

EFFECTS OF DLT ON STUDENTS' COMMUNICATION SKILLS: AN EXPERIMENTAL STUDY

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ABSTRACT

The current study was intended to ascertain the impacts of DLT on students' communication skills. The study was conducted by using an experimental research design. The population of the study comprised of grade VIII students' and English language teachers' of adopted public schools of Karachi while sample size consisted of ninety grade VIII students and two English language teachers. Quasi-experimental research design was selected for the study with 45 each in control and the treatment group. The treatment group students were given treatment by teaching through DLT while the lecture method of teaching was applied to control group students. A test was administered to all students before and after intervention. Independent t-test was used for data analysis. The post-test results revealed that the treatment group students were able to produce good results comparing to the control group students in both reading and writing skills. Researcher suggested practical implication for teachers to use DLT, TPACK and theories such as UTAUT, socially shared cognition, social cognitive for better teaching learning process. Future researches on students' satisfaction of using DLT, qualitative study on teachers usage of DLT, a large sample study on DLT with multi-grade level students, study with lower and higher socio-economic group, a study for comparing the results of district standardised tests with provincial standardised tests were also recommended.

Keywords: Digital literacy, digital literacy tools, digital native, adopted public schools, technology integration, communication.

INTRODUCTION

Communication skills are the most important component of generic skills, which are important for studies, higher education, personal and

career development, job interviews, and social networking (Cuic-Tankovic et al., 2022). English reading, writing skills are language abilities that must be mastered in order to communicate effectively (Asemanyi et al., 2015; Cuskley, 2020). Communication skills encourage connection and collaboration, allowing for the development of a trusting relationship as well as positive self-esteem and confidence (Sharma, 2017). Learners who are in a pleasant communicative setting have more opportunity to learn and have higher communication abilities (Ihmeideh et al, 2010). The importance of communication skills has been recognised, observed, and verified around the world, and there has never been a greater emphasis in education on students' good oral and writing communication abilities (Akhtar, 2019).

Language is a distinctively human trait that is essential to practically all human interaction. It has long served as the center of cultural identity. Reading, writing, listening, and speaking skills are four categories of language abilities that are important and play a vital part in everyday communication (Sadiku, 2015; Cuskley, 2020). English has become an international language for educational communication because it helps students improve their English reading and writing skills, allowing them to communicate more effectively globally. (Farooq et al., 2020). English Language skills are very important for students in Pakistan as it helps the learners in their higher education and future career prospects. However, the students of Pakistani public schools lack in English reading and writing skills and this is due to the traditional lecture method of teaching (Fareed et al., 2018).

The traditional or conventional method of teaching is opposite to the student centered teaching method that allows pupils' to attend the class without any interest that leads to rote learning habits. Traditional teaching do not encourage teamwork, collaboration, and group experience among the students as the teachers take the sole responsibility of transferring the required knowledge (Rehman et al., 2019; Hinkel & Fotos, 2002; Yu, 2013). Traditional pedagogies in Pakistan are the reason behind the lack of communication skills, critical and creative thinking among the students. On the contrary, teachers need to be aware of all the available technologies to teach student centered teaching (Solanki & Shyamleel, 2012).

There are several student centered learning approaches available for teaching students using technology. The use of modern Digital Literacy Tools (DLT) for teaching English is majorly assumed to incorporate an

advanced application of techniques and strategies. Digital Literacy Tools (DLT), The Unified Theory of Acceptance and Use of Technology (UTAUT) and Technological Pedagogical and Content Knowledge (TPACK) are the emerging technology related solutions for teaching the English language to students (Ammade et al., 2020)

Statement of the Problem

English communication skills (reading and writing) are important as it has an important role in equipping the learners with appropriate language skills for their studies, completing academic tasks, professional careers, and interaction (Asemanyi et al., 2015). Previous researches reported that students of Pakistani public schools lack both English reading and writing skills, as they find it difficult to read simple text from their textbook and are also unable to write simple sentences according to their grade level (Fareed et al., 2018; Dar & Khan, 2015). According to Ali (2018), technology integration with DLT using the TPACK teaching model, can bring improvement in both reading and writing skills of English language. To fill the gap, the study was aimed to measure the influence of DLT on students' English reading and writing skills

Aim of the Study

The study intended to evaluate the impact of DLT on students' communication (reading and writing) skills.

Objectives of the study

1. To quantify the effects of DLT on students' communication (reading and writing) skills.

Research Questions

1. What is the effect of DLT on students' English reading skills?
2. What is the effect of DLT on students' English writing skills?

Significance of the Research

This study is significant to enhance English reading and writing skills among learners and to bring awareness of DLT among the teachers so that they can teach communication skills to students effectively using DLT.

Limitations and De-Limitation

Due to time limitations and economical concerns, only one public school of Karachi district was selected.

In this research, DLT is limited to only computers, laptops, you-tube videos, WhatsApp audio recordings, language apps, online grammar games, multimedia, and tablets.

LITERATURE REVIEW

Communication Skills

The Latin word “communicare” was basically the word origin for communication, which means to contribute to or to take part (Ahmad, 2020). Communication skills are the ability to give and receive different kinds of information, ideas, feelings or what is happening around us. Communication is sending and receiving information or transmission of information from one participant to other and refers as the exchange of information, ideas, emotions and attitudes through verbal or non-verbal means between two or more than two participants by interchanging thoughts, opinions through speech, writing or signs (Ahmad, 2020). Communication is the key in a classroom. Teachers’ got to communicate well with learners so that they can communicate well (Sharman, 2020; Mashburn et al., 2008; Sword, 2020). Instructors require to adjust the subject matter for different learning styles of learners, encouraging them, making a difference against rote learning techniques, building positive connections with learners, giving remedial input, and overseeing the classroom. Great communication skills of instructors offer assistance to perform their obligations and lead learners to form advance in their execution (Sharman, 2020). Communication skills include adjusting in, talking, reading, arranging, watching and understanding which are the basic components of both oral, written and electronic communications. (Doyle,2021). Great communication aptitudes benefit to learn more from teachers because by communicating with the teachers, students can explore with confidence which will help them to gain more experience and learning (Dobbs & Arnold, 2009).

English Language Skill: Reading and Writing Skills

Reading is broadly understood as the first step to understand and learn about anything and everything as it helps the students to find out innovative things and inform them in any area of life they are attracted to (Keyser, 2021). It improves concentration, focus attention entirely on the task at hand as it submerge the learner into the information, increasing attention and

recollection of what is being read out (Keyser, 2021). There's an association between reading abilities and the information of glossary as the glossary includes a clear and direct connection between the learners' reading skills and their information of perusing abilities. Reading is pivotal and fundamental for a wealthy scholarly, proficient, and individual life. A need of solid reading skills certainly influences a child's victory at school as scholarly advance depends on comprehending, evaluating and utilizing data assembled through reading.

A student must have the necessary abilities to write well and be perfect. It empower understudies to exceed expectations scholastically, professionally, progress learners' communication abilities because it opens a gathering to memorize all the rules of the dialect. Composing abilities appear the writer's considerations, thoughts, conclusions, realities, stories etc. in a way which makes their considerations clear and comprehensible to the peruser. Whether it is composing a story or composing an exposition, understudies ought to know how to type in coherently and effectively. Composing can be further divided into lexicon, expressions and sentences and after that passages. Composed communication is an uncommon highlight of the human species. Moreover, composing has helped people in illuminating, collaborating, and cautioning others, permitting communities to advantage from composed social information and historical heritage. Composing aptitudes serves as a center medium for communication and movement within the working environment (Lee, & Schmidgall, 2020). Composing is additionally earning how to type in is the vital abilities that understudies must have and be idealize at. It empower understudies to exceed expectations scholastically, professionally, progress learners' communication abilities because it opens a gathering to memorize all the rules of the dialect. Composing abilities appear the writer's considerations, thoughts, conclusions, realities, stories etc. in a way which makes their considerations clear and comprehensible to the peruser. Whether it is composing a story or composing an exposition, understudies ought to know how to type in coherently and effectively. Composing can be further divided into lexicon, expressions and sentences and after that passages. Composed communication is an uncommon highlight of the human species. Moreover, composing has helped people in illuminating, collaborating, and cautioning others, permitting communities to advantage from composed social information and historical heritage (Lee, & Schmidgall, 2020). Composing is additionally

Digital Literacy Tools (DLT) and Communication Skills

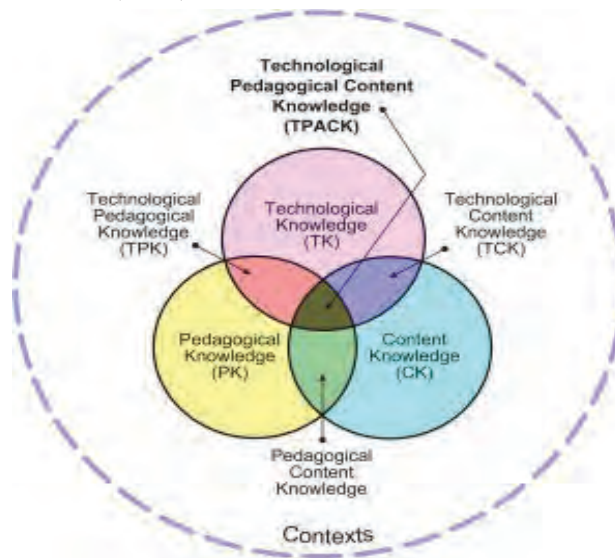
DLT are effective resources or programs, websites, or online resources that help individuals complete the tasks more easily (Heick, 2019). DLT may encompass soft wares, electronic devices such as computer, laptops, mobile phones, tablets, audiobooks, interactive white boards, digital libraries, digital dictionaries, and multimedia with which both teachers as well students teach and learn and communicate themselves in the present-day language (Barltrop, 2018). The DLT assists the teachers to create or design, outline, transfer, inspire, encourage, boost, and excite the students to engage themselves in classroom activities. Applying or the usage of DLT tools benefits both teachers as well as students. This improves in researching, logical thinking, communication, interaction, assessment skills, creative thinking and problem solving (Levy, 2018). DLT empowers students to effortlessly produce, explain, and evaluate knowledge in the classroom (Heick, 2019). DLT pre-requisites knowledge of applying technology for any academic purposes such as reading or writing. TPACK can be used to teach teachers how and what to teach through digital resources in language classrooms (Xie et al., 2018; Amelia et al., 2021; Tuzahra, et al., 2021). DLT have transformed the classrooms into students' friendly settings due to which absenteeism has been reduced. DLT also made the learners motivates, engaged, while stimulated the slow learners to be more self-confident and interactive (Lee & Young, 2003). Teaching through computers reduces stress and anxiety among students as they are entitled to use the computers as many times as they like (Mohammadyari & Singh, 2015). PowerPoint template will boost the reading skills of students. Digital dictionary to define or to find the meaning of learning new words from their smart phones. Teaching through technology using PowerPoint motivates students and enhances their reading abilities (Pritchard & O'Hara, 2009). Digital audio books are the latest trend in digital world (Catalano, 2018). Research has shown a greater impact on the slow learners' reading comprehension and reading expressions while they were assisted through audiobooks (Moats, 2014).

Writing skill is considered to be the important academic activities of students. Modern Technology devices mobile phones, tablets, laptops and desktops have fascinated students to learn writings skills. Writing digitally allows students to enhance their writing abilities while communicating their beliefs, plans, thoughts, desires, and happenings to peers or friends or

anyone. In countries like Malaysia, students are encouraged by the teachers to be cooperative, and ambitious and interesting in writing paragraphs digitally (Choo & Li, 2017). Digital interactive whiteboards permit the images or pictures from the computer or laptop to be displayed on an interactive whiteboard. Audio and visual effects can be used to teach grammar which is an important part in the process of procuring writing skills. As the videos are socially bound, which increase inquisitiveness among the learners and are very useful to present their personal experiences. Watching videos could assist students to learn sentence construction, language rules etc. Alharbi (2019) revealed that students who have watched the video have shown tremendous enhancement in their sentence construction. Research from Lin et al. (2013) inform that language teachers like to teach through video as it stimulates learners and connect them to the world. Likewise the students also likes the videos for it is encouraging, interesting and thought-provoking to watch (Umutlu & Akpinar, 2020).

figure 1 TPACK Teaching Model

Mishra and Koehler,(2006)



Usage of TPACK in the Classroom for Teaching Communication Skills

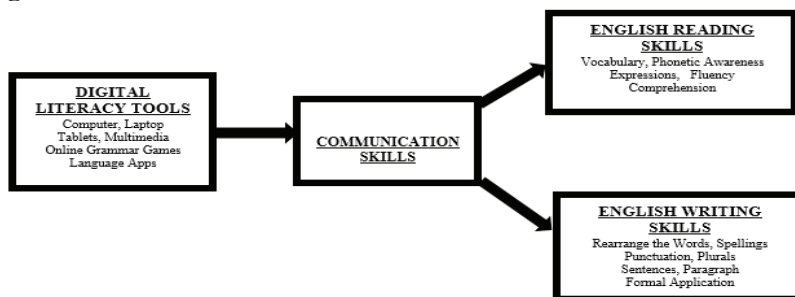
TPACK is a teaching models which involves integration of technology for teaching purposes. ‘T’ refers to technological, ‘P’ refers to pedagogical, and ‘C’ refers to content knowledge (Rodgers, 2018). Baran and Thomson (2011) inform us that through the framework of TPACK, teachers can incorporate

technology into their language classroom for the subject matter knowledge to be taught with the blend of technology in which the learners to get the ideas clear and purposeful. Through TPACK, teachers can develop curriculum, teach, conduct instructive activities and evaluations or assessments using technology and it changes the manner in which the teachers plan and design daily lesson planning procedures (Willermark, 2018; Mishra & Koehler, 2006).

A study from Pritchard and O'Hara (2009) claims that digital tools boost the reading skills of students. Hermafustiana and Rusinawaty (2010) study confirmed that videos can be shown and teachers can teach the students using electronic devices such as tablets, laptops, desktops and LCDs. Study by Cdadmin (2019) on writing skills declares that teaching through digital tools such as videos, multimedia, computers, and laptops can enhance writing correct punctuation which improves students' writing skills. Jacobs (2010) research found in the study that literacies are not limited to text books, tales or essays, rather it is now include multimedia and digital texts to enhance students' writing skills. A study, conducted by Shopova (2014) at South West University on digital in Bangkok on digital literacy in students and their improvement in communication skills. Research conducted by Kamhi et al. (2014) proved that phonic awareness is a part of reading skills and it is an indicator or predictor to gauge the reading skills of individuals. Phonic awareness helps in word identification and is a powerful tool to identify reading-related issues which can be acquired through DL. A study conducted in Faisalabad, Punjab by Abbas et al. (2018) on the effect of digital tools on students' academic performance in communication skills. The result was statistically significant and found that teaching through DLT enhanced the students' communication skills. Catalano (2018) used digital audio books for the study. The study found that audio recorded stories and reading aloud by the teachers helped students to acquire reading skills, as they heard the audios as many times as they wanted to improve their reading comprehension. Zhang (2013) research on the integration of technological devices for teaching learning process. His experimental research showed positive results when students are taught through digital tools. A study conducted to quantify the influence of DLT in middle school language classes by Destebasi (2015) found that DLT not only induced motivation among the learners but also improved their critical thinking abilities. Students were able to engage themselves in reading, writing, listening, and interpreting activities using the laptop. Furthermore, laptops facilitated learners.

CONCEPTUAL FRAMEWORK

Figure 2



The above figure 2 shows the conceptual framework of DLTC, which is the combination of the usage of digital literacy tools for teaching communication skills to students. Digital tools involved Computer, Laptop, Tablets, multimedia, language apps and online grammar games, LEDs, teacher-made videos, you-tube videos, recorded audio of model readings, online grammar games, and language apps to create a stimulating, motivating, or conducive classroom learning environments. Whereas the communication skills involved English reading and writing skills.

RESEARCH DESIGN

The current study is an experimental research design of quantitative approach

Experiment

Under the quantitative approach, a pre-test post-test control group research design was applied to find the influence of DLT on student's communication skills. A quasi-experimental research design was adopted for this study, as random sampling was not possible.

Population of the Study

The population of the study comprised of English Language subject teachers and grade VIII students from public schools of Karachi, which is heterogeneous in nature.

Sample Size and Sampling Procedure

For the intervention phase, one public school ABC was selected purposefully to implement teaching through digital literacy tools using the TPACK model to teach English reading and writing skills to students in

the experimental group. Two teachers and 90 students were selected for the experiment by using purposive sampling technique. 45 students were the part of the control group and 45 students were the part of the experimental group.

Research Instrument

A reading rubric checklist by (Murgueittio, 2019) was used to measure the English reading skills while a teacher-made writing achievement test was used for measuring the writing skills of students.

Research Hypotheses

H₀1: There is no statistically significant difference in grade VIII students' post-test English reading skills performance scores between the experimental and control group students.

H₀2: There is no statistically significant difference in grade VIII students' post-test English writing skills performance scores between the experimental and control group students.

Research Variables

Independent Variable (I.V): Digital literacy tools

Dependent Variables (D.V): Students' Communication (English reading & writing) Skills

Data Collection Procedure

Quasi- experimental research design was adopted due to administrative constraints. Intervention in the form of teaching through digital literacy tools was applied to the experimental group students (45) and the control group students (45) were left untreated using the lecture of teaching. The control group students were taught with DLT for 12 weeks using various type of technological resources (refer to figure 3) whereas the control group students were taught with lecture method of teaching for 12 weeks. Performance in communication skills involve reading and writing skills was measured before and after the intervention with the help of DLT.

Pre and Post test

The researcher collected quantitative data in the experimental study that used pre and post-test in English reading and writing skills performance of students from an adopted public school. The experiment was planned for three months, with 12 weeks of 72 working days, which consists of 3600

minutes (72X50). The experimental group of students received treatment in the form of teaching and exposure to teaching through DLT while the other control group was taught with the lecture method of teaching.

Teaching Intervention

Figure 3

Digital Literacy Tools Teaching Methodology



Table 1

Measure of the Reliability of English Reading Subscale

Subscales	Cronbach's Alpha	No of Items
English Reading skills	.912	05
English Writing skills	.944	07

Fundamental Ethical Principles

Research ethics such as maintaining confidentiality, intellectual property respect, caution, sincerity, reliability, honesty, flexibility, accountability in publication, mentoring in a responsible manner, consideration for co-workers, responsibilities in the community, on-discrimination, human subject protection

DATA ANALYSIS

The researcher used independent t-test to measure the difference in the mean scores of students' English reading and writing skills performance between the control the experimental group,

DATA ANALYSIS FINDINGS, DISCUSSIONS & RECOMMENDATIONS

Ho 1. There is no statistically significant difference in grade VIII students' English reading skills performance mean scores between the control and experimental groups.

Table 2

Independent t-test English Reading Skills

Reading Skills	N	M	SD	t()	P	Cohen's D
Experimental Group	45	3.71	.679	12.043	.000	2.532
Control Group	45	1.87	.757	12.043	.000	

Grouping variable: Reading Skills of the research participants

Table 2 represents that there is variation in the mean scores of grade VIII students' English reading skills performance between the experimental and the control group. The experimental group students had performed better in reading (M=3.71, SD=.679) in comparison to their counterparts, the control group students (M=1.87, SD=.757) since the value of *p* as shown in table 4.8 is less than 0.01, the result is statistically significant; $t(88) = 12.043$, $p < 0.01$. with the Cohen's $D=2.532$, which is a large effect size. Hence, the hypothesis, that there are no significant differences in the reading skills performance mean scores between the control and the experiment group, is therefore rejected.

Ho2: There is no statistically significant difference in grade VIII students' English writing skills performance mean scores between the control and experimental groups.

Table 3

Independent t-test English Writing skills Performance

Writing Skills	N	M	SD	t(88)	P	Cohen's D
Experimental Group	45	6.16	.878	10.784	.000	2.278
Control Group	45	4.20	.842	10.784	.000	

Grouping Variable: English writing skills Performance between the groups

Table 3 signifies that there is variation in the mean scores of grade VIII students' in English writing skills performance between the experimental and the control group students. The experimental group students had performed better in writing skills (M=6.16, SD=.878) in comparison to their counterparts,

the control group students ($M=4.20$, $SD=.842$). Consequently, the value of p as shown in table 4.15 is less than 0.01. The result is statistically significant, $t(88) = 10.784$, $p < 0.01$, with a large effect size (Cohen's $D=2.278$). Henceforth, this null hypothesis is rejected.

DISCUSSIONS

English Reading Skills

The experimental group of students performed better in English reading skills performance than the control group students. The present study was supported by a recent study by Mah et al. (2020) in which there were considerable improvement in English reading performance when students taught through computers and online resources. A study conducted in Faisalabad, Punjab by Abbas et al. (2018) on the effect of digital tools on students' academic performance in communication skills proved to be statistically significant and bring into line with the present study. The results were similar to that of a study by Korkmaz (2021) in Turkey. Games based learning on computers demonstrated enhancement of reading skills among the learners. The current study was also found related to a study by Cecen (2020) on the students' perceptions of using the technology acceptance mode in Turkey, which proved to be successful among students who are low-learners. A study by Sage et al. (2020) on the effect of digital flashcards and paper on vocabulary learning was found to be beneficial by both researchers and students. Contrarily, Younus et al. (2013) confirm the disadvantages of teaching reading skills through technology. They insist that teachers should have experience of teaching through technology and be able to control the class and engage the students in the learning process when they are teaching through technology. Wang et al. (2015) and Ludwig and Mayrberger (2012) study on using the iPad vocabulary application for English-language learning brought specific changes among the learners and guided students towards reading fluency. Moreover, studies by Bennett et al. (2017), Mize et al. (2019) and Alqahtani (2020) on tablet and iPad aided English reading have provided backing evidence that tablets can be used for teaching reading skills which can benefit students with reading disabilities.

English Writing Skills

The students of the experimental group who were taught through various digital literacy tools using the videos, WhatsApp recorded voice over, emails, social media, multimedia presentations, computers, laptops, mobile phones,

tablets, online games, and other digital tools, had shown great improvement in their writing skills performance when compared to the control group students who were taught through the traditional method of teaching.

The current study was supported by both Balka (2019) and Chang et al. (2019) which showed positive results on the usage of mobile phone for teaching writing skills. Mardiana (2011) and Sadeghi et al. (2014) studies also align with the present study in which teaching through media, techniques, and e-learning improves writing performance in academic compared to the lecture method of teaching. Jacobs (2010) research supports the present research. Bugueno (2013) backs the current study and highlights that teachers must know the TPACK model to guide students to improve their writing skills in simple sentences, paragraphs, and formal writing. Kulavuz's (2014) study demonstrates the significance of teaching paragraph writing through videos (Alharbi, 2019) pictures, and scripts, with different nationals demonstrating remarkable improvement in their writing skills in sentence formation, paragraph writing, and formal letter writing.

Practical Implications

This study on the effects of DLT on students' communication skills would be beneficial for both private and public schools in terms of changing the teaching and learning process and adding to existing knowledge. English language teaching will focus more on the instructional strategies in both primary and secondary public schools and will be advantageous for teaching all disciplines, so that the learning environment will be meaningful and enjoyable.

CONCLUSION

Based on the experiment, it was established that teaching through digital literacy tools had improved the communication skills (English reading and writing) of grade VIII students. Teachers as instructional leaders must understand the learner needs and learning styles so that they can teach them through modern method of teaching such as using digital literacy tools by integrating technology in the teaching learning process for active engagement of learners and to improve language skills. Another advantage of the study was, it brought awareness and importance of digital literacy tools, UTAUT, TPACK teaching models among the teachers as well as students.

Recommendations for Future Research

Researcher suggested the following future researches.

- Teacher surveys regarding the application and acquaintance with DLT.
- Teachers' efficacy on the use of technology and impact on the outcome of the students learning.
- Observational study of teachers to see how they use DLT in their classrooms to assess technology efficiencies among teachers that could affect technology implementation in curriculum instruction
- A larger sample size study a multi-grade level of students of different districts of Sindh.
- Further study could be perhaps among higher socio-economic, middle socio-economic and a lower socio-economic class level schools of karachi.
- Finally, a study could be done comparing the matriculation results of Sindh with other provincial matriculation results

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