-value of -3.70 and a significance value of 0.00 which is higher than the set 0.05 level of significance. Hence, the null hypothesis is rejected which indicates that there is a significant difference in the self-assessment of students' academic achievement when their gender is taken as test factor.

In terms of age, the it has gained a mean value of 2.89 with the standard deviation of 0.87 for student respondents at the age of 12, while the student respondents aged 13 have a mean value of 2.97 with the standard deviation of 0.84. A mean 2.79 with a

standard deviation of 0.74 from those aged 14, and a mean 3.16 with a standard deviation of 0.64 for those aged 15. This yielded a computed t-value of 3.45 and a significance value of 0.02 which is lower than the set 0.05 level of significance. Hence, the null hypothesis is rejected which indicates that there is a significant difference in academic performance when their age is taken as test factor.

In terms of the grade, students respondents at Grade 7 have gained a mean value of 2.87 with the standard deviation of 0.86, while the student respondents at Grade 8 have a mean value of 2.94 with the standard deviation of 0.75, and a mean 3.06 with a standard deviation of 0.73 for those at Grade 9. This yielded a computed t-value of 1.48 and a significance value of 0.23 which is higher than the set 0.05 level of significance. Hence, the null hypothesis is accepted which indicates that there is no significant difference in academic performance of students in English when their grade is taken as test factor.

3.6. The Relationship between EFL Teachers' Perception on ICT and Their Use of ICT Means

Table 2 reveals that, for the over-all perception, the significance value is 0.00 which is lower than the set 0.05 level of significance. Hence, the null hypothesis is rejected which indicates that teachers' use of ICT means and their perception towards ICT have a significant relationship. The computed r is 0.55, which indicates they are positively correlated. This implies that the higher the level of teachers' perception on ICT is, the greater extent in the use of ICT means is.

Table 2. The Relationship between EFL Teachers' Perception on ICT and Their Use of ICT Means.

	Perception	Computed r	Sig	Decision on Ho	Interpretation
Use of ICT Means	PE	0.50	0.00	Rejected	Significant
	PEU	0.53	0.00	Rejected	Significant
	Attitude	0.51	0.00	Rejected	Significant
	Over-all Perception	0.55	0.00	Rejected	Significant

3.7. The Relationship between EFL Teachers' ICT Competency and the Academic Performance of Students

Table 3 reveals that in terms of teachers' over-all ICT competency, the average computed r value is 0.46 with the significance value of 0.00, which is lower than the set 0.05 level of significance, hence, the null hypothesis is rejected which indicates that teachers' ICT competency and students' academic performance in English has a significant relationship. This would mean that students' academic performance in English is closely related to teachers' competence on the use of ICT. This implies that the more competent the EFL teachers are in the use of ICT, the better the academic performance the students make.

Table 3. Relationship Between Teachers' ICT Competency and Students' Academic Performance.

Teachers' ICT Competency	Students' Academic Performance in English	Computed r	Sig	Decision on Ho	Interpretation
1. Planning & Preparation	Writing	0.39	0.00	Rejected	Significant
	Reading	0.32	0.00	Rejected	Significant

	Listening	0.36	0.00	Rejected	Significant
	Average	0.40	0.00	Rejected	Significant
2. Organization & Administration	Writing	0.43	0.00	Rejected	Significant
	Reading	0.44	0.00	Rejected	Significant
	Listening	0.38	0.00	Rejected	Significant
	Average	0.46	0.00	Rejected	Significant
3. Evaluation & Improvement	Writing	0.36	0.00	Rejected	Significant
	Reading	0.37	0.00	Rejected	Significant
	Listening	0.37	0.00	Rejected	Significant
	Average	0.40	0.00	Rejected	Significant
4. Training & Self-Development	Writing	0.38	0.00	Rejected	Significant
	Reading	0.39	0.00	Rejected	Significant
	Listening	0.35	0.00	Rejected	Significant
	Average	0.42	0.00	Rejected	Significant
Over-all Teachers' ICT Competency	Over-all Students' Academic Performance	0.46	0.00	Rejected	Significant

4. Conclusions

Based on the findings presented in the study, the following conclusions are drawn:

a. EFL teachers in Changde held highly positive attitudes towards using ICT in EFL teaching and learning. And they do use ICT means to a large extent in the EFL teaching-learning process based on their own assessment.

b. The student respondents agree that their EFL teachers are competent in the use of ICT, most competent in training and self-development, while evaluation and improvement is found to be the least assessed competency.

c. EFL teachers have relatively the same assessment on the use of ICT in terms of perception and the types of IC approaches used in EFL teaching and learning when they are grouped according to gender and working experience. However, teachers aged between 31 and 40 years old have a better manifestation of perception on ICT than those of other age groups.

d. Student respondents manifested a good academic performance in English specifically in writing, reading, and listening. The highest academic performance of students was found to be in English reading, followed by English Writing, and last in English Listening. The assessment of academic performance is significantly different when the student respondents are grouped by age and gender. Students have relatively the same level of academic performance regardless of their grade level.

e. EFL teachers' perception towards ICT is positively correlated to their use of ICT means. This means that the higher the level of teachers' perception on ICT is, the greater the extent of their use in ICT means is.

f. Teachers' ICT competency in teaching and learning is positively correlated with the students' academic performance in English in terms of writing, reading, and listening to a moderate degree. This could mean that the higher the level of ICT

competency of teachers, the better academic performance of students in English subject is.

It is recommended that an enhanced instructional model be developed from cognitive preparation and instructional practices, and the latter can be further furnished with English instructional activities before-class, within-class and after-class. Policymakers and schools should help teachers improve their ICT competences by providing ICT resources, training and platform to communicate. It is also advised that future study in this area could expand the numbers of respondents and probe more indicators concerning teachers' competency in the use of ICT.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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