



TECHNOLOGY MEDIATED TEACHING FOR STUDENTS' READING SKILL IN ENGLISH

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ABSTRACT

English language learning requires multisensory engagement, active participation and engagement with the material, which can be achieved through pedagogically sound practices with technology. The present study aims to find out the Reading skill in English Language using technology as a tool. The study adopted experimental method. The investigators prepared a multimedia package, with 10 components of reading skill like phonemes, segmenting, substituting, vowels & consonants, prefixes & suffixes, nouns, prepositions, verbs, articles and SVO pattern for measuring the reading skill. The multimedia package has been experimented with 30 students of 5th grade from Wayanad District of Kerala state. Out of 30 students 15 were control group and 15 were experimental group. The control group has been given treatment with traditional chalk and talk method and the experimental group has been given treatment with multimedia package. There were 10 contents in a package and each content has been experimented each day. The researchers conducted pre-test and post-test for measuring their academic achievement. The results revealed that there exists significant difference between the reading skills of control group and experimental group in the post-test. There is no significant difference in the reading skills of control group and experimental group in the pre-test. There is no significant difference seen in the reading skills of control group and experimental group in the post-test with reference to gender. There exists significant correlation between the components of prefixes and suffixes and verbs; overall reading skills and prepositions and overall reading skills and subject, verbs & objects of the Experimental group in the post-test.

Key words: Reading skills, components, Multimedia package, Prefixes and suffixes, control group and experimental group

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INTRODUCTION

Twenty-first century English language learners need to be provided with more opportunities to become active participants in the classroom, be disclosed to foreign culture, indigenous speakers and have a chance to exercise

their creative skills and practice communication. Technology-mediated instruction can offer all these opportunities if used and scaffolded through sound instructional practice consistent with second language acquisition (SLA) research. Second Language Acquisition research discern students as

effective learners; proficient of creating their own ideas that they can later use to make sense of their own pace of learning (Ritter & Ruschoff, 2001). SLA research implies that language acquisition should be achieved by having plethora of times for communicative language activities that allow for the exchange of information and negotiation of meaning between the speakers. Liu, Moore, Graham, and Lee (2003) highlighted that there is a great significance in English language, using technology integrated pedagogy and therefore, it is crucial to look at how it has been used in the English language teaching in the classrooms.

For assessing a student's overall reading situation Reading patterns have a major role, and may be linked to specific intellectual processes and reading outcomes (Cole et al., 2011). Observing and understanding an individual student's reading pattern is difficult in a traditional classroom. Based on their pedagogical knowledge and experience, such adaptive learning guidance needs to trust on the teacher's competent judgment. Many studies (Stroud & Henderson, 1943; Carver, 1990; Rasinski, 2000; Dyson & Haselgrove, 2000; Fraser, 2007; Duggan & Payne, 2009; McLay, 2007) said that the reading rate (the words read per minute, wpm) is a useful indicator that reflects an individual's cognitive process of approaching text. Fraser (2007) compared the Mandarin speaker's performance and reading rate of two groups, as they carried out five tasks, and found that the varied substantial differences in the reading rates existed between the groups for all assignments. To assess students' reading performance the reading rate can be used as a tool (Rasinski, 1999, 2000), and has been shown to be positively correlated with reading comprehension (Joshi & Aaron, 2000).

The cognitive theory of multimedia learning highlight how three kinds of materials are handled within three kinds of memory storage (sensory, working, and long-term memories), which perform different intellectual processes in the human information-processing system (Mayer, 2005).

Taking the simplest reading condition reveals that printed words are presented visually and initially processed through the reader's eyes. The reader may then attend to some of the

incoming words and bring them into working memory. Where information is integrated and retrieved with incoming text the working memory serves as a mental workspace. Subsequently, by pronouncing mentally the written words the reader can get them into the auditory/verbal channel. Next, the active intellectual process can take place to build the words into a unified mental structure known as a "verbal model". Next, the reader may apply previous knowledge in the long-term memory to instruct the process of integrating knowledge in working memory. After an advanced insight is created in the working memory, it is then stored in the long-term memory, where it will serve as previous knowledge to support the succeeding new learning. Both the reading rates and retrieval outcomes were measured from the study to identify the students' patterns and reading outcomes. Young learners need to learn how to decode a large number of words to master the reading process, along with other factors, like interest and confidence (Netten, Droop, & Verhoeven, 2011), making the examination of their reading processes even more challenging and may result in great individual differences in abilities.

As a dynamic intellectual process reading Framework allows the reader to understand written text interprets meaning, and use meaning according to the type and purpose of the text (U.S. Department of Education, National Center for Education Statistics, 2011). Due to the nature of language instruction, English language classrooms can benefit from pedagogically sound technology mediated multimedia instruction. Technology allows for multimedia instruction and a multisensory conducive learning environment. Research has shown that using technology mediated multimedia instruction in the classroom helps the students to tailor instruction with different abilities (Wu & Zhang, 2010) and facilitates rapid building and sharing of knowledge within the participatory environment (Asselin & Moayeri, 2011). Research also shows that technology mediated multimedia instruction enhances student interest (Boehm, 2009; Torff & Tirota, 2010), develops curiosity and makes learning experiences memorable (Allen, 2003). It is, as well, "influential in developing creativity amongst

learners" (Dale, 2008,) because it diminishes the need for memorization by replacing "how" by "why" in the classrooms, and by allowing students to become creative architects of knowledge (Oklahoma Education Association, 2011). Second Language Acquisition shows the benefits of technology-enhanced multimedia instruction on foreign language student vocabulary acquisition (Baltova, 1999), grammar teaching (Nutta, 1998), cultural knowledge and writing performance (Arslan & Sahin-Kizil, 2010). It increases learner autonomy and allows for actual evaluation, and offers real-life communicative situations. The pedagogy, that stands behind the use of technology and the way teachers can make use of it, is what makes technology effective (Yetter-Vassot & Armstrong 1994; Frank & Zhao 2003). Kern (2006) accentuated the priority of a technology enhanced multimedia approach in the pedagogical instruction by stating that "technology-based language teaching is not a method but is integrated into various pedagogical approaches". Technology-enhanced multimedia instruction the English language teachers need to implement in a way that is persistent with vibrant pedagogy and theories of foreign language and instructional design principles if they need to increase student learning (Oller, 1996; Armstrong & Yetter-Vassot, 1994; Collentine, 1998; Schwartz, 1995).

Review of literature

Research revealed that teachers who were more accomplished with technology mediated multimedia instruction were more convenient with it and therefore, used it more intermittently; and, those who lacked confidence in their skills with technology mediated multimedia were less likely to use it because it threatened their sense of competence in front of their students (George & Camarata, 1996; Miranda, 2007; Russell, O'Dwyer, Bebell, & Tao, 2007; Zammit, 1992).

Wu and Zhang (2010), conducted two experiments to study whether computer-enhanced instruction benefits elementary student learning. Researchers compared two groups of fourth graders, one group learning English spelling using handheld computers and the other one that did not use computers. The study revealed that the group

using handheld computers demonstrated significantly higher achievement in spelling than the group that did not use computers. (Glenberg, Goldberg and Zhu, 2011) conducted an experimental study to measure elementary student reading comprehension. The study found that the group in the computer-mediated condition outperformed other groups in reading comprehension.

Jamieson-Proctor and Burnett (2002) found that purposeful integration of computer technology has a positive effect on the personal creativity characteristics of elementary students. Technology-enhanced multimedia instruction benefits foreign language vocabulary acquisition because students receive information via multiple channels and then can recall information better. Dual coding theory states that when information is presented by means of auditory and visual channels, it facilitates retention (Pavio, 1986). Research indicated that the consolidation of visual and textual information is more effective in facilitating vocabulary acquisition than definitions of foreign language words alone (Akbulut, 2007; Jones & Plass, 2002; Nikolova, 2002). Liu (1994) found that technology offers tools and opportunities to enhance vocabulary acquisition. Students who had access to technology enhanced English language text glosses revealed consistently higher levels of reading comprehension and vocabulary (Lee, 2008; Lomicka, 1998). Students revealed that technology-enhanced multimedia instruction allows for equal and increased participation (Blake, 2000; Cahill & Catanzano, 1997) and less teacher focused instruction (Sullivan & Pratt, 1996).

Al-Shamisi (2016) investigated the effect of WebQuests on Grade 11 reading comprehension in a secondary school in the UAE. It also explored awareness of WebQuests as a study tool. WebQuests are a framework for learner-centered instruction when using Internet resources in teaching English as a foreign language. With control and experimental groups a quasi-experimental research design was used. Further, a Likert scale questionnaire investigated the knowledge of WebQuests. Descriptive statistics and an analysis of co-variance (ANCOVA) were used to analyze the data. The results showed a statistically significant

progress in reading by the experimental group. Additionally, positive attitudes were reported towards WebQuests. Students felt that WebQuests enhanced collaboration, language skills, reading and higher order thinking skills.

Objectives

1. To find out the level of reading skills of primary school students.
2. To determine whether the gender plays any role in the reading comprehension in English at primary level.
3. To evolve recommendations from the findings for future policy making in enhancing the reading skills of primary school students.

Hypothesis

1. There is no significant difference between the reading skills of control group and experimental group in the pre-test.
2. There is no significant difference between the reading skills of control group and experimental group in the post-test.
3. There is no significant difference between the reading skills of control group and experimental group in the post-test with reference to gender.
4. There is no significant relationship among the following components of Reading skill in the post test of Experimental group.

Phonemes

Segmenting

Substituting

Vowels and consonants

Prefixes and Suffixes

Verbs

Nouns

Prepositions

Articles

SVO Pattern

Methodology

The present study adopted experimental design for data collection. The investigators prepared a multimedia package for collecting the data, using the components like phonemes, segmenting, substituting, vowels & consonants, prefixes & suffixes, nouns, prepositions, verbs, articles and SVO pattern for measuring the reading skill. The multimedia content has been prepared based on the 5th grade English Text book of the Kerala State. The package has been given to experts for establishing content validity and face validity. The multimedia package has been experimented with 30 students of 5th grade from Wayanad District of Kerala state. Out of 30 students 15 were control group and 15 were experimental group. The control group has been given treatment with traditional chalk and talk method and the experimental group has been given treatment using multimedia package. There were 10 contents in a package and each content has been experimented each day. The researchers conducted pre-test and post-test for measuring their academic achievement.

Table 1: Mean S.D and t-value showing the differences in the reading skills of control group and experimental group in the pre-test

Sl.No	Category	Pre-test Control Group			Pre-test Experimental Group				
		Mean	SD	N	Mean	SD	N	't' value	Sig.
1.	Reading comprehension	4.73	1.981	15	5.33	2.024	15	-.821	.419**
2.	Over all reading	36.53	7.472	15	35.60	8.131	15	.327	.746**

**Not significant at 0.01 level

It is inferred from the Table 1 that the calculated 't' value between pretest of control group and experimental group reading comprehension as is - 0.821 which is less than that of the table value 2.58 at 0.01 level of significance. The calculated 't' value between the pretest of control group and experimental group in overall reading skill is 0.327

which is less than that of the table value 2.58 at 0.01 level of significance. Thus the Null hypothesis that 'there is no significant difference between the reading skills of control group and experimental group in the pre-test' cannot be accepted. It is concluded that there is no significant difference

seen in the reading skills of control group and experimental group in the pre-test.

Table 2: Mean S.D and t-value showing the differences in the reading skills of control group and experimental group in the post-test

SL. No	Category	Post-test Control Group			Post-test Experimental Group			
		Mean	SD	N	Mean	SD	't' value	Sig.
1.	Reading comprehension	4.93	2.052	15	7.00	.000	-3.901	.001*
2.	Over all reading	40.13	10.336	15	66.33	5.010	-8.834	.000*

* Significant at 0.01 level

From the table it is evident that the calculated 't' value between the reading comprehension of control group and experimental group in the post-test is -3.901 which is higher than that of the table value 2.58 at 0.01 level of significance. The calculated 't' value between the overall reading skills of control group and experimental group in the post-test is -8.834 which is higher than that of the table

value 2.58 at 0.01 level of significance. Null hypothesis that 'there is no significant difference between the reading skills of control group and experimental group in the post-test' is accepted. It is concluded that there is a significant difference seen in the reading skills of control group and experimental group in the post-test.

Table 3: Mean S.D and t-value showing the differences in the reading skills of control group and experimental group in the post-test with reference to gender

Category	Gender	N	Post-test Control Group				Post-test Experimental Group			
			Mean	SD	't'	Sig.	Mean	SD	't'	Sig.
Reading comprehension	M	11	5.40	1.713	1.273	.225	7.00	.000	--	--
	F	04	4.00	2.550			7.00	.000		
Over all reading	M	11	42.70	10.965	1.407	.183	65.45	5.410	-1.139	.275
	F	04	35.00	7.348			68.75	2.986		

** Not significant at 0.01 level

Based on the gender it is inferred from the Table 3 that the calculated 't' value between the reading comprehension of the control group in the post-test is 1.273 which is less than that of the table value 2.58 at 0.01 level of significance. The calculated 't' value between the overall reading skills of male & female in the post-test of control group is 1.407 which is less than that of the table value 2.58 at 0.01 level of significance. The calculated 't' value between the overall reading skills of male & female in the post-test as -1.139 which is less than the table value 2.58 at 0.01 level of significance. Null hypothesis that there is no significant difference between the reading skills of control group and

experimental group in the post-test with reference to gender cannot be accepted. It is concluded that there is no significant difference seen in the reading skills of control group and experimental group in the post-test with reference to gender.

It is found from the table 4 that there is a significant correlation seen between the components of prefixes suffixes and verbs; overall reading skills and prepositions; overall reading skills and subject, verbs & objects of the Experimental group in the post-test. It is inferred that prepositions have high correlation with overall reading skills.

Table 4: Correlation matrix for Experimental group in the post-test

	R.Pho.	R.Seg.	R.Sub.	R.Vowels & Consonants	R.Pre & suf	R.Verbs	R.Nouns	R.Prepo	R.Articles	R.SVO	R.Overall.R
R.Pho.	1	.329	-.088	-.150	-.300	-.451	.158	-.056	-.185	-.017	.029
R.Seg.	.329	1	.019	-.157	-.189	-.141	-.187	-.213	-.099	-.105	-.202
R.Sub.	-.088	.019	1	-.169	-.482	.141	-.188	-.241	-.145	.451	-.064
R.V & C	-.150	-.157	-.169	1	.104	-.311	-.413	-.332	-.218	-.231	-.351
R.Pre & suf.	-.300	-.189	-.482	.104	1	.543(*)	-.144	.355	-.234	-.173	.334
R.Verbs	-.451	-.141	.141	-.311	.543(*)	1	-.051	.277	-.043	.358	.512
R.Nouns	.158	-.187	-.188	-.413	-.144	-.051	1	.285	.151	.159	.430
R.Prepo.	-.056	-.213	-.241	-.332	.355	.277	.285	1	.447	.400	.834(**)
R.Articles	-.185	-.099	-.145	-.218	-.234	-.043	.151	.447	1	.166	.310
R.SVO	-.017	-.105	.451	-.231	-.173	.358	.159	.400	.166	1	.675(**)
R.Overall.R	.029	-.202	-.064	-.351	.334	.512	.430	.834(**)	.310	.675(**)	1
n	15	15	15	15	15	15	15	15	15	15	15

* Correlation is significant at the 0.01 level

Recommendations

1. Teachers should give pivotal emphasis for technology enhanced classroom practices in English language teaching.
2. Curriculum should be framed in such a way that it should enhance the reading skills of primary school students.
3. As schools explore reading curriculums and other technology-centered reading programs and materials, policy makers must evaluate the purpose and requirements of the technology components in the classrooms.
4. Training should be given for teachers at all levels for preparing and using multimedia packages.

Conclusion

Technology - enhanced multimedia instruction allowed teachers to tailor instruction to diverse student needs and styles and provided opportunities to exercise student thinking skills. Students are different in their abilities and their learning style varies from person to person. Multimedia facilitated instruction may enhance student's attention capability and retention level as well. Hence multimedia packages and technology enhanced instructional strategy will facilitate students reading ability at all grades.

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