

Internet-assisted English Reading Teaching Based on Constructivism

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Abstract

With the development of Internet technology, teachers are constantly seeking innovative teaching methods to match the potential of enhanced technology. Although many studies have been performed before, they aren't enough in this field. The purpose of this paper is to explore innovative teaching designs and examine the impact of Internet-assisted English teaching of reading based on constructivism. The case is carried out in NO.9 middle school of Bengbu, a underdeveloped area of China, most of students aren't interested in learning English. We compared Internet-assisted with traditional textbook literature methods to improve the reading proficiency of students, using a questionnaire survey, pre-test and post-tests comparisons. The result showed Internet-assisted English reading teaching is better than textbook. It can arouse students' interest and motivation, reading proficiency and exam result of students have been improved significantly, created a positive learning situation.

Keywords: Internet-assisted, English reading teaching, Innovative designs, Impact, Constructivism theory

Introduction

In an era of Internet Information Resource sharing, with the internationalization of China, English is a major subject in school of China, it becomes more and more important in our daily life; using information technology is beneficial to develop English teaching and learning in campus. English teachers face two major challenges. First, they must make their students adapt the information society. Second, they provide information technologies to service education better. That is why information technology and English have been put at the top of all curriculum reform in China. The new national English Curricula Syllabus requires that teachers fully utilize modern technology to exploit English teaching resources, arouse students' interest, and improve their study efficiency. (Hai Qing, Li, p.5). English language education is trying to meet need of the twenty-first century, teacher must master electronic technology and skill. To achieve this goal, it suggests that modern educators should adopt efficient teaching methods and use Internet-assisted methods. (Song, 2013, p.2). Nearly two-thirds of the world's science literatures are written in English. Thus, English reading is the main means with which people get to understand the development of the world. (Zhang, 2017, p.29) Reading is the most important part of English teaching. In the traditional English teaching mode, teaching effects are not ideal, Internet-assisted not only creates an English learning environment for students, but also improves their reading and understanding skills, ability of listening, speaking, writing, stimulates students' interest in language learning. (Zhou, 2005, p.53).

There are many advantages of using Internet-assisted teaching. (Jonita Stepp, 2002, p.165). The first, Language learners can communicate directly, inexpensively and conveniently with other learners or native speakers in the Internet environment, through video,

e-mail, Facebook, Skype or other social software. Students can get abundant resources (e.g. newspapers, magazine, articles, radio broadcasts, short videos) on the Internet, giving them more opportunities for practice. In addition, the network resource enriches teaching methods and means, stimulate students' initiative and creativity, at last, teacher can test online, collaborative discussion is held among students. Internet-assisted teaching is a complement to traditional classroom instruction. We can all share information resources by Internet, it reflects the superiority of Internet in the future of education field, based on the theory of constructivism, it offers an innovative means to improve the efficiency of English reading learning and students' achievement, especially in students who are not interested in learning English (Li, 2007)

Review of the Literature

Approaches to language teaching have radically changed with the exponential growth of educational technology since the early 21st century. Warschauer and Kern have classified three distinct phases. They are a) structural CALL (computer assisted language learning)-1970s to 1980s, b) communicative CALL-1980s to 1990s and integrative CALL from the early 21st century. In the last phase, the evolution of multimedia and Internet led to content-based ESL instruction. (Vijayakumar, S., 2018, p.100)

Some scholars have carried out related studies, such as Strategies for Differentiated Teaching for English Learners. (Shelley, Xu, 2012). To provide different teaching models and a set of instructional reading strategies and materials for current and future classroom, teachers to help them enhance the quality of reading teaching for English learners. The Efficiency of online English Language Teaching on Students' Reading Skills (Nadiran Tanyeli, 2008). Describe students are more successful in web-assisted instruction. This study has a vital significance since the result affects the curriculum of the English courses.

The Effects of Computer Instruction on College Students' Reading Skills. (Alison, V. K., 2014). Computer-based instruction can be effectively used with college students to improve reading skills, but that attention to the method rather than the means of instruction is most important. The Use of Social Networking and Learning Management Systems in English Language Teaching in Higher Education (Evriklea, D & Jenny, P., 2014). The use of web-enhanced teaching of the English as a foreign language in higher education in Greece is addressed in this case study which examines the student's perceptions of online teaching using Moodle as a learning management system (LMS).

Research of Internet-assisted learning is relatively short in China, with the fast development Internet and information, many English teachers enthusiastically integrate it into their curriculum to enhance the learners' performance. (Gu, 2010, p.13) tried to construct a new multimedia technology-assisted English reading teaching mode, and investigated the feasibility and effectiveness of this new reading teaching model in his senior high school, students' reading learning methods are changed from passive to active, cooperative and exploratory learning. (Qing Lan, Zhang 2011, p.4) analyzes the meaning, components, advantages and existed in online high school English collaborative reading teaching mode, it concludes that at this special stage of high school, the new reading teaching mode should be able to interact with the traditional reading teaching mode. (Cheng, 2012, p.19) presents the empirical research on the development and use of Internet resources in English reading teaching. According to Chinese Academic Journal (Network Edition) (CNKI) we have search about 103 research papers and 111 doctoral dissertations and masters' thesis about this field. The Internet with its abundant information, accessibility culture background become the main tool of the EFL teachers in China.

Constructivist Learning Theory

When learners construct mental models to understand the world around them. Constructionism advocates student-centered, discovery learning where students use information they already know to acquire more knowledge. (Alesandrini, K. & Larson, L. 2002,p.118) Students learn through participation in project-based learning where they make connections between different ideas and areas of knowledge facilitated by the teacher through coaching rather than using lectures or step-by-step guidance. (Jump up^Cakir, M. 2008,p.193) Constructivist learning theory, a student-centered learning under the guidance of teachers, the learning environment including four elements: situation, collaboration, conversation and meaning construction. Multimedia, computers, network communication technologies and abundant Internet resource are particularly suited to the constructivist learning environment, constructivist learning theory become the main theoretical basis for reform and innovation education.

This review of the literature revealed that many researchers had asserted the positive influence of Internet-assisted on English language learning outcomes. Researchers indicated that using Internet-assisted programs can be more beneficial and efficient than using the traditional methods of reading teaching.

Objectives of Study

This study aimed to find out Internet-assisted English reading teaching based on constructivism compared with traditional approach of the English reading could significantly improve students' learning achievements especially for Chinese students who are not interested in English learning. It also sought to find out which of could lead to longer-lasting learning enthusiasm and achievements in the two approaches(Mohammed Abdulmalik Ali ,2018,p.43)

Questions of the Study

Are there any significant difference ($p < .05$) between the mean scores of two classes in reading achievement test for using different method instruction?

Which method of instruction (Internet-assisted vs. traditional textbook) causes significantly improvement in students' achievement.

Research Methodology

Literature method: analyzes the literature and professional journals , books about "English Reading Teaching in Senior High School based on Constructivism Theory" at home and abroad, collection, collation and analysis, it provide theoretical basis and reference for the whole study.

Questionnaire survey method: NO.9 middle school is one of ordinary senior schools in Anhui province, developing area of China, choose class1 (traditional class) and class2 (experiment class), total 72 students as respondent, make a detailed questionnaire and distributed to the participator, pre-test and post-test, description and analysis using sociological statistical method, to obtain investigation data what we need.

On-the-spot investigation: take class of English reading in NO.9 middle school as an experiment, on- the- spot teaching, make detailed investigation and records.

Compared method: two tests (pre-test and post-test) are carried out between 72 students , Internet-assisted compare traditional textbook teaching.

Instructional design

Aim design: students must get what kind of knowledge, how to construct cognitive structure system in new knowledge, how to cultivate the quality of students in the process of the re-construction of new knowledge, whether the students have met the requirements?

Procedure design: Constructivism recognize "Situation ", "Collaboration", "Conversation" and "Meaning Construction" as the four major elements. The cognitive development of individuals is closely related to the learning process. Constructivism emphasis the " Situation " is very important, arouse students' initiative and enthusiasm to enter the atmosphere of study circumstance with interest. "Collaboration" emphasis the interaction between the students, teacher and students, students and the teaching media. "Meaning Construction" encourage the students explore and complete the construction of meaning in order to achieve their own goal of learning, to grasp the learning content better.

Case

The teacher use the traditional teaching approach without using Internet-assisted, the teacher explicitly followed the textbook during the periods. It start with a preview of the topic, learn new words, explain the sentences and grammar, ask the participants to work on the exercises or train individually or in groups, evaluate the performance of the students and finally present comments.

Internet-assisted Teaching Based on Constructivism

English teachers must understand their ability in the application of information technology, such as Windows system, word, power point, excel, web authoring software, Email ,etc. The teacher and relevant staff are trained in pedagogy and theoretical knowledge, information technology

The lesson was taught in Multimedia and Internet classroom. It consists of students' computers and a teacher's workstation which contains Internet, computer ,control panel, cassette recorder, etc. Choose Electronic Textbook which published by Chinese People's Education Press of senior school grade 3 Unit 2. The United Kingdom

<http://www.dzkbw.com/books/rjb/yingyu/xgbx5/054.htm>

we can open this electricity book link relevant Internet site

(1) The Situation Teaching

Constructivism studies emphasize to create the real situation, and regard the creation of the situation as the most important part of teaching design, we should apply the situation--task-autonomous inquiry teaching mode of network English reading.

Providing background knowledge. Design miniature of new English reading teaching mode under environment of Internet, integrated the reading resource on the Internet. Under the teacher's guidance, according to the content of the lesson, select the relevant website, pictures, and videos, transfer them to the computers of students before teaching, let students browse. They can stimulate students' interest in learning, meet the students' cognitive level, and expand their knowledge scope. At the same time, the teacher teaches students how to use online dictionaries and other electronic tools. Relative website

<https://www.britannica.com/place/United-Kingdom>

https://wikitravel.org/en/United_Kingdom

<http://www.doc88.com/p-7834379070108.html>

Broadcast an introduction video of United Kingdom, the teacher shows some pictures on the computer and give relative website address

<https://www.thamesriverservices.co.uk/>

<https://www.towerbridge.org.uk/>

what do you know about two pictures, can you describe them? The Thames and Tower Bridge are led to the content of this lesson through pictures.



Fig. 1 Pictures : The Thames and Tower Bridge

<https://www.thamesriverservices.co.uk/>

<https://www.towerbridge.org.uk/>

Click the website <http://www.dzkbw.com/books/rjb/yingyu/xgbx5/054.htm>

Let students look at the text about United Kingdom. Based on information that the students get on the website, give some reading materials to test online. Students do exercise autonomous learning or cooperative discussion, they can get the scores after they submit question online, then teacher explain answers.

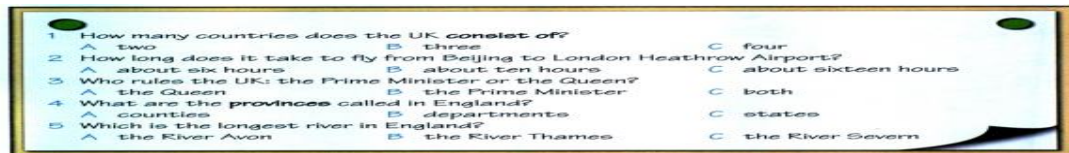


Fig.2 Questions to Test Online

(2) Interactive Teaching (Collaborative Studying and Discussion)

Collaborative studying is recognized as the keys to construct new knowledge by Constructivism, It emphasizes the cooperation and communication between students and students ,students and teacher, interaction between students and teaching contents, Internet. After pre-reading online, students have comprehend United Kingdom very well, leading in new reading passage under the circumstance, show the map of United Kingdom. Broadcast video of touring United Kingdom scene, introduce its administration division, architecture, culture background on the Internet, share information under the teacher's guidance

After the students understood the main idea of the text and grasped the key points, the teacher divided the class into several groups, each group responsible for one passage. They can discuss through social media such as WeChat or QQ, at the same time, questions can be brought into the class for discussion with classmates, or they can ask the teacher to help them to answer. Through this process, students can better understand and master the learning content.

(3) The Re-construction of Knowledge

Learning is not a process in which the teacher simply passes on knowledge to the students, it is a process in which the students construct knowledge by themselves, it cannot be replaced by others, teachers can inspire students to discover and sum up the rules.

The new grammatical rules of this lesson is past participle as object complement, when teaching the grammar point, the teacher can encourage the students to discovery and summary rules by themselves

1 Can you find the following sentence in the reading passage?

Now when people refer to England you *find* Wales included as well.

In this sentence the past participle is used as the object complement and is formed with *have/get/ find/ ... + object + past participle*.

Please find two more sentences from the reading passage with past participles used as the object complement.

1 _____
 2 _____
 3 _____

teacher describe some sentences, let the students translate into Chinese

I heard the song sung in English.

I'll have my hair cut tomorrow.

He had his money stolen.

With water heated, we can see the steam.

teacher simple explain past participle as object complement, then guide the students to analyze and get the conclusion, it not only aroused the initiative of students to think, explore and analyze, but also deepened the students' understanding, learning process is no longer boring.

(4) Evaluate Strategy

Teachers should carefully deal with the homework sent by students by email, MSN, Weibo, and make accurate evaluation in time, so that students can realize the deficiency of their study. This improves the students' reading effect. The evaluation of students' reading effect mainly includes do some reading exercises, mutual evaluation, teacher evaluation and so on. They make a self-assessment in the classroom , other student comments and express their views.

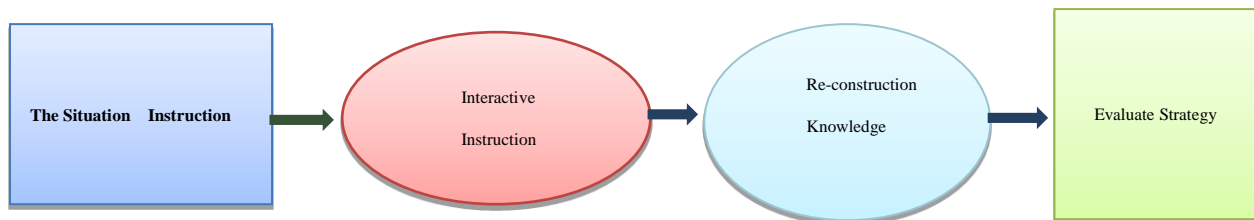


Fig.3 Procedures of the Internet-assisted Teaching

Statistical Analysis

Questionnaires

After practical application of Internet-assisted English reading teaching half of semester, 69 questionnaires were issued and retrieved,9 questions that comprised in the questionnaire.

TABLE 1

Students' Reactions and Satisfaction Survey of Internet-assisted Teaching in Experiment Class

Questions	SA%	A%	N%	D%
1. I like to have a lesson in multimedia classroom very much.	46.8	21.2	29.7	2.3
2. Internet –assisted teaching mode is very good.	38.2	31.9	25.5	4.4
3. Abundant resource on network inspire my study interesting.	36.1	31.9	25.5	6.5
4. It helps to develop ability to use Internet to learn by themselves.	38.2	34	23.4	4.4
5. Improved information technology capabilities.	42.5	39.4	14.8	3.3
6. Strengthen cooperation between students.	40.3	34	19.1	6.6

7.The online English resource meets my learning needs.	29.7	42.4	21.2	6.7
8. Improve learning efficiency.	34	44.6	13.8	7.6
9. To get great harvest by Internet–assisted teaching.	40.4	27.6	25.5	6.5
SA=strongly agree A=agree N=normal D= disagree				

Pre-test + Post-test Experiment

In the whole period, two tests (pre-test and post-test) are carried out in different teaching methods. The results are used to do some comparison. Reading comprehension parts including 3 articles, the total is 40 points. The scores of the two classes are entered into the SPSS 17.0, and the results are shown as in Table 2. The mean scores of the pre-test of reading comprehension in traditional class and experiment class were 18.608 and 18.791, the result indicate that students' reading level is not significant difference.

TABLE 2

Reading Proficiency of Two Class of Pre-test(Group Statistics)

Group Statistics					
	Class	N	Mean	Std Deviation	Std Error Mean
Pretest	Traditional class	35	18.608	7.581	.835
	Experiment class	37	18.791	7.368	.945

TABLE 3

Reading Proficiency of Two Classes in Pre-test (Independent Samples Test)

		Levene's Test for Equality of Variances								
		f	sig	t	df	sig (2-tailed)	Mean difference	Std. Error difference	95% confidence Interval of the Difference	
									lower	upper
Pre-test	Equal variances assumed	.000	.784	-.153	66	.772	-.183	.685	-1.480	1.857
	Equal variances not assumed			-.153	65.615	.772	-.183	.685	-1.482	1.859

	not assumed									
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It can be seen from Table 2 that the mean in traditional class is 18.608, while the mean of experimental group is 18.791, and the mean difference between the two classes is 0.183. Moreover, Table 3 indicates that there is no significant difference between the experimental class and traditional class in their English reading proficiency ($t=-1.53$, $p>.05$). So the two classes have the same beginning-point. In the next semester of senior three, students in experimental class study with the internet-assisted, while, students in the control class are taught in the traditional teaching method. Post-tests are used to determine whether there are significant differences in English reading of the students who receive traditional classroom teaching and the students who have internet-assisted instruction.

TABLE 4

Reading Proficiency of Two Classes in Post-test (Group Statistics)

Group Statistics					
	Class	N	Mean	Std Deviation	Std Error Mean
Post-test	Traditional class	35	22.83	6.864	1.274
	Experiment class	37	26.191	7.368	1.340

As shown in Table 4, it has a statistical difference in the means and standard deviations between experimental and traditional class. The difference in the means of the two groups is 22.83 in traditional class is 35.03 in experimental class, which is bigger compared to pre-test (the mean difference of two group is 0.183). From the analysis of means in two classes to find there is a significant difference between experimental class and traditional class.

TABLE 5

Reading Proficiency of Two Class in Post-test(Independent Samples Test)

		Levene's Test for Equality of Variances								
		f	sig	t	df	sig (2-tailed)	Mean difference	Std. Error difference	95% confidence Interval of the Difference	
									lower	upper
Post-test	Equal variances	2.56	.138	4.98	66	.000	2.632	.525	1.677	3.686

	assumed									
	Equal variances not assumed			5.208	62.838	.000	2.632	.523	1.685	3.678

Table 5 shows the results of independent sample t-test, and it can be seen that $p=0.00$, which is less than 0.05. The result indicates deeper that there is a significant difference in reading scores between experimental class and traditional class.

TABLE 6

Reading Proficiency of Experimental Class in Post-test (Paired Samples Test)

Paired difference									
		Mean	Std. Deviation	Std. Error mean	95%confidence Interval of the Difference		t	df	sig (2-tailed)
					lower	upper			
Pair	Pretest-posttest	-7.400	4.149	.796	-6.87	-3.521	-9.86	52	.000

Table 6 indicates the reading proficiency difference of experimental class between pre-test and post-test. As shown in the table 6 is not involved in the confidence interval difference (the lower is -6.870, the upper is -3.521), moreover, the $p=.000 < .05$, which indicates that the students' reading scores in post-test of experimental class has a significant difference compared with them in pre-test, the statistical difference tests that the students' reading proficiency is improved with the Internet-assisted teaching. From above quantitative data analysis we can get a conclusion that internet assisted teaching mode is better than traditional "teacher center" mode in improving learners' reading ability.

Conclusion

The study has concluded that using internet-assisted in English reading teaching is more efficient than traditional teaching method. In addition, two experiments, based on a questionnaire surveys, are conducted. Two major findings are revealed after this experiment. The author shows that Internet-assisted methods play an important role in the course of reading for students. Through the one year study, Internet-assisted English reading teaching seems to be more effective and practical. Students become autonomous, they can construct their new knowledge system under the help of Internet by themselves.

1. Internet provides rich, easily, accessible materials. Teaching can be individualized, they are in an active rather than the passive role, thus improving students' reading skill. It enhances students' intrinsic motivation and confidence and arouses their interest. It is a change from the traditional teaching environment.

2. At the same time, the reading materials are more intuitive which are presented by Internet technology and it can help students understand them more easily. Study atmosphere is more active. Students study autonomously and exchange ideas, discuss each other. Improve the reading efficiency.

After class, the students do their homework online, and the teacher can tutor students one by one, students can communicate with native language speaker by all kinds of social software such as Facebook ,WeChat, Skype. Internet-assisted teaching and learning have bright prospects. Thus, the majority of educators must actively use the internet resources to explore new teaching methods and means to meet the needs of information age.

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