

## USING MOBILE-BASED EMAIL FOR ENGLISH FOREIGN LANGUAGE LEARNERS

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### ABSTRACT

This study aimed at investigating the role of Mobile-based Email in improving Ajloun College English Students' Achievement. It attempts to answer the following questions: What is the potential contribution of mobile-based email exchanged to writing skills? What is the potential contribution of mobile-based email exchanged to vocabulary acquisition? To answer these questions, the researchers carried out a project based on Mobile-based Email for the experimental groups. Thirty students were purposefully chosen from two universities (Al-Balqa Applied University and Jerash University) in the first semester of the academic year 2011. The instrument of the study was a survey. To establish the validity for the instrument, the method of content validity was used by giving it to a jury of specialists. Means scores and standard deviations of the participants' responses on writing and vocabulary were used to examine the significance of the treatment on the dependent variables. The results revealed that the writing skills and vocabulary of the students in the experimental groups significantly improved. On the basis of the results of the present study, the researchers propose a number of recommendations and makes suggestions for future research.

**Keywords:** Computer-mediated Communication, Mobile-based Email, Foreign Language Learners,

### INTRODUCTION

Computers have been playing an important role for educational use, specifically in second and foreign language education. Teachers and parents understand the importance of technology in language education and love to use computers to enlighten children because today's computer banks are filled with lots of knowledge. Numerous English as foreign language (EFL) research studies found that the integration of technology improved learners' academic performance, promoted their motivation, and enhanced their language learning (Blake; 2000, Cheng; 2003, Egbert; 2002; Skinner & Austin, 1999).

Computer-Assisted Language Learning (CALL) is used to describe any kind of language learning activity that makes use of computers. Computers have been used for language teaching since the 1960's. Throughout the 1970s and 1980s, CALL became the dominant term and extended its field to contain the communicative approach. Much of the latest studies in the area of CALL have focused on Computer-mediated Communication (CMC) technologies and CMC's possibility for a better L2/FL environment of meaningful interaction between learners in the target language. CMC is the communication carried out between more than two participants interacting via the computer (Lunde, 1990; Warschauer, 1995). Since 1994, there has been an increasing use of CMC at the university level (Morse, 2003). Computer-mediated communication has been rapidly replacing other means of communication in many institutions of modern life because it demonstrates a number of features in the enhancement of foreign/second language learning, such as greater levels of participation and more motivation and interest (Warschauer, 1995). The advantage of CMC brought about by the Internet is that users all over the world are allowed to ask questions, to choose, negotiate, and consider various topics, to negotiate meanings that greatly motivate and improve their language abilities in order to achieve communication synchronously or asynchronously, without boundaries of time and space. Among the various forms of CMC in language teaching, using mobile phone as a tool with email as a means of a synchronous communication is useful for foreign language teaching and learning.

### E-mail Learning

Email is recognized as the most widely used application of CMC (Newby, et al., 1996). Because it has correct, detailed, arranged, and allows long expressions, it has long been seen as the most useful and preferred tool for communicating (Levy, 1997). Email has special benefits for L2/FL learners in particular within a university context for many reasons; e-mail provides immediate feedback and allows students to discuss and communicate directly, cheaply, quickly, and reliably. Also, students have more control over planning, composing, editing, and

delivering messages than in face-to-face communication. Previous research suggests that email can facilitate communication (Cooper & Selfe, 1990), reduce anxiety (Kern, 1995), facilitate social learning (Belz, 2002) and improve writing skills (Warschauer, 1996). Email also provides learners with the opportunity to look back at their own and their partners' messages and analyze them, thus facilitating reflective learning. Also, email provides L2/FL learners with a real audience with whom to communicate and interact. Thus, Email extends language learning time and space and provides input for real-world communication and immediate feedback (Hoffman, 1996). Finally email has a special benefit for L2/FL learners; it motivates the learners by bringing the content and the subject matter to real life and enables them to make important connections between the classroom and the real world.

### **Mobile learning**

Mobile learning has long been identified as one of the natural directions in which CALL is expected to move, and as smaller portable technologies become less expensive, lighter and more powerful, they have the potential to become a more integral part of language learning courses as opposed to the more supplemental role often assigned to computer labs. Mobile plays a significant role in teaching and learning English particularly in learning vocabularies and the oral-aural skills for several reasons; because of the characteristics of mobile usage such as the physical characteristics (e.g., size and weight), input capabilities (e.g., keypad or touchpad), output capabilities (e.g., screen size and audio functions), file storage and retrieval, processor speed, and the error rates (i.e., malfunctions which result from flaws in hardware, software and/or interface design). Studies that investigate the use of various forms of mobile technologies for learning language have started to appear in the literature over the past few years, and have included technologies such as mobile phones (Motiwalla, 2007). Several studies investigated using mobile phones for learning, specifically in learning vocabulary, and the results were in favor of experimental groups who learn vocabulary by mobile. Thornton and Houser, (2005), who showed that, according to pre- and post-tests, learners demonstrated linguistic gains by receiving mini lessons via mobile email, and that more than 70% of learners preferred to receive these over mobiles compared with desktop computers.

Mobile phones are the most widespread technology, where the overwhelming majority of students in Jordan universities own and carry a mobile phone with them most of the time. It is not surprising, then, to see that language teachers have started to capitalize on this technology, and the types of activities that learners undertake are diverse, in many ways mirroring the types of activities that are seen in computer-based environments. With the development of mobile systems that can access the Internet, more sophisticated applications which allow the use of databases and interactive web content have been made possible. However, learners are often liable for costs of sending emails or accessing the Internet when using their mobile phone, which has an effect on how frequently they are willing to use them. In Jordan, there are offers by which people may pay a fixed rate per month which gives them unlimited access to the Internet and many students take advantages of these offers.

A number of studies have been done concerning how the use of e-mail or mobile affects the development of four language learners' skills and vocabulary (Ma, 2006; Jou, 2008; Lu, 2008; Brown, 2008). However, few studies have been done on the effectiveness of mobile-based email (an approach to language learning that is assisted or enhanced through the use of a handheld mobile device connected with the net and provided the ability to transfer data by e-mail) and its effect on writing and vocabulary together. For example, Stockwell (2007) investigated the use of a prototype mobile-based intelligent vocabulary tutor system by learners in an advanced EFL class. So, the present study attempts to examine the role of the mobile-based email on Al-Balqa and Jerash Universities students' writing achievement and vocabulary in English.

### **Statement of the problem**

English Foreign Language learners in the private and public universities in Jordan who study English with a different native language, which is Arabic, still have problems in acquiring writing skills such as grammatical writing problems, stylistic writing problems, word-use writing problems, and some mechanical problems. The researchers believed that this might be due to the strategies used in teaching writing. Writing and vocabulary have been the most commonly taught language areas through technology in recent years and the range of technologies used is broad, including courseware, online activities, dictionaries, and CMC technologies. Thus, the study investigates the role of Mobile-based Email in improving university English Students' Achievement in writing and vocabulary and attempts to answer the following questions:

1. What is the potential contribution of mobile-based email exchanged to writing skills?
2. What is the potential contribution of mobile-based email exchanged to vocabulary acquisition?

**Significance of the study**

To the researchers' knowledge there are not studies that have been conducted on the effect of using mobile-based email on writing and vocabulary in the context of the Arab world. The present study also provides researchers with an instrument, action procedures and experimental findings for use in future research.

**THE RELATED STUDIES****Studies conducted on using email**

There are a lot of studies that investigated the effect of using email on teaching and learning Language skills (reading, writing and listening). Firstly, some of the related studies focused on learning writing. For example, Liaw (1998) conducted a study to investigate the efficacy of integrating electronic mail writing into two EFL classrooms and explored the dynamics involved in the process of e-mail exchanging. The students in one class were paired up to exchange e-mail with the students in another class for one semester. At the end of the project, a written survey and a group interview were conducted to collect students' comments on and assessment of the approach. E-mail entries were analyzed to obtain information on linguistic occurrences during the exchange process. Findings from the survey and group interviews revealed positive responses, whereas the improvement of English language skills was not obvious. The study concluded with suggestions for effective integration of e-mail writing into L2 classrooms and future research on the social aspects involved in network-mediated collaborative L2 learning environments. Also, Shang (2007) examined the overall effect of using email on the improvement of writing performance in aspects of syntactic complexity, grammatical accuracy and lexical density, as well as, investigating the relation between the number of email exchanges and writing performance. Subjects in this study were 40 non-traditional EFL students enrolled in an intermediate reading class at a university in Taiwan. By applying qualitative and quantitative research methods, the major finding demonstrates that students made improvements on syntactic complexity and grammatical accuracy. An increase in lexical density, however, was not observed in this study. Another finding suggested that exchanging email messages with their peers at least four times might have a greater overall improvement on their writing performance. Findings from the students' self-reports revealed that the email approach was a positive strategy that helped improve students' foreign language learning and attitudes towards English. Instructional implications for designing an effective email task to enhance foreign language writing development and attitudes were also presented.

Secondly, there was a study done by Ma (2006) who conducted a study about second language learners' perceptions of email communication in English at an English-speaking university in Canada. The participants were four English as second language (ESL) graduate students. By employing discourse analysis and in-depth interviews, the study explored ESL learners' perceptions of the effects of regular email communication in English on their English learning, their cultural learning and the development of personal relationships. Results of the study suggested that the second language learners thought the regular English emails provided them with opportunities to learn and practice English and created a comfortable environment to express themselves. Regular English emails not only facilitated their language learning in terms of vocabulary, understanding and thinking in English and developing writing conventions to achieve clarity, but also was a means to learn about some cultural knowledge and to enhance and build close relationships with friends. The results had implications for employing regular email communications to supplement the approach beyond classroom instructions to facilitate and promote students' language learning.

Thirdly, the researchers also found some studies about the effect of using email on reading and writing, like the study of Jou (2008) who conducted a study aimed at examining whether email can be utilized as an effective communicative language teaching environment in Taiwan for reading and writing interaction, exploring if EFL elementary school-aged students involved in the email projects are stronger in their motivation/confidence in language learning, investigating the EFL students' opinions about the email keypal project in the EFL and cultural learning and highlighting the EFL instructor' perceptions to the email keypal project. To summarize, the quantitative findings showed that the email keypal project improved the EFL students' reading and writing performances. Participating in the keypal project also elevated the EFL students' levels of motivation and confidence in using English. Additional quantitative results highlighted the effectiveness of the project in promoting English and cultural learning. Furthermore, qualitative findings showed a preference by the EFL teacher to use email as a method of helping younger students be successful in their English learning.

**Studies conducted on using mobile**

Knowing a foreign language has become crucial to access information. Learning vocabulary is the fundamental step to learning a foreign language. New devices are invented everyday to fulfill the needs of citizens of the twenty first century. Increased use of mobile phones has made them popular for not only communication, but also entertainment and learning purposes. Mobile phones have provided remarkable advantages in the learning

process. They provide opportunities for learning to occur outside the classroom walls anytime and anyplace. Some of the related studies investigated the effect of using mobile on acquiring vocabularies. The first study carried out by Baki (2010) investigated the effects of using vocabulary learning programs in mobile phones on students' English vocabulary learning. The mixed-method research design with sixty students studying in the Undergraduate Compulsory Preparatory Program of a public university located in the Black Sea region of Turkey was used. Results indicated that using mobile phones as a vocabulary learning tool is more effective than one of the traditional vocabulary learning tools. The second study, also by Lu (2008), was a study aimed to examine the effectiveness of SMS vocabulary lessons of limited lexical information on the small screens of mobile phones. Thirty high school students were randomly distributed into two groups and given two sets of English words either on paper or through SMS messages during two weeks. Students recognized more vocabulary during the post-test after reading the regular and brief SMS lessons than they did after reading the relatively more detailed print material. Qualitative data from interviews offered information about the learning process as well as the benefits and limitations of mobile learning. Results of the questionnaires showed that students in general held positive attitudes towards learning vocabulary via mobile phone. On the other hand, technological limitations, unfamiliar presentations and learning activities may prevent students from reading SMS lessons. The third study was conducted by Brown (2008) and aimed at re-evaluating the mobile phone as a portable computer tool and investigated how ninth-grade reading students could improve vocabulary building. This mobile learning study determined whether appropriately designed frontloading techniques improved comprehension and produced a significant difference between students who used mobile phones versus students in a traditional non-digitized delivery setting. It also examined an increase in motivation by students using mobile phones. This study used a descriptive quantitative method to determine how much, if any, the use of mobile phones improved reading vocabulary for the test group, and an exploratory qualitative method to determine whether the use of the mobile phone created a motivational interest to continue to study. Findings revealed an increase in vocabulary comprehension when ninth-grade average students used appropriately designed vocabulary frontloading techniques delivered via mobile phone.

There are few studies in the literature about the effect of mobile phones on reading and writing. The researchers found only one study investigated by Chen and Hsu (2008) aimed at adopting the advantages of mobile learning to present a personalized intelligent mobile learning system (PIMS) which can appropriately recommend English news articles to learners based on the learners' reading abilities evaluated by the proposed Fuzzy Item Response Theory (FIRT). Currently, the PIMS system has been successfully implemented on the personal digital assistant (PDA) to provide personalized mobile learning for promoting the reading ability of English news. Experimental results indicated that the proposed system provided an efficient and effective mobile learning mechanism by adaptively recommending English news articles as well as enhancing unknown or unfamiliar vocabularies' learning for individual learners.

Finally, the researchers did not find studies conducted on using email and mobile phones together except the study of Stockwell (2007) who investigated the use of a prototype mobile-based intelligent vocabulary tutor system by learners in an advanced EFL class. Learners used the mobile-based tutor to complete vocabulary activities in a variety of task formats through either their mobile phones or through a computer, and the system kept logs of all accesses to the system. A profile of each learner was created in terms of the vocabulary that they had difficulty with and presented these items to the learners more frequently than items that were less likely to cause learners problems. Learner access logs to the vocabulary activities and the learner profiles were analyzed, and a survey was administered to learners at the completion of the project. The study suggested that the intelligent mobile-based system had the potential to provide learners with sophisticated vocabulary learning activities through mobile devices that they already possessed, as well as to store information about the learners that may be used to assist them with their vocabulary learning. Finally, the study provided preliminary evidence that learners generally required more time to complete vocabulary activities and achieved slightly lower scores on mobile phones when compared to completing the same activities on desktop computers.

Most of the studies have been conducted on the effect of Mobile on Vocabulary or the effect of email on writing and most of them found that using mobile or email in teaching foreign language skills and vocabularies proved to be effective in most of the cases. Stockwell's (2007) study is the only study that has been conducted on the effect of using mobile-based email strategy on vocabularies. However, the current study is unique because it is conducted on using email and mobile together and their effect on vocabularies and writing together.

## **METHOD AND PROCEDURES**

### **Subjects of the study**

The target population of the study was the university students of English as a foreign language in Jordan in the first semester of the academic year 2011. It was assumed that such students had similar opportunities for learning

English and the subjects are English majors who learned English for 4 years. The study sample included 20 university students enrolled in two Jordanian universities: Albalqa Applied University, a public university located in Alsalt and has several colleges in different governorates, and Jerash University, a private university located in Jerash governorate. The subjects of the study consisted of two groups: ten students from Al-Balqa Applied University, and ten from Jerash Private University. The students in the two sections were randomly paired up to be e-mail partners. The experiment started on 2nd of October and ended on 25th December during the first semester of the academic year 2010-2011.

### **Instruments of the study**

For the purpose of the study, the questionnaire used was designed by the researchers. At the end of the project, the students were given a questionnaire (see Table 2 and Table 3) surveying their responses toward the use of mobile-based email for English writing and vocabulary learning. There were 20 statements in the questionnaire focusing on two benefits: the first 13 items focusing on improvement of writing skills and the second items (14-20) focusing on the improvement of vocabulary. All of 20 statements were rated on a 5-point Likert scale. "Strongly agree" to "strongly disagree", the middle point being neutral.

To ensure the validity of the questionnaire, it was content validated by a panel of experts who are instructors and are specialized in teaching, learning, ACLL, and language acquisition. Criticism and comments on the original draft of the questionnaire were solicited from a number of experts from public and private universities in Jordan (departments of the English language, and departments of curriculum and instruction). On the basis of the review panel's feedback, modifications were made. Statements were deleted and others were added and mistakes were corrected. The reliability was computed using Cronbach Alpha, the obtained value was (0.87) which was high and accepted for the purpose of the study.

### **Design of the study**

The researchers used the social survey approach by using the sample. Two groups were selected (20 university students enrolled in two Jordanian universities). The groups were taught using a Mobile-based Email strategy. The treatment continued for three months. Then the researchers distributed a questionnaire to measure the estimates of the two groups' participants to find if they perceived benefits from the strategy. The study consisted of two variables, one independent variable and one dependent variable. The independent variable of the study was Mobile-based Email as a strategy of teaching and the two levels of the dependent variable were writing and vocabulary.

### **Procedures of the study**

The researchers implemented the following procedures in conducting the study during the first semester of the academic year 2010-2011:

1. Reviewing the related literature was conducted about the roles of using mobile and e-mail in teaching and learning writing and vocabulary.
2. Designing the questionnaire.
3. Establishing the validity and reliability of the questionnaire.
4. Holding a meeting with the participating students to clarify the purpose of the study.
5. Starting the experiment under investigation in the first semester of the year 2011.
6. Keeping in touch with the students, so as to guarantee that they are applying the treatment correctly.
7. The questionnaire was administrated as a post-test to both groups after implementing the strategy.
8. Analyzing statistically the obtained data so as to reach conclusions and suggest pedagogical implication and possible recommendations.

### **Statistical treatment**

The researchers used and computed means and standard deviations to compare the means of the group on the writing and vocabulary.

### **Findings of the Study**

The results related to the two major questions:

#### **1. Results related to the first question of the study**

The first question was: What is the role of mobile-based e-mail on writing skills? To answer this question, means scores and standard deviations of writing skills were computed as shown in Table 2. Also, the following measurement was adopted to clarify the level of the statement as in Table 1:

Table 1: Scale of Statement Levels Depending on the Means Scores

Level 1	Level 2	Level 3
Strong Above 4	Medium 3-4	Weak Beneath 3

Table 2: Means Scores and Standard Deviations of the Participants Responses on Writing

No.	Statement	Mean	SD	Percentage	Degree	Grade
1.	I could understand simple sentences easily.	4.2	0.512989	84%	Strong	5
2.	Mobile-based email has improved my writing after the project.	4	0.725476	80%	Strong	7
3.	I know how to revise my writing better by writing email.	4.35	0.988087	87%	Strong	2
4.	Writing email messages has helped me to write faster.	3.95	0.944513	79%	Medium	8
5.	Mobile-based email has increased my attention to the language appropriateness and accuracy.	3.95	0.887041	79%	Medium	8
6.	Mobile-based email has lowered quality of writing	4.15	0.74516	83%	Strong	6
7.	Mobile-based email has improved using punctuation in writing	4	0.858395	80%	Strong	7
8.	I used connecting words(signal words) during writing emails	4.25	0.910465	85%	Strong	4
9.	I can write short paragraph by Mobile-based email strategy.	4.15	1.089423	83%	Strong	6
10.	Mobile-based email has improved my skills in using capitalization	4.2	1.005249	84%	Strong	5
11.	I always make grammatical mistakes.	4.35	0.875094	87%	Strong	2
12.	Mobile-based email is a good modern way of writing with all its abbreviations.	4.5	0.760886	90%	Strong	1
13.	I can write email without excessive effort.	4.3	0.894427	86%	Strong	3
Writing		4.180769	0.54978			83.61%

Table notes: SD= Standard Deviation

As can be seen from Table 2, the experimental group's mean score on the writing (4.180769) was higher than (4). As revealed in the Likert scaled questionnaire about students' views regarding the use of mobile- based email as a tool for English learning, they rated the statement " Mobile-based email is a good modern way of writing with all its abbreviations." (Q12) the highest. Then they gave fairly high ratings to the following statements: "I always make grammatical mistakes." (Q11), and "I know how to revise my writing better by writing email."(Q3). The students gave low ratings to the following statements:" Writing email messages has helped me to write faster."(Q4) and "Mobile-based email has increased my attention to the language appropriateness and accuracy." (Q5).

#### Results related to the second question of the study

The second question was: What is the role of mobile- based e-mail on vocabulary? To answer this question, means scores and standard deviations of vocabulary were computed as shown in Table 3. Also, the same measurement was adopted to clarify the level of the statement (see table1):

Table 3: Means Scores and Standard Deviations of the Participants Responses on Vocabulary

No.	Statement	Mean	SD	Percentage	Degree	Grade
14.	Mobile-based email has improved my ability to write in English with more words.	4.2	0.767772	84%	Strong	3
15.	I can remember and recall words better.	4.45	0.825578	89%	Strong	1
16.	I use a dictionary after the project.	3.85	1.225819	77%	Medium	6

17	I learned extra words after the project.	3.95	1.050063	79%	Medium	5
18	Writing email messages has helped me increase my vocabularies.	4	1.076055	80%	Strong	4
19.	I am able to use a lot of active words after the project.	4.25	0.850696	85%	Strong	2
20.	Mobile-based email does not help me to recognize the spelling of words Vocab.	4.2	0.801315	84%	Strong	3
		4.128571	0.673098	82.57%		

Table notes: SD= Standard Deviation

As can be seen from Table 3, the experimental group's mean score on the vocabulary (4.180769) was also higher than (4). As revealed in the Likert scaled questionnaire about students' views regarding the use of mobile-based email as a tool for vocabulary learning, they rated the statement "I can remember and recall words better." (Q15) the highest. However, the students gave low ratings to statement number (Q16): "I use a dictionary after the project".

## DISCUSSION AND RECOMMENDATIONS

### Discussion of the results related to the first question

The initial results related to question number one "What is the role of Mobile-based Email in improving English writing skills? Means scores and standard deviations of the participants' responses on writing were carried out. The mean score of writing showed significant difference (4.180769), so it is very high while comparing the number (4.180769 $\geq$ 4); this means that there was a distinct positive influence of using Mobile-based Email strategy on improving writing skills.

The result of the first question was in line with the findings of Jou (2008), Stockwell (2007), and Shang (2007), whose results provided evidence for the positive effectiveness of Mobile-based Email in writing comprehension. This result was expected because email has been discovered to be a high motivator for stimulating learners to write. It also promotes students' confidence in English and cultural learning. The overall findings indicated that students made improvements on syntactic complexity, spelling, punctuations, and grammatical accuracy, and a significant difference was found in writing sentences and short paragraph. These improvements were brought about by the communicative and corrective nature of the email activity. The researchers also suggested that exchanging the email messages with their partners at least four times had a greater overall improvement on their writing performance.

Email communication by using mobile saves time, frees the language learners from the time limitation, and reduces the pressure that learners bear in traditional communication (face to face communication). Mobile-based Email is also a way to realize learner-centered learning and provides opportunities to engage the participants in various topics o academic study.

### Discussion of the results related to the second question

The second result related to question number two "What is the role of Mobile-based Email in improving English vocabulary? Means scores and standard deviations were computed. The mean score of vocabulary showed a significant difference (4.128571), so it is very high (4.180769 $\geq$ 4). It means that there was a positive influence of using Mobile-based Email strategy on improving vocabulary.

The findings of this study are consistent with Brown (2008) and Baki (2010) who studied the effectiveness of Mobile-based Email on vocabulary and showed that there are significant differences in increasing vocabulary ability in favor of the experimental group. These findings corroborate those of Lu (2008) and Stockwell (2007)

Features of e-mail via mobile phones increase learners' motivation. The text messages can be easily sent and stored systematically and are accessible for later retrievals. The lessons delivered via mobile phones are more appealing to students. Carrying a mobile phone and checking the e-mail anytime and anywhere is trendy among students. Hence, the mobile phone can be a more effective medium for self-learning English vocabulary than existing paper materials. Finally, the participants also felt that they made improvements in vocabulary skills because they learned some knowledge of local life and leisure activities which they were unfamiliar with prior to the study.

## RECOMMENDATIONS

On the basis of the findings mentioned in the previous main section findings of the study, the researchers offer the following recommendations:

- The researchers recommend instructors in colleges to adopt Mobile-based Email strategies in teaching for the improving students' academic achievements.
- The study indicated that the positive effects on FL linguistic performances are shown strongly among college EFL learners, but have not examined beginning EFL learners, especially children at elementary schools using mobile phone for email exchanges. So, the researchers suggest applying the study to beginning EFL learners.
- The researchers argue with other researchers to apply the same studies on non-native EFL learners by selecting adequate environments for promoting linguistic development in interactions with other the native-English speakers instead of using pairs of non-native EFL learners.
- The researchers suggest the use of mobile phones for learning in other subject areas or skills ( i.e. reading)
- Finally, based on the fact that a small sample of students was successful using the mobile-phone for learning, the fifth recommendation would be to use a larger student sample. If similar studies were conducted on other classes at other levels and other language skills and aspects, the generalizations would become more valid and widely applicable.

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