

The Effects of the WebQuest Writing Instruction Program on EFL Learners' Writing Performance, Writing Apprehension, and Perception

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Abstract

This study investigated the effects of the WebQuest Writing Instruction (WQWI) program on Taiwanese EFL learners' writing performance, writing apprehension, and perception of web-resource integrated language learning. Participants were students from two junior college classes. One class received traditional classroom writing instruction and the other class, the WQWI program. The results indicated that students in the WQWI class improved their writing performance significantly more than those in the traditional classroom writing class. The WQWI class also experienced significant reduction in writing apprehension; however, no significant difference in reduced apprehension could be found between the two classes. In addition, students had a favorable perception of the WQWI program, recognizing more advantages than disadvantages of language learning through web resources. Nonetheless, no significant correlation could be detected between students' perception and their improved writing performance. Neither was there a significant relationship between students' perception and their reduced writing apprehension. The findings suggested that integrating web resources into EFL writing instruction, using the WebQuest model, was effective for enhancing students' writing performance and provided a positive learning experience.

Introduction

The advent of the Internet and the World Wide Web (WWW) has affected every aspect of education and transformed the way we teach and students learn. The field of second/ foreign language teaching and learning is no exception. Even though functions of the Internet in relation to language learning can be defined and classified in various ways, the Internet serves mainly as a publishing, communication, and informational tool (Cunningham, 2000; Lee, 2000a). In its information-providing function, the Internet is utilized as a virtual library in which students can search for and receive information. Web resources pertinent to various purposes and topics can

offer potential teaching materials, thus serving as a valuable pedagogical tool in a language classroom. In fact, the most frequent classroom use of the Internet is searching for Web resources to gather information (Grabe & Grabe, 2001).

The WebQuest Model

Making use of the Internet as an informational tool, WebQuests, developed by Bernie Dodge and Tom March in early 1995, are inquiry-oriented activities in which most or all of the information used by learners is drawn from the Web (Dodge, 1998). The critical attributes of a WebQuest activity include:

1. an introduction that sets the stage and provides some background information,
2. a task that is doable and interesting,
3. a set of web-linked information sources needed to complete the task,
4. a description of the process the learners should go through in accomplishing the task,
5. some guidance on how to organize the information, and
6. a conclusion that brings closure to the quest and reminds participants of what they have learned. (Dodge, 1997, Critical Attributes, para. 1)

Dudeney (2003) recognizes the WebQuest model as a potential pedagogical tool by pointing out several advantages. They include providing a relatively easy way to incorporate the Internet into the language classroom, encouraging critical thinking, leading to more communication and interaction through group activities, and eliciting greater learner motivation through interdisciplinary studies as well as "real-life" tasks.

As suggested by Ge Stoks (2002), WebQuests benefit language learning in several aspects. Engaged in a WebQuest activity, learners have the possibility of being exposed to the target language by surfing on the web. Making sense out of the web documents while skimming and scanning websites is a useful exercise for learners to increase their language comprehension. In addition, the problem-solving approach of WebQuests may facilitate language learning.

Abdullah (1998) also notes that by posing language learners problems like those found in real life, the gap between language use in the real world and that in the school setting can be bridged. He further contends that when language learners go through the inquiry process to develop solutions, they need to use language to obtain and communicate information and present their findings, thus learning to listen, speak, read, and write effectively.

WebQuest Writing Instruction

As shown in the previous section, WebQuest design has proved to be a potential tool for effective web-based learning. In order to apply the WebQuest model to EFL writing instruction and evaluate its effectiveness, I designed a writing instruction program and named it "WebQuest Writing Instruction" (WQWI). The six attributes of WebQuest activities were adapted for each lesson plan in the WebQuest writing instruction program. At the pre-writing stage, students were provided with a description of a lesson from which a task or a problem was introduced and

generated. Following a given process and some organizational advice, students then searched pre-selected Internet resources pertinent to the task or the problem. At the writing stage, students analyzed and synthesized what they had found from the Internet-linked information, incorporating it into a written assignment. At the post-writing stage, through peer review and revision, students shared and discussed their written products, an activity that concluded each WebQuest writing activity.

WQWI is designed to provide input, elicit interaction, and encourage output. Input, interaction, and output are widely regarded as three vital elements for second language acquisition (Chapelle, 1997; Pica, Holliday, Lewis, & Morgenthaler, 1989). Input in WQWI comes from the web resources in the target language—English. Interaction takes place through multiple channels: between learners and the technological medium, between learners and the instructor, and among learners themselves. The WQWI output is a completed writing assignment in English. WQWI also incorporates a "reading to writing" approach. According to Krashen (1984), the best way to learn to write is to receive rich and comprehensive input from reading. From the perspective of the reading to writing approach, there is no source other than the Internet that is capable of providing such a wealth of easily accessible reading materials for writing input. In addition, WQWI aims to appeal to students' affective domain by creating feelings of security as well as interesting and meaningful activities through an attractive means of instruction—the Web.

Related Studies

The findings concerning the effects of Web-based instruction on student language performance are as varied as the research methods used: quantitative, qualitative, survey, comparative study. In general, the results of the comparative studies have indicated that Web-based language instruction produced better writing quality and more writing quantity than traditional classroom instruction (Braine, 1997; Ghaleb, 1993; Liou, 1997; Sullivan & Pratt, 1996). However, a few studies have found that Web-based language instruction had non-significant or negative effects (Biesenbach-Lucas & Weasenforth, 2001; Leh, 1999).

Teacher evaluation of Web-based language activities, including those using Internet resources, has shown that students perceived more advantages than disadvantages (Aida, 1995; Mak & Mak, 1995; Shetzer, 1995; St. John, 1995). Advantages reported the most often included the provision of rich, authentic, and current information, exposure to colorful visual elements, enhanced flexibility of individual learning pace, reinforced learning of the subject matter, heightened motivation, and increased interest. Disadvantages included the encounter with some shallow or confusing information, frustration from slow or failed access, and lack of mastery of technology use on the part of the teacher or students. A number of empirical studies have also indicated that students had an overall positive attitude towards learning in a computer-assisted language learning environment (Felix, 2001; Liou, 1997; Osuna & Meskill, 1998; Shen, 1999). In addition, research has revealed that students perceived Web-based instruction as effective for their language skills in general (Osuna & Meskill, 1998) and for the development of specific language skills related to reading, speaking (Stepp-Greany, 2002), and writing (Frizler, 1995).

Writing apprehension (anxiety), an affective factor, has been proven to have a negative influence on first language learners' writing competency (Daly, 1978; Walsh,

1986) as well as on EFL/ESL learners' writing performance and quality (Cheng, Horwitz, & Shallert, 1999; Hassan, 2001; Masny & Foxall, 1992). To my knowledge, no empirical studies have been conducted to find out the relationship between students' perception of a certain Web-based writing instruction and students' apprehension over writing. However, it seems to be a reasonable assumption that the more favorable perception students have about a certain Web-based writing Instruction, the more their writing apprehension will be reduced.

Statement of the Problem

With regard to the effect that use of Web resources has on second/foreign language learning, the major body of previous studies relied on self-reported and descriptive information provided by the learners. Few focused on its direct impact on learners' achievement of specific language skills, such as writing. The relationship between learners' perceptions of the effect of the Internet use and their language achievement remains an open question as well (Stepp-Greany, 2002). Moreover, little empirical research exists that demonstrates how Web resources can be integrated into foreign language instruction to yield expected outcomes (Brandl, 2002).

Purpose of the Study and Hypotheses

This study was designed for two major purposes. First, it was designed to address the direct effect of the WebQuest Writing Instruction program on students' writing performance and apprehension over writing. For this purpose, two hypotheses were generated:

Hypothesis 1. The WebQuest Writing Instruction program will improve students' writing performance.

Hypothesis 2. The WebQuest Writing Instruction program will reduce students' writing apprehension.

Second, the study was designed to investigate students' perception of Web-resource integrated learning as experienced in WebQuest Writing Instruction and whether such a perception correlated with students' improved writing performance and reduced writing apprehension. For this purpose, three hypotheses were generated:

Hypothesis 1. Students will have a favorable perception of the WebQuest Writing Instruction program.

Hypotheses 2. The level of students' perception of WebQuest Writing Instruction will positively correlate with the level of their improved writing performance.

Hypothesis 3. The level of students' perception of the WebQuest Writing Instruction program will positively correlate with the level of their reduced writing apprehension.

Methodology

Participants

This research was conducted in a college of foreign languages in southern Taiwan. The college has multiple academic divisions, with the junior college as one of its divisions. All of the junior college students are either English majors or minors. In the first three years of the junior college, both English majors and minors are instructed under the same English language curriculum; they take exactly the same English courses with the same number of class hours.

A sample of two intact classes with 54 students in each was selected randomly from the second year of the junior college division with a population of approximately 600 students (12 classes). The two selected intact classes were assigned, one as the control group and the other as the experimental group, again randomly. The participants in the control group majored in Spanish and minored in English, whereas those in the experimental group majored in English and minored in Spanish. They were placed at the low-intermediate level in English as a foreign language and had received at least four years of formal English language instruction from their junior high (3 years) and their junior college (1 year). Mandarin Chinese was the native language of all participants.

Instructor

The instructor, a native speaker of Chinese, has been teaching English as a foreign language for over fifteen years in the English department of the junior college. She obtained a master's degree in instructional technology with some experience in CAI (computer-assisted instruction). However, she had not utilized Web resources for teaching writing prior to this research project. Her role in this research was providing traditional writing instruction to participants in the control group and WebQuest Instruction to participants in the experimental group.

Instruments

Three instruments were utilized in this current study. They are the Writing Performance Test, the Writing Apprehension Test, and the Post-instruction Perception Questionnaire.

The **Writing Performance test** consisted of a pretest and a posttest in which participants were asked to perform a writing task (see [Appendix A](#)). Three experienced TEFL teachers of compositions were selected to evaluate all participants' writing tests against the ESL Composition Profile (Jacobs, Zinkgraf, Wormuth, Hartfiel, & Hughey, 1981). The average reliability coefficient for three readers (evaluators) was reported to be 0.91 (Jacobs, Zinkgraf, Wormuth, Hartfiel, & Hughey).

The **Daly-Miller Writing Apprehension Test (WAT)**, as modified by Gungle and Taylor (1989) for ESL writers, was used to measure participants' writing apprehension level. It is a self-reporting instrument on a 5-point Likert scale, containing 26 items dealing with anxiety about writing. The reliability coefficient of the instrument was reported to be 0.92.

The **Post-instruction Perception Questionnaire** was developed for this study (see [Appendix B](#)). It was used to measure student perception of Web-resource

integrated language learning as experienced in the WebQuest Writing Instruction program (WQWI). The first part of the questionnaire consists of 23 statements. In a 4-point Likert scale format, participants were asked to agree or disagree with the statements. The second part of the questionnaire contains open-ended questions inquiring further about participants' experiences and comments regarding the WebQuest writing class.

Variables and Data Analysis

The major variables included writing instruction, student writing performance, student writing apprehension, and student perception. The Statistical Package for the Social Sciences software (SPSS) was used for data analysis. Data collected were analyzed via t-test, analysis of covariate, descriptive analysis, and correlation test.

Research Procedures

At the beginning of the research project, the Writing Performance Pretest and the ESL Writing Apprehension Pretest were administered to participants in the control group and the experimental group. Taught by the same teacher, both groups received writing instruction two hours a week in the Writing and Conversation class. The process writing approach was employed for both groups. It emphasized stages of writing process (pre-writing, writing, post-writing), multiple drafts, and peer and teacher responses to the drafts. Participants in both groups were given four writing tasks requiring them to produce paragraph writing. The four writing tasks in both groups focused on the same writing modes and grammatical points.

The control group received traditional classroom instruction and met in a traditional classroom the entire time. The lesson plans adopted and modified for the traditional classroom writing instruction were originally compiled by the teaching staff of the researcher's school and had been used for years. These lesson plans, in the form of printed materials, were handouts designed mainly for traditional classroom instruction (see [Appendix C](#) for a sample lesson plan). The experimental group received the WQWI lessons and met in the traditional classroom as well as in the networked language laboratory where pre-writing activities were conducted. The four lesson plans for the WQWI lessons were adopted from Dodge's Matrix of Webquest Examples at <http://webquest.sdsu.edu/matrix.html> and modified to a large extent by the researcher (see [Appendix D](#) for a sample lesson plan).

As shown by the two sample lesson plans, the traditional writing instruction lessons used in the control group provided students with vocabulary, outline formats, and sample written passages to familiarize them with the content and organization for the writing assignments, whereas the WQWI lessons used in the experimental group guided students in completing their writing assignments by leading them to surf WebQuest materials organized in five major sections (introduction, task, process, organization, conclusion).

At the end of the research project, the Writing Performance Post-test and the ESL Writing Apprehension Posttest were administered to participants in both groups. The Post-instruction Perception Questionnaire was administered to the experimental group who received the WQWI. This research project was conducted over a

fourteen-week period.

Results and Discussion

Effect of Instruction Method on Writing Performance

A t-test was used to analyze the difference between the writing performance pre- and posttest scores in the control group (traditional writing instruction) and the experimental group (WQWI). Results showed significant differences for both the control group; $t = -7.23$, $p < .001$ and the experimental group; $t = -7.47$, $p < .001$ (see Table 1). As shown in Table 1, the control group increased their test scores from a pretest score mean of 65.17 to a post-test score mean of 71.77. The experimental group also increased their test scores from a pretest score mean of 68.73 to a posttest score mean of 76.31. These findings indicated that the traditional writing instruction and the WW I both had a positive effect on students' writing performance, since subjects in both instruction methods improved their writing performance significantly.

Table 1. t-Test Results for Writing Performance Scores in Each Instruction Method

Instruction method	Pretest		SD	Post-test		t
	n	M		M	SD	
TWI	52	65.17	5.40	71.77	6.02	-7.23***
WQWI	51	68.73	8.18	76.31	4.97	-7.47***

Note: TWI = Traditional Writing Instruction; WQWI = WebQuest Writing Instruction.

The t value of -7.23 is equivalent to a p value of $.000$. The t value of $.47$ is equivalent to a p value of $.000$.

*** $p < .001$.

A subsequent ANCOVA was used to analyze the difference of the posttest writing performance scores between the control group and the experimental group with the pretest writing performance scores as a covariate. Results demonstrated that the pretest scores were significantly correlated with the posttest scores; $F(1, 100) = 19.04$, $p < .001$ and there was a significant difference on the posttest scores between the two groups after controlling for the pretest scores, $F(1, 100) = 10.81$; $p < .001$ (see Table 2). As stated in Table 2, the experimental group had a higher posttest mean score ($M = 76.31$) than the control group ($M = 71.77$). These findings indicated that the WQWI was more effective than the traditional instruction in that students in the WQWI class improved their writing performance significantly more than those in the traditional writing instruction class.

Table 2. ANCOVA Results for Writing Performance Scores as a Function of Instruction Method

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
WP pretest	1	493.31	493.31	19.04***
Instruction method	1	280.08	280.08	10.81***
Error	100	2591.35	25.91	
Total	102	3616.41		

Note: WP = Writing Performance

The F value of 19.04 is equivalent to a p value of .000 and the F value of 10.81, a p value of .001.

***p < .001

We can speculate as to why WQWI was more effective than the traditional writing instruction. The fundamental distinction between these two instruction methods was found in the writing input and the way the writing input was provided. The writing input in the traditional writing instruction comprised printed materials (handouts) and teacher-directed oral discussions held in a regular classroom. The writing input in WQWI comprised the Web materials presented on a class website. Students received writing input by surfing these Web materials in the multimedia language lab. In other words, students read an abundance of relevant material about a topic and then wrote about it. The reading to writing approach observed in WQWI is supported by Krashen (1985), who claims that the best way to learn to write is to obtain rich and comprehensive reading input. Research on second language reading and writing connections also suggests that learners may improve their writing ability if they are exposed to reading texts in a process of communication (Abu Rass, 2001; Elley, 1991; Ghawi, 1996; Leki, 1992). Thus, students in the WQWI program outperformed their counterparts in the traditional writing instruction probably because the former spent a substantial amount of time skimming, scanning, and decoding relevant Web materials for the purpose of communicating their ideas in their writing.

Another interpretation of the finding has to do with the kind of language input students were exposed to. The language input (e.g., guided questions, sample writing passages) provided to students in the traditional writing instruction was somewhat simplified, that is, geared to the students' present level of English proficiency. On the other hand, through the scaffolding Web exploration, students in the WQWI group were guided to surf pre-selected Web materials that were rich in quantity and relevant and elaborate in quality for the intended study content. In other words, the Web materials in the WQWI offered the kind of language input that Doughty and Long (2002) described as possessing "linguistic complexity, quality, quantity, variety, genuineness, and relevance" (Provide Rich Input, para. 3) when they commented on the capability of computer technology in providing input to language learners. Therefore, the exposure to rich, relevant, and elaborate language input may offer yet another reason why students in the WQWI outperformed those in the traditional writing instruction in their writing performance.

Effect of Instruction Method on Writing Apprehension

A t-test was used to analyze the difference between the writing apprehension pre- and

posttest scores in the control group (traditional writing instruction) and the experimental group (WQWI), respectively. Results showed a significant difference in both the control group, $t = 4.37$, $p < .001$, and the experimental group, $t = 2.94$, $p < .01$ (see Table 3). Table 3 also shows that the control group had decreased test scores, from a pretest score mean of 89.48 to a posttest score mean of 82. The experimental group had decreased test scores as well, from a pretest score mean of 93.67 to a posttest score mean of 86.98. These findings indicated that both traditional writing instruction and WQWI had a positive effect on students' writing apprehension, and that students in both instruction methods experienced significant reduction in their writing apprehension.

A subsequent ANCOVA analysis showed that no significant difference was found in the post-test scores between the two groups after controlling for the pretest scores. These findings reveal that although both instruction methods reduced students' writing apprehension significantly, neither group's apprehension was reduced more significantly than the other's.

Table 3. t-Test Results for Writing Apprehension Scores in Each Instruction Method

Instruction Condition	Pretest		SD	Post-test		t
	n	M		M	SD	
TWI	52	89.48	15.64	82.00	14.76	4.37***
WQWI	51	93.67	19.36	86.98	18.13	2.94**

Note: TWI = Traditional Writing Instruction; WQWI = WebQuest Writing Instruction.

The t value of 4.37 is equivalent to a p value of .000 and the t value of 2.97, a p value of .005.

** $p < .01$. *** $p < .001$.

These findings were consistent with Sullivan and Pratt's (1996) study in which, even though students in both the computer-assisted class and the oral class decreased their writing apprehension significantly, no significant difference was found between these two classes. The quantitative data does not support the hypothesis that a writing class with a Web component would have a more positive effect in reducing students' writing apprehension than a writing class without one. Still, it should be noted that the WQWI was effective in itself in significantly reducing students' writing apprehension. From this perspective, this particular finding echoes other quantitative and qualitative research results that the Web-based language-learning environment reduces students' anxiety in writing (Alias and Hussin, 2002; Shen, 1999).

Perception of WQWI

Students' perception of the WQWI program was measured by the Post-instruction Perception Questionnaire. Cronbach's alpha formula was used to determine the internal reliability of the collective pool of the 23 items in the questionnaire. The reliability coefficients for the total 23-item questionnaire reached 0.89. The mean score for the composite questionnaire items was 3.00 on a 4-point Likert scale.

These findings demonstrated that, overall, students had a favorable perception of WQWI. Students' responses to the open-ended questions further consolidated such a positive perception, even though some disadvantages of WQWI were mentioned. Disadvantages included frustration in dealing with too much unfamiliar vocabulary in the Web materials, confusion in selecting and synthesizing relevant information for the writing tasks, difficulty in working with group members for collaborative writing, and access failure or slow access to some of the Web materials.

The favorable perception of the WQWI program from this study was consistent with previous teacher evaluations of Web-based ESL/EFL language learning activities in which Web resources were utilized (Aida, 1995; Mak & Mak, 1995; Shetzer, 1995). It also strengthened the results of prior studies on ESL/EFL learner's perception of using Web resources for language learning in general (Felix, 2001; Osuna & Meskill, 1998) and for learning writing specifically (Alias & Hussin, 2002; Lin & Hsu, 2000; Liou, 1997). In addition, it echoed the results of prior practice and research in which WebQuests were utilized in learning various subject matter at different academic levels (Lipscomb, 2003; Mathison & Pohan, 1999; Peterson, Caverly, & MacDonald, 2003; Watson, 1999).

Correlation of Perception and Writing Performance

A Pearson product-moment correlation was used to analyze the relationship between the level of students' perception scores and the level of students' improved writing performance scores. Students' improved writing performance scores were determined by the difference of their pre- and post-test writing performance scores. Results showed that no statistical significance was found in the relationship between the composite perception scores and the improved writing performance scores ($r = 0.18$).

This finding was not consistent with the previous research results, in which there was a mutual relationship of influence between students' attitude and their achievement (Bloom, 1976; Helmke, 1989). It also failed to support the hypothesis that the more favorable perception students held about WQWI, the more students improved their writing performance.

From yet another perspective, given that the majority of the previous studies focused on students' perceived effectiveness of Web-based language learning (Stepp-Greany, 2002) and that most of the results turned out to be positive, this particular finding has a significant implication. That is, students' positive perception of the Web-based language learning does not ensure a tendency toward better language performance results.

Moreover, caution must be taken when interpreting results for studies in which perception or attitude toward technology use in language learning is the sole variable. As Chen (1996) contends, the positive attitude toward learning through technology may simply reflect people's belief that technology is good, a message that is sent every day in this "computer age." In the same manner, other researchers (Egbert, Chao, & Hanson-Smith, 1999; Saleberry, 2001) caution that as opposed to traditional classroom teaching, electronic interaction representing a novel pedagogical environment might produce the Hawthorne effect in research. In other words, the

positive effect of electronic communication revealed by research may be due to a subject's preconception that modern technology is a superior tool for instruction. Therefore, it is a more solid approach, as taken by this present study, to research the effectiveness of Web-based language learning by addressing students' actual language performance results in addition to the perception results and exploring the relationship between the two.

Correlation of Perception and Writing Apprehension

In a similar manner, a Pearson product-moment correlation was used to analyze the relationship between the level of students' perception scores and the level of students' reduced writing apprehension scores. Students' reduced writing apprehension scores were determined by the difference between the pre- and post-test writing apprehension scores. Results indicated that there was not a significant correlation between the composite perception scores and the reduced writing apprehension scores. These results indicated no significant correlation between students' perception of WQWI and the reduction of their writing apprehension ($r = .013$).

This finding failed to support the hypothesis that the more favorable perception students held about WQWI, the more students reduced their writing apprehension. As claimed by Cheng, Horwitz, and Shallert (1999), second language writing anxiety (as measured by the Daly-Miller Writing Apprehension Test) appears to be a language-skill-specific anxiety. However, the perception questionnaire inclined to address students' beliefs about Web-based language learning in general. It is likely that the Writing Apprehension Test and the Post-instruction Perception Questionnaire were two constructs so different that the test results failed to produce any significant correlation.

Conclusion

It is likely in the future, the computer will remain a key component of almost everything we do. As language professionals, we cannot ignore this, as it affects language learners and reshapes their needs. Accordingly, we should keep ourselves fully informed of how modern computer technology can benefit language teaching. Meanwhile, we should have realistic expectations that computer technology, like any other technological innovation, is not a panacea for education. In addition, any technological devices themselves would never replace the importance of the teacher's role in exploiting them in a teaching and learning context. As demonstrated by this research, the Web proved to be an effective tool for language learning only because it was integrated in pedagogically sound instruction based on the WebQuest model.

There are three recommendations for further study:

1. This study analyzed and described the correlated relationships among students' writing performance, writing apprehension, and perception of WQWI without predicting the direct effect of one variable on another. Additional studies could further investigate if any of the variables (writing apprehension, writing performance, and post-instruction perception) could predict any relationship with another. For example, data could be collected to examine if pre-instruction apprehension, post-instruction apprehension, or change in

- apprehension over the instruction serves as a predictor to students' post-instruction writing performance.
2. WQWI used a reading-to-writing approach. As indicated by the results regarding students' perception of WQWI, students believed that they increased their reading ability in addition to their writing ability. This study, however, did not measure students' reading ability. In order to uncover the direct effect of the WQWI on students' reading ability, further research could be conducted administering a reading comprehension test to participants in the study.
 3. This study looked into the effect of integrating Web resources, primarily Web texts, into an EFL writing instruction based on the WebQuest model. It did not touch upon other Web components that could be used in combination with the WebQuest model, such as asynchronous or synchronous discussion among students in the class, or collaborative projects with other groups of students. Further research could explore the potential of combining the WebQuest model with other aspects of Web technology and examine its effect on EFL students' writing.

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References

- Abdullah, M. H. (1998). *Problem-based learning in language instruction: A constructivist method*. Retrieved May 14, 2003, from Indiana University, ERIC Clearing House on Reading, English, and Communication Digest Web site: http://www.indiana.edu/~eric_rec/ieo/digests/d132.html
- Abu Rass, R. (2001). Integrating reading and writing for effective language teaching. *Forum*, 39 (1), 30-43.
- Aida, Y. (1995). Reading authentic materials found in the Internet. In M. Warschauer (Ed.), *Virtual connections* (pp. 298-300). Honolulu, Hawaii: Second Language Teaching & Curriculum Center, University of Hawaii.
- Alias, N., & Hussin, S. (2002). E-learning in a writing course at Tenaga National University. *TEFL Web Journal*, 1 (3). Retrieved May 23, 2003, from http://www.teflweb-j.org/v1n3/Alias_Hussin.htm
- Biesenbach-Lucas, S., & Weasenforth, D. (2001). E-mail and word processing in the ESL classroom: How the medium affects the message. *Language Learning & Technology*, 5 (1), 135-165.
- Bloom, B. S. (1976). *Human characteristics and school learning*. New York: McGraw Hill.

- Braine, G. (1997). Beyond word processing: Networked computers in ESL writing classes. *Computers and Composition* 14, 45-58.
- Brandl, K. (2002). Integrating Internet-based reading materials into the foreign language curriculum: From teacher-to student-centered approaches. *Language Learning & Technology*, 6 (3), 87-107.
- Chapelle, C. A. (1997). CALL in the year 2000: Still in search of research paradigms? *Language Learning & Technology*, 1 (1), 19-43.
- Chen, J. F. (1996). CALL is not a hammer and not every teaching problem is a nail! *The Internet TESL Journal*, 2 (7). Retrieved January 20, 2003, from <http://itselj.org/Articles/Chen-CALL.html>
- Cheng, Y., Horwitz, E. K., & Schallert, D. L. (1999). Language anxiety: Differentiating writing and speaking components. *Language Learning*, 49 (3), 417-446.
- Cunningham, K. (2000). Integrating CALL into the writing curricula. *The Internet TESL Journal*, 2 (7). Retrieved January 20, 2003, from <http://iteslj.org/Articles/Cunningham-CALLWriting/>
- Daly, J. A. (1978). Writing apprehensions and writing competency. *Journal of Educational Research*, 72, 10-14.
- Dodge, B. (1997). *Some thoughts about WebQuests*. Retrieved March, 17, 2003, from http://edweb.sdsu.edu/courses/edtec596/about_webquests.html
- Dodge, B. (1998). *The WebQuest page*. Retrieved April, 7, 2000, from San Diego State University, Educational Technology Department Web site: <http://webquest.sdsu.edu/overview.htm> .
- Doughty, C., & Long, M. H. (2002). *Creating the optimal learning environment in a DL language course*. Paper presented at Title VI conference on distance learning of the less commonly taught languages. Retrieve January 20, 2003, from <http://langinnovate.msu.edu/commpapers.html#doughty>
- Dudeney, G. (2003). The quest for practical web usage. *TESL-EJ*, 6(4). Retrieved July 14, 2007, from <http://tesl-ej.org/ej24/int.html>
- Egbert J., Chao C., & Hanson-Smith, E. (1999). Computer-enhanced language learning environments: An overview. In J. Egbert, & E. Hanson-Smith (Eds.), *CALL environments: Research, practice, and critical issues* (pp. 1-13). Alexandria, VA: Teachers of English to Speakers of Other Languages, Inc.
- Elley, W. (1991). *Acquiring literacy in a second language: The effect of book-based programs*. Portsmouth, NH: Heinemann.
- Felix, U. (2001). A multivariate analysis of students' experience of web-based learning. *Proceedings of the ASCILITE Conference*. Retrieved January 20, 2003, from <http://www.ascilite.org.au/ajet/ajet17/felix.html>
- Frizler, K. (1995). *The Internet as an educational tool in ESOL writing instruction*.

Master's Thesis, San Francisco State University, California. Retrieved January 20, 2003, from <http://thecity.sfsu.edu/~funweb.htm>.

Ge Stoks (2002). WebQuest: Task-based learning in a digital environment. *Babylonia*, 3. Retrieved March 17, 2003, from <http://www.babylonia-ti.ch/BABY102/geen.htm>

Ghaleb, M. (1993). Computer networking in a university freshman ESL writing class: A descriptive study of the quantity and quality of writing in networking and traditional writing classes (processing writing). *Dissertation Abstracts International*, 54, 08A. Retrieved February 19, 2003 from Dissertation Abstracts Online Detailed Record.

Ghawi, M. (1996). *The adjunct model: A case study on a pre-course*. Unpublished Doctoral Dissertation. Tucson: University of Arizona.

Grabe, M., & Grabe, C. (2001). *Integrating Technology for Meaningful Learning* (3rded.). Boston, MA: Houghton Mifflin Company.

Gungle, B. W., & Taylor, V. (1989). Writing apprehension and second language writers. In D. M. Johnson, & D. H. Roen (Eds.), *Richness in writing: Empowering ESL students*. (pp. 235-248). New York: Longman.

Hassan, B. A. (2001). *The relationship of writing apprehension and self-esteem to the writing quality and quantity of EFL university students*. Retrieved February 19, 2004, from ERIC Database #ED459671.

Helmke, A. (1989). Affective student characteristics and cognitive development: Problems, pitfalls and perspectives. *International Journal of Educational Research*, 13, 915-932.

Jacobs, H. L., Zinkgraf, S. A., Wormuth, D. R., Hartfiel, V. F., & Hughey, J. B. (1981). *Testing ESL Composition: A practical approach*. Rowley, Massachusetts: Newbury House Publishers, Inc.

Krashen, S. D. (1984). *Writing: Research, theory, and applications*. New York: Pergamon Institute.

Krashen, S. D. (1985). *The input hypothesis: Issues and implications*. New York: Longman.

Lee, K. W. (2000a). Energizing the ESL/EFL classroom through Internet activities. *The Internet TESL Journal*, 6(4). Retrieved January 20, 2003, from <http://iteslj.org/Articles/Lee-InternetActivities.html> .

Leh, A. (1999). Computer-mediated communication and foreign language learning via electronic mail. *Interactive Multimedia Electronic Journal of Computer-Enhanced Learning*, 1(2). Retrieved June 25, 2002, from <http://imej.wfu.edu/Articles/1999/2/08/index.asp>

Leki, I. (1992). *Understanding ESL writers: A guide for teachers*. Portsmouth, N H:

Heinemann.

Lin, C.C., & Hsu, H. C. (2000). EFL Students' perceptions of web-based reading-writing activities. *Selected Papers from the Tenth International Symposium on English Teaching*, 525-533.

Liou, H. C. (1997). The impact of WWW texts on EFL learning. *Computer Assisted Language Learning*, 10 (5), 455-478.

Lipscomb, G. (2003). "I Guess It Was Pretty Fun" Using WebQuests in the Middle School Classroom. *Clearing House*, 76 (3), 152-155.

Mak, L., & Mak, S. (1995). What's out there? Summarizing information from the web. In M. Warschauer (Ed.), *Virtual connections* (pp. 328-329). Honolulu, Hawaii: Second Language Teaching & Curriculum Center, University of Hawaii.

Masny, D., & Foxall, J. (1992). *Writing apprehension in L2*. Retrieved February 19, 2004, from ERIC Database #ED 352844.

Mathison, C., & Pohan, C. (1999). An Internet-based exploration of democratic schooling within pluralistic learning environments. *Educational Technology*, 39 (4), 53-58.

Osuna, M. M., & Meskill, C. (1998). Using the World Wide Web to integrate Spanish language and culture: A pilot study. *Language Learning & Technology*, 1 (2), 71-92.

Peterson, C., Caverly, D. C., & MacDonald, L. (2003). Techtalk: Developing academic literacy through WebQuests. *Journal of Developmental Education*, 26 (3), 38-39.

Pica, T., Holliday, L., Lewis, N., & Morgenthaler, L. (1989). Comprehensible output as an outcome of linguistic demands on the learner. *Studies in Second Language Acquisition*, 11, 63-90.

Salaberry, M. R. (2001). The use of technology for second language learning and teaching: A retrospective. *Modern Language Journal*, 85 (1), 39-56.

Shen, J. (1999). Learner anxiety & computer-assisted writing. *CALL-EJ*, 3 (2). Retrieved February 2, 2003, from <http://www.tell.is.ritsumei.ac.jp/caliej/3-2/shen.html>

Shetzer, H. (1995). Yohoo! Information-gathering activity and composition. In M. Warschauer, (Ed.), *Virtual connections* (pp. 280-283). Honolulu, Hawaii: Second Language Teaching & Curriculum Center, University of Hawaii.

Stapp-Greany, J. (2002). Student perception on language learning in a technological environment: Implication for the new millennium. *Language Learning & Technology*, 6 (1), 165-180.

St. John, E. (1995). Electronic databases on the Internet: New opportunities for the language classroom. In M. Warschauer (Ed.), *Virtual connections* (pp. 280-283). Honolulu, Hawaii: Second Language Teaching & Curriculum Center, University of Hawaii.

Sullivan, N., & Pratt E. (1996). A comparative study of two ESL writing environments: A computer-assisted classroom and a traditional oral classroom. *System*, 29 (4), 491-501.

Walsh, S. M. (1986). *New directions in research on writing apprehension*. Retrieved February 19, 2004, from ERIC Database #ED361716.

Watson, K. L. (1999). WebQuests in the middle school curriculum: Promoting technological literacy in the classroom. *Meridian 2* (2). Retrieved June, 24, 2003 from <http://www.ncsu.edu/meridian/jul99/webquest/index.html>

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Appendix A
Writing Pretest

Directions:

Please read the letter written to an advice column for a newspaper. As “Madame Know-all”, write a paragraph with 12-15 sentences to respond the question found in the letter. You have 50 minutes to finish this writing task.

Dear Madame Know-all,

My roommate has a lot of friends but she doesn't have a cellular phone. My trouble began when I gave her my phone number so that her friends could find her through me. The phone rang while I was studying, sleeping, eating, or taking a shower. Last week, it rang even during class. Those calls really get on my nerves. What can I do?

Annoyed Nokia

Writing Post-test

Directions:

Last week a fortune-teller told you, “Within three years you will quit school and will be working as a garbage collector. Also, you will marry someone you don't love.” Argue against his predictions and describe what you will be doing three years from now. Write a paragraph with 12-15 sentences. You have fifty minutes to finish this writing test.

Appendix B

The Post-instruction Perception Questionnaire

Class_____ Number_____ Name_____

Part I

Directions: Below are 23 statements concerning how you feel about the WebQuest writing class. Please indicate the degree to each statement applies to you by circling whether you (1) strongly disagree (2) disagree (3) agree (4) strongly agree. Please take your time to answer the questionnaire and try to be as honest as possible. Thank you for your cooperation in this matter.

1. My English writing skills improved as a result of the WQWI. 1 2 3 4
2. My English reading skills improved as a result of the WQWI. 1 2 3 4
3. My choice of words in English writing improved as a result of the WQWI. 1 2 3 4
4. My organization in English writing improved as a result of the WQWI. 1 2 3 4
5. My content in English writing improved as a result of the WQWI. 1 2 3 4
6. My grammar accuracy in English writing improved as a result of the WQWI. 1 2 3 4
7. The web materials provided by the WQWI were appropriate to my English proficiency level. 1 2 3 4
8. The WQWI offered more updated content than printed materials in traditional classroom writing instruction. 1 2 3 4

- | | | | | |
|--|---|---|---|---|
| 9. The WQWI offered more varied content than printed materials in traditional classroom writing instruction. | 1 | 2 | 3 | 4 |
| 10. The writing tasks in the WQWI related to my real-life experiences. | 1 | 2 | 3 | 4 |
| 11. Collaborative writing in the WQWI was helpful for my writing. | 1 | 2 | 3 | 4 |
| 12. I had plenty of interaction with my classmates in the WQWI. | 1 | 2 | 3 | 4 |
| 13. I had plenty of interaction with my instructor in the WQWI. | 1 | 2 | 3 | 4 |
| 14. The WQWI was helpful for me to generate ideas for writing. | 1 | 2 | 3 | 4 |
| 15. I enjoyed the WQWI. | 1 | 2 | 3 | 4 |
| 16. I prefer traditional writing instruction to the WQWI. | 1 | 2 | 3 | 4 |
| 17. I would like to take another English course that has a web component, such as the WQWI. | 1 | 2 | 3 | 4 |
| 18. The WQWI was more interesting because of the web use. | 1 | 2 | 3 | 4 |
| 19. I frequently came across technical difficulties in using the web in the WQWI. | 1 | 2 | 3 | 4 |
| 20. Lack of access to networked computers impeded my writing activities in the WQWI. | 1 | 2 | 3 | 4 |
| 21. I felt nervous using web technology for English learning. | 1 | 2 | 3 | 4 |
| 22. I felt fear using web technology for English learning. | 1 | 2 | 3 | 4 |
| 23. I was not accustomed to using web technology for language learning. | 1 | 2 | 3 | 4 |

Part II

Directions: Please answer the following questions by giving as many details and examples as you can.

1. What do you think are the advantages of learning through the WebQuest writing instruction? How did you benefit from the WebQuest writing instruction?
2. What problems or difficulties did you come across when you were engaged in the WebQuest writing instruction? Please suggest ways to improve the effectiveness and efficiency of the instruction.
3. Of the four WebQuest writing tasks, which one did you enjoy the most and which one did you enjoy the least? Why ?

Appendix C

A Lesson Plan for the Traditional Writing Instruction

Topic: The Best Mate

Target Grammar Structures: comparatives, superlatives

I. Pre-writing Activities

Write an Ad.

1. Imagine you are a male animal. You are looking for a female sweetheart and want to put an ad in the newspaper.
2. Give yourself a name and draw yourself on a piece of paper.
3. Introduce yourself below the picture. Write down your appearance, personality, ability, habit, and address.

Example:

Appearance: handsome, charming, well built, entrancing eyes, long legs.

Personality: patient, friendly, intelligent, open-minded, easy to get along with,
good sense of humor, always alert

Ability: run fast, die hard, survive in any conditions, see clearly in the dark

Habit: enjoy eating, not picky, work day and night (workaholic)

Address: Trash Basket, # 66 Ditch Road

Read and Respond to the Ads.

1. Pass the papers around.
2. Imagine you are a female animal. See the ads of 3 male animals (listed on the papers) and take notes.
3. Decide which one is the most suitable for you. Think about how you are going to reply to the ad.

Look at the following sample letter to the ad.

Kitchen Garbage Can

5 West Road

December 3rd

Dear Fred,

My name is Mary Cockroach. I saw your ad in the newspaper. I am the most suitable female for you. First, I am very attractive. I have the most beautiful eyes. Also, I have the longest legs. Second, I can fly the most gracefully of any cockroach. I work day and night. In addition, I can find the best food for you. Finally, I am very friendly and patient. I like visiting new places and meeting people. In other words, there is no one as perfect for you as me. I look forward to seeing you soon.

Very best wishes,

Mary Cockroach

II. Writing Activities

Answer the following questions and make up an outline for your letter.

1. When and where did you get the information and why did you decide to answer it?
2. Why do you think you should be chosen? In what ways are you better than others?
Give examples.
3. How did you conclude your letter?

Introduction: _____

Development A. _____

B. _____

C. _____

Conclusion: _____

Write your letter explaining why you are the most suitable mate.

III. Post-writing

Peer Evaluation: Work with a partner. Check each other's writing with the following questions. Give comments.

1. Is your letter in the right format?
 - 1.a). Did you write your address in the top right-hand corner?
 - 1.b). Did you write the date below the address?
 - 1.c). Did you begin with "Dear....."?
 - 1.d). Did you write down the ideas in a paragraph?
 - 1.e). Did you end with a closing on another line?
 - 1.f). Did you sign your name?
2. Did you state clearly the purpose of writing the letter in the beginning?
3. Did you provide the reasons or examples?
4. Did you use comparatives or superlatives for persuasion?
5. Did you use connectors between ideas?
6. Did you write a concluding sentence to impress your reader again at the end of the letter?
7. Are there any grammatical or spelling mistakes?

Correct and rewrite your writing based on the peer evaluation.

Hand in your writing to the teacher.

Correct and rewrite your writing based on the teacher evaluation.

Appendix D

A Lesson Plan for WebQuest Writing Instruction

Topic: “An Insect’s Perspective” originally designed by Ginger Tyson

Target Grammar Structures: too.... to, not enough to

Visit the following website.

<http://projects.edtech.sandi.net/grant/insects/>

Introduction

Click “Introduction” and discuss the questions about insects.

- Do you like insects?
- Do you think we need insects?
- Do you think they should be killed?

Task

Part 1

This is what you are going to accomplish in this writing task.

- Imagine you are an insect which is going to be destroyed. Write a letter to convince the human exterminator that you should live. Use the target grammar structures in your writing.

Part 2

- Suppose you are the human exterminator. Write a reply letter to the insect about your decision. Use the target grammar structures in your writing.

Process

Click "Process" and follow the directions.

- Choose an insect (ant, cockroach, bee, or termite) you want to become.
- Research the insect and take notes on (1) where it lives (2) what it eats (3) how long it lives (4) how it is helpful or necessary to the environment.
- With a group of people who have researched the same insect, discuss what you have found out:
 1. Do you like your insect?
 2. Are insects needed by humans and the environment?
 3. Do you think the insect that you have researched should be killed?

Part 1

- You are the insect. Write a letter to the Terminix woman or man:
 1. Explain why you are helpful and why you should not be exterminated.
 2. Write a paragraph of 8-10 sentences.
 3. Use the correct letter form.
 4. Click to see sample letters before you write
 5. You will be assigned a partner as Terminix. E-mail your letter to her or him.
 6. Print out a copy of the letter and turn it in to the teacher.

Revision and Evaluation

- Click “evaluation” to see how your letter will be evaluated by the teacher. Revise your letter based on the criteria.
- You will be assigned a partner as Terminix. E-mail your letter to her or to him.
- Print out a copy of the letter and turn it in to the teacher.

Take-home Assignment

Part 2

- You are Ms. or Mr. Terminix. After you receive the letter from the insect, write a reply letter:
 1. Explain your decision about whether you will carry out the extermination.
 2. Write a paragraph of 8-10 sentences.
 3. Use the correct letter form.
 4. E-mail your letter to the insect.
 5. Print out a copy of the letter and turn it in to the teacher.

Conclusion

- Read and share the letters you wrote and received with the whole class.
- Discuss and synthesize some of the important facts about insects that you did not recognize before this writing task.