The Effect of Computer-Assisted Whole Language Instruction on Taiwanese University Students' English Learning

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Abstract

The purposes of this study are: (1) to investigate students' perceptions of computer-assisted whole language instruction; (2) to examine the effectiveness of whole language instruction on students' reading improvement; and (3) to determine the difference between basic-level and advanced-level students' improvement in reading skills. A total of 212 freshmen (98 low level and 114 high level students) were quasi-randomly selected as the participants of the survey study. Instruments included a questionnaire and the English Entrance Examination. The results of the study indicate most students evaluated the instruction positively. While the significant difference in the gain scores of the t-test reveals that integrated instruction is effective in improving students' reading ability (p=0.00), basic-level students had much greater improvement than advanced-level level students, whose scores even showed slight regression.

Keywords: Computer-assisted, Whole language instruction, Reading improvement, Basic-level, Advanced-level

1. Introduction

According to a study investigating changes in Tunghai University students' English language ability from 1998 to 2005 (Chen, 2005), there has been a decline in English grammar and reading ability. Although students' overall listening ability improved in the seven year study, their intermediate listening skills fell again after 2003. From the perspective of inferential statistics, this case study's findings cannot be applied to all university students in Taiwan; however, they do suggest that Taiwanese university students' English ability is getting worse.

Among the many studies exploring the reasons for Taiwanese university students' poor English ability, some researchers (e.g. Liou, 2008) claimed that students spent too little time reading, they lacked opportunities for using English outside class, and their linguistic knowledge (phonemic rules, syntactic rules, and vocabulary) was limited.

Traditionally, Taiwanese university teachers adopt a discrete-skills approach in their teaching. They offer courses such as Freshman Reading, and Sophomore Listening and Speaking. Many teachers believe that students need to have adequate linguistic knowledge and knowledge of text structures before they acquire listening and speaking competence. Therefore, they often emphasize analyzing the roots of words and memorizing vocabulary items instead of learning for authentic communication.

Reports of the Educational Testing Service (2007) revealed that Taiwanese university students' English language skills in terms of reading, writing, speaking and listening are all disappointing. Obviously, teachers need to consider other methodologies such as the whole language approach in their teaching.

Proponents of the whole language approach (e.g. Doake, 1994; Dudley-Marling, 1995; Freeman & Freeman, 1994; Newman & Church, 1990) stress that human language learning starts from the whole (e.g. reading comprehension) to the parts (e.g. grammar, spelling, vocabulary, and pronunciation). They also advocate that the four skills (reading, writing, speaking and listening) are interrelated. In their opinion, teachers need to provide natural reading, writing, speaking and listening situations where students can practice discrete language components. Moreover, this approach encourages students to cooperate with others, to create, and to take risks during task-based instruction.

Although the whole language approach has been very popular in western countries such as New Zealand and Canada, Taiwanese teachers need to know how to actually implement integrated-skill instruction in a large class (50 or more students) within limited class time. Fortunately, with the aid of multimedia, it is possible with computer-assisted instruction to put the theory of the whole language approach into practice in the classroom. A

number of studies have shown the promising benefits of using CALL to develop learners' four skills (listening, speaking, reading, and writing), although students' improvement is especially evident in receptive skills such as reading (e.g. Beauvois, 1994; Lunde, 1990) and listening (e.g. Ehsani & Eva, 1998; Glisan et al., 1998; Stepp-Greany, 2002).

While previous studies suggest the benefits related to CALL instruction, most research was conducted in western countries, and some computer-assisted instruction did not involve whole language principles. In order to provide information about Asia, a relatively less investigated area, this study firstly tries to investigate Taiwanese university students' attitudes as well as the problems faced within the application of integrated-skill instruction using technology. The second purpose is to understand the effect of instruction on students' reading skills. Within these two aims, the following research questions were asked: (1) What are students' perceptions of computer-assisted whole language instruction? (2) What are students' favorite classroom activities, web content, and CD-ROM features? (3) What is the effect of instruction on students' English learning? (4) What are the difficulties and problems experienced by students receiving computer-assisted whole language instruction? And (5) Does the program improve students' reading comprehension and are there significant differences between basic-level and advanced-level students?

In order to help readers understand the theoretical backgrounds of the study, the researcher reviewed studies on the whole language approach and computer-assisted language learning as follows.

2. Literature

2.1 Studies on the whole language approach

According to Goodman (1986), language ability develops naturally as a consequence of experiences with language. He argued that the teaching of language as isolated skills was inappropriate and not likely to succeed because the focus of segregated-skill instruction is not on learning language for authentic communication.

The whole language theorists (e.g. Norris & Hoffman, 1993; Reutzel & Hollingsworth, 1988) urged that students should be given the opportunity to use and explore language in contextually meaningful and cooperative activities, since language learning is a social process and besides, oral and written languages are all inter-related. Others (e.g. Anderson, 1984) stressed that if language is taught as isolated skills, it is difficult for the human brain to memorize the information for a long time.

Several studies (e.g. Amir & Moosavi, 2007; Rosberg, 1995) have shown the effectiveness of the whole language approach in western countries, and the subjects of those studies included elementary students, high school students, and university students. Although some studies on the whole language approach have been performed in Taiwan, they have focused on elementary and high school students (e.g. Cheng, 1998; Chern, 2000; Tu, 2004; Wang, 2003). At present, research investigating integrated-skills instruction at universities is still scarce. Among these studies, almost all subjects were from general universities such as Providence University (Chiang, 2005), Taiwan Normal University (Chu, 2005), Cheng Kung University (Lai, 2005), and Tunghai University (Sim, 2005). So far, only one study has been conducted in a technical university (Eyerman, 2005). Generally, these studies demonstrated that students benefited from integrated instruction; however, some results were not in line with studies in western countries. For example, in Lin's study (2007), integrated instruction was implemented to 2,707 Freshman for two semesters. Students improved in all measured areas: grammar, reading, and listening. The improvement was especially significant in listening ability. Moreover, low ability students improved most while high ability students improved least. In contrast, in EI-Koumy and Abdels' (2000) study, 96 Egyptian university students were divided into a skills-based group and a whole language group for 15 weeks of listening instruction. The result indicated that there was no significant difference in listening ability among basic-level students in two groups, while advanced-level students in the whole language group had great improvement. EI-Koumy and Abdel concluded that whole language approach and the discrete-skills approach could complement one another. In other words, the whole language approach to teaching listening cannot work without teaching basic skills such as recognition of individual sounds, reduced forms, stress and intonation patterns.

Although the whole language approach has gained popularity since 1980, it has also received some criticism. Opponents argue that this approach focuses on meanings and neglects accuracy; however, they believe that accuracy is an essential element in language development (Eldredge, 1991; Goldenberg, 1991). In addition, some scholars are concerned that students might not be able to regulate and direct what they have learned (Freeman & Freeman, 1992). Moreover, some claimed that this approach is very time-consuming (Danehower, 1993). Finally, others assert that it is difficult to implement a whole language approach due to factors such as teachers' inadequate professional knowledge, increased workloads, and the lack of teaching resources and equipment in schools (Sanacore, 1995).

2.2 Studies on computer-assisted language learning

The topic of computer-assisted language learning (CALL) has received considerable attention since the 1960's. Many studies have shown that the application of computer technology has a positive effect on all four of the language skills (Chang, 2004; Chen, 2004; Chen & Tseng, 2006; Tsai, 2003) and has resulted in increased motivation (Chang & Lehman, 2002), self-concept (Stepp-Greany, 2002), and confidence (Chu, 2004).

While the benefits of CALL have been widely accepted by educators, there are still some criticisms of CALL instruction. The first is the limitation of the technology. For example, the computer cannot effectively evaluate students' spoken communication with other people and the machine's pronunciation is not human-like. The second is the stability and quality of CALL software. Teachers may rely on commercial sources; however, these sources may not be pedagogically sound. The third is technical difficulties which would interfere with the learning process. Lack of computer expertise might make both teachers and students reluctant to use this technology (Bas, 2010).

Furthermore, some research even showed that too many multimedia features interfere with students' learning (e.g. Mayer, Heiser, & Lonn, 2001), and others (e.g. Huang, 2004) argued that while CALL might supplement face-to-face instruction, it should not replace it. Liu and Chen (2008) who reviewed the literature on CALL in Taiwan from 2000 to 2006 found that most studies focused on reading and writing skills, and only a few addressed listening and speaking.

In an attempt to clarify the inconclusive results of previous studies on the whole language approach and CALL, this study measured the outcomes of integrated English instruction through technology. The results of the study might shed some light on the procedures for integrating listening, speaking, reading, and writing components into English teaching and learning. They could also help instructional designers develop effective CALL programs.

3. Methodology

3.1 Subjects

A total of 212 non-English majored Freshman at the researcher's university were quasi-randomly selected from the researcher's students as the subjects of the study. These participants came from four Freshman English ability-grouping classes, including two basic-level classes (98 students) and two advanced-level ones (114 students) based on their English scores in the 2007 Entrance Examination for the Technical University (See Table 1).

3.2 Instruments

The first instrument was a questionnaire consisting of 46 questions related to students' perceptions of the instruction (Q1-Q20), the effect of the instruction on their English learning (Q21-30), the problems they encountered (Q31-42), and their background information (Q43-46). The first three parts of the questionnaire were measured on a four-point Likert type scale, ranging from "strongly agree" to "strongly disagree". The internal reliability for these Likert Scaled questions was estimated with Cronbach's alpha which showed that the questionnaire was reliable ($\alpha = 0.85$).

The second instrument was the 2007 English Entrance Examination for Taiwanese Technical University (EEE), which was used as the pre/post test of the study. The test consists of vocabulary (30%), dialogues (20%), grammar (30%), and reading comprehension (20%).

3.3 Procedures of data collection

First, the researcher collected students' English scores on EEE from the Office of Academic Affairs so she could record students' performance prior to the Freshman English instruction. Next, she conducted the integrated English instruction with the aid of multimedia to the subjects for one semester. Finally, the subjects took the post-test and answered the questionnaire in the last two weeks of the semester. A total of 197 students took the post-test from an enrollment of 212 students.

3.4 Integrated English instruction through technology

3.4.1 Materials

The teacher-researcher used two textbooks in the class. For the advanced-level class, she used Off We Go 3 (Live ABC Company) and The Firm (Penguin Readers, level 5). For basic-level classes, she used Off We Go 1 and The Client (Penguin Readers, level 4). The components of Off We Go include a textbook, an interactive CD-ROM, and an interactive web site (http://203.64.90.116/z_liveorg7/). The series of Off We Go promote the development of the four language skills in the context of everyday life situations. They include a variety of language practice activities which facilitate communication competence. As for the series of Penguin Readers, they contain a storybook and a tape.

3.4.2 Online learning and resources

There were three online learning resources in this course. The first was the teacher's website, which was located at http://140.127.113.194. The researcher regularly posted course information and supplemental materials on this platform. Prior to the class, students were asked to download the list of vocabulary items with K.K. phonetic symbols and Chinese/English definition, an explanation of grammatical rules, related articles, and guided discussion questions for the Penguin Reader. Individual student's surfing time on the on-line materials was calculated. After the class, students needed to send their homework to the website. Whenever they had English problems, they could either go to the discussion board and ask for help from classmates, or send emails to the teacher. This online learning source allowed partial learner control with teacher guidance.

The second online learning resource was an interactive CD-ROM, provided by the LIVE ABC Company. The CD-ROM offered a wealth of self-study activities, which allowed students to preview and review the content of the Off We Go textbook either online or offline. When students worked online, their learning hours were recorded. The CD-ROM had many functions such as reading aloud at a fast/slow speed, repeated reading, recording, speech recognition, and video of real-life situational conversations.

The third online learning resource was LIVE ABC Internet English College, located at http://203.64.90.116/z_liveorg7/, also provided by LIVE ABC Company. This website provided a web-based English proficiency diagnosis assessment, self-learning courses, electronic resources (a picture dictionary, dialogues, and an interactive theater), GEPT and TOEIC practice tests, games, discussion boards, and students' online learning records. In this learner-controlled learning environment, learners decided their own learning contents, sequence and pace of learning.

3.4.3 Integrated classroom instruction

The main goal of the class was to train students' English reading skills by integrating listening, speaking, reading, and writing activities. Most of the materials presented in class were electronic files such as Word documents, Power Point files, and CD/CD-ROM programs which were designed to give students various visual and audio inputs and help them to reinforce the language learned in class. The instructional language was mainly English, while Mandarin was also used when it was necessary.

Both textbooks were taught in turn; that is, one week the class studied Off We Go, and another week the class studied the leveled reader. When the class content was Off We Go, a typical lesson plan involved the teacher first asking several questions related to the text to activate students' schemata. Then the teacher introduced some new vocabulary items and sentence patterns. Third, the teacher played the text CD-ROM. When the full text was read aloud by the computer, each sentence of the text was highlighted on the computer screen. Furthermore, while the class was watching a video on the CD-ROM, the teacher would pause the video and ask students to predict the plot. Fourth, the teacher checked students' reading comprehension of the text by asking some questions. After that, students read aloud the text with aural aids, and completed the exercises on the CD-ROM individually or in groups. Other classroom activities such as group games, role-play, and singing songs were included.

As for the leveled reader teaching, students were divided into groups, one for each chapter of the book. Each group was responsible for looking up unfamiliar vocabulary in their assigned chapter, then they posted the meanings, with some example sentences, on the teacher's website. In class, groups in turn presented the summary of their assigned chapter and then students discussed the guided questions together. Finally, each student was required to write a reflection report of the story at the end of the semester.

In addition to the leveled reader used in class, students in groups were required to choose another leveled reader as their outside-reading from a book list provided by the teacher. They orally presented their story to the class two weeks before the final examination. Students had to pay attention to their peers' presentation, because questions about its content would be included in the final examination.

3.4.4 Course assessments

Students' achievements were evaluated based on their participation in online learning and English performance in listening, speaking, reading, and writing. In detail, the total scores consist of an oral presentation of the outside-reading (10%), a written reflection report (10%), reading comprehension quizzes (15%), listening comprehension quizzes (15%), online learning record (10%), mid-term exam (20%), and final exam (20%). The mid-term exam included a reading aloud of the texts (20%) and a paper-and-pencil test (80%). The final examination was a paper-and-pencil test, and test questions came from the students' group presentations (50%) and the learning materials in class (50%).

4. Results and Discussion

4.1 Students' perceptions of the integrated instruction

A total of 91.5% of the students liked this computer-assisted four-skill instruction. Moreover, around 80% of students agreed that this course motivated them and also enhanced their interest in learning English (See Table 2). The majority of students (87.8%) preferred finishing assignments with classmates and many (76.4%) enjoyed group-discussion activities in the classroom. However, only around 40% of students agreed that they liked discussing English with classmates on the internet. This result may suggest that peer discussion is more successful when it is carried out in the classroom with teacher's guidance or supervision. A total of 90.5% students enjoyed watching English movies, and 74% appreciated reading English stories. In comparison, 66% enjoyed doing exercises on the websites and 52.4% liked surfing and reading English articles.

Many students felt that teaching materials were appropriate for their English ability (61.3%), and fitted in with their needs (79.2%). Furthermore, 82.6% of students believed the materials on the websites were helpful, and 76.4% of the students thought the CD-ROM of the textbook was useful.

4.2 Students' favorite classroom activities, web contents, and CD-ROM features

To ascertain students' favorite activities, web content, and CD-ROM features, students needed to check three items in each corresponding question and give each item a ranking score (i.e., 3= first favorite, 2=second favorite, 1=third favorite). The item " Watching DVD films" was ranked as the most popular, "Christmas celebration" was the students' second highest choice, and "Watching the video of textbook" was ranked as the third favorite (See Table 3).

Apparently, students liked the video-assisted English teaching, no matter whether the content of the selected video was relevant to the content of the textbook or not. Therefore, teachers could utilize videos in class to enhance students' learning interests. It would be even better if teachers could design some activities relevant to the content of each film before/after watching the film. For example, teachers could ask students to predict the plot of the film, discuss the characters of the actors/actresses, or write a reflection paper of the film. Since writing papers was ranked as students' least favorite activity in this study, teachers may need to give students more guidance in the process of writing or put students into groups. In this way, writing a collaborative paper with peers might be more fun and also easier to achieve.

Students' second favorite activity – a Christmas celebration event - was held to help students understand holiday culture. In this activity, students played the role of Secret Santa, and had to write a card to one classmate. On the card, they described themselves in English, and the class had to guess and identify the Santa from their description. During the event, the teacher played Christmas songs and treated the class to candy. Therefore, the class was filled with joy. Students' positive evaluation of this activity supported previous studies which highlighted the effectiveness of incorporating holiday celebration events in teaching culture (Cheng, 2006; Herron et al., 1999; Kramsch, Cain, & Murphy-Lejeune, 1996; Krasner, 1999).

As for students' favorite web content, not surprisingly, 'games' were students' first choice. Since all games on this website include colorful text, vivid images, interesting sounds, and funny animations, students could practice English spelling, phonics, sentence-making and listening comprehension in an exciting and fun way. Additionally, "an interactive theater" and "dialogues" were students' second and third favorite. Both contents were designed to train students' communication competence. Obviously, students perceive English communication skill is very important.

The most popular CD ROM feature was 'video of real-life conversations' which demonstrates again students' desire for the training of communication skill. Next, 'reading aloud at a fast/slow speed' was the students' second favorite. This feature enables students to adjust the reading speed. For many foreign language learners, when a text is read at a slower speed, the text becomes more comprehensible and easier to read along.

4.3 Students' perceptions of the effect of the instruction on their English learning

The majority students agreed that the course was helpful in the following training: daily conversation skill (97.6%), listening skill (95.8%), reading skill (95.3%), language application ability (94.4%), vocabulary-building (88.2%), western culture (85.3%), grammar and linguistic structures (83.9%), and writing skill (73.6%). Fewer students believed that the course assisted their learning of western literature (67.9%) or critical thinking (65.6%).

4.4 Students' problems within the application of the instruction

For the majority of students, computers and access to network resources were not barriers in online learning. In addition, only a few students (3.3%) lacked the knowledge to install the CD-ROM. The main problem for many

students (77.4%) was that they did not know how to solve technical problems when the textbook CD-ROM stopped operating. Furthermore, some students (57.6%) complained that reading computer-presented texts was more tiring than reading in print. Interestingly, 74.7% students confessed that they were often distracted from e-learning because their friends sent them messages online.

Approximately half the students were too busy to discuss the reader with classmates, and 26.9% students found their group members were not doing enough of their share of the group work. Another challenge for most students (90.6%) was they often had to stop reading and look up the dictionary for unfamiliar vocabulary items. Fortunately, the teacher's availability and instruction could effectively make the complicated plot of the story become clear (91%). This finding suggests that a teacher still plays a crucial role in a whole language classroom.

4.5 The effect of the instruction on students' reading skill achievements

Table 4 indicates that the participants' reading skills improved significantly ($p < 0.001$), and the improvement was especially evident among basic-level students. In contrast, advanced level students generally showed slight regression (See Table 5). This mixed result suggests that the application of computer-assisted integrated four-skill instruction is more effective for improving lower ability learners' English reading comprehension.

Some tentative interpretations for this result are as follows. First, since the whole language instruction in this study encouraged cooperation and assistance among peers, students could work on assignments together and then experience a sense of achievement. This is a feeling which students with low English proficiency ability seldom experience in their learning. Thus, basic-level students became more confident in the classroom. According to Kan's opinion (2006), when students are more confident, they are more likely to take risks and learn more. Actually, other studies (e.g. Hsiao, 2006; Wu, 2003) also support the effect of cooperative learning on low achievers. In Hsiao's study, the low achievers liked English mainly because there was less pressure to learn, more chances to develop social relationships, and build confidence with other classmates.

As for higher level students, they might have been very self-confident and used to relying on themselves. Therefore, they probably did not highly value peer cooperation and then became less motivated in group work such as online discussion about the story. Indeed, as mentioned earlier, some students did not take their responsibility to fulfill the group work. This may also reduce the effectiveness of the whole language instruction. How to encourage higher achievers' commitment to their share of the group homework, consequently, needs teacher's special consideration.

Another possible explanation for this result might be due to the fact that the assigned storybook might be too difficult for advanced students, since many students expressed their frustration at not being able to read the story fluently. This result suggests that teachers should choose story with a simple outline. It will be even better if teachers could find a film adapted from the story. As Lin (2008) suggest, "if the plot line in the story matches the reader's prior knowledge received from the film, the reader can perform better comprehension monitoring of a degree similar to that of good readers (p.96)."

5. Conclusions and Recommendations

The first conclusion to be drawn from this study is that the results support the view that integrated English instruction through technology is beneficial to university students. The textual, visual and aural website contents such as 'games' helped to enhance not only students' learning interests but also students' English performance. Additionally, students also appreciated the CD-ROM features such as 'repeated reading with high lighted text'. These multimedia aids helped grab students' attention and also integrated reading with listening.

Although only low ability students showed significant improvements in the study, the majority of students perceived their English four skills had all improved due to the course. Since this study only measured students' reading comprehension ability, future studies could adopt an English test which measures students' listening, reading, speaking, and writing abilities. In addition, further research could interview students to investigate why low ability students seem to benefit more from the integrated instruction than high ability students.

Finally, an interesting finding was that many students confessed that they couldn't concentrate on online learning due to distractions such as friends' text messages. Teachers might need to take steps to prevent students' e-learning being disturbed by other multimedia features.

In conclusion, as Paulson said (2006), "the more you read, the better a reader you become, the more you like reading, so the more you read (p.56)". This study supports previous studies showing that a computer-assisted integrated-skills instruction could motivate students to read English texts, to enjoy reading, and to become life-long English readers. However, how to help students overcome technical problems and other problems such as the fatigue of reading computer-presented texts, distractions on online learning, and lack of responsibility for group work is also very important to the success of the application of whole language instruction through technology.

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Table 1. Subjects' background information

Class	College	Level	Gender		Total
			Male	Female	
1	Humanities	advanced	5 (8.5%)	54 (91.5%)	59 (100%)
2	Management	advanced	8 (14.5%)	47 (85.5%)	55 (100%)
3	Engineering	basic	48 (98%)	1 (2%)	49 (100%)
4	Engineering	basic	40 (81.6%)	9 (18.4%)	49 (100%)
Total			101 (47.6%)	111(52.4%)	212 (100%)

Table 2. Students' Perceptions of the Integrated Instruction (N=212)

Description	SA	A	DA	SD
	N (%)	N (%)	N (%)	N (%)
1. I like computer-assisted four-skill English instruction.	36(17)	158(74.5)	18 (8.5)	0
2. It makes me become interested in learning English.	35(16.5)	138(65.1)	38(17.9)	0
3. It makes me become willing to study English.	125(59)	43 (20.3)	17(8)	27(12.7)
4. Teacher's lecture is helpful.	36 (17)	116(54.7)	56(26.4)	3(1.4)
5. I like teacher plays the role of the consultant in the classroom.	56 (26.4)	142(67)	14(6.6)	0
6. Group-discussion activities in the classroom are interesting.	36(17)	126 (59.4)	43(20.3)	7 (3.3)
7. I prefer finishing assignments by my own.	13(6.1)	69(32.5)	110(51.9)	20(9.4)
8. I prefer finishing assignments with classmates.	47(22.2)	139(65.6)	23(10.8)	3(1.4)
9. I like discussing English with classmates on the internet.	16(7.5)	68(32.1)	107(50.5)	21(9.9)
10. I like doing the exercises on the websites and CD-ROM.	24(11.3)	116(54.7)	65(30.7)	7(3.3)
11. I like surfing and reading English articles on the internet.	19(9)	92(43.4)	88(41.5)	13(6.1)
12. I like learning English by reading English readers.	35(16.5)	122(57.5)	50(23.6)	4(1.9)
13. I like learning English by watching English movies.	73(34.4)	119(56.1)	18(8.5)	2.(0.9)
14. Teaching materials are appropriate for my English ability.	20(9.4)	110(51.9)	75(35.4)	7(3.3)
15. Teaching materials fit in with my needs.	20(9.4)	148(69.8)	37(17.5)	7(3.3)
16. The materials on the websites are helpful.	33(15.6)	142(67)	30(14.2)	7(3.3)
17. The CD-ROM of OFF WE GO is useful.	36(17)	126(59.4)	36(17)	14(6.6)

SA= Strongly Agree   A= Agree   DA=Disagree   SD= Strongly Disagree

Table 3. Students' favorite classroom activities (N=212)

Activities	Mean	First favorite	Second favorite	Third favorite	Rank
		N (%)	N (%)	N (%)	
Watching DVD films	2.52	132(62.3%)	19(9.0%)	19(9.0%)	1
Christmas celebration event	1.29	15(7.1%)	79(37.3%)	29(13.7%)	2
Watching the video of textbook	0.78	10(4.7%)	33(15.6 %)	45(21.2 %)	3
Group presentation of the story book	0.63	10(4.7 %)	20(9.4 %)	43(20.3 %)	4
Listening to teacher's lectures using Power Point files	0.56	10(4.7 %)	20(9.4 %)	31(14.6%)	5
Writing a reflection report of the story book	0.23	3(1.4 %)	10(4.7 %)	12(5.7 %)	6

Table 4. All Students' Reading Learning Outcomes (pair t-test) (N=197)

N.	Pre-test		Post-test		t	p
	Mean	S.D.	Mean	S.D.		
197	72.98	18.37	80.42	14.52	-6.11	0.000***

***= $p<0.001$

Table 5. Different Level Students' Reading Learning Outcomes (pair t-test) (N=197)

Level	N.	Pre-test		Post-test		t	p
		Mean	S.D.	Mean	S.D.		
I	98	57.77	14.07	73.63	16.62	-8.14	0.000***
III	99	88.04	4.33	87.13	7.53	1.054	0.294

***= $p<0.001$