

Challenges Low Achievers Encounter in Multimedia Environments

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Abstract

Multimedia has been widely and creatively utilized in the language learning context in various ways. With features of multiple media, learner control and interactivity (Pusack and Otto, 1997), multimedia environments provide more communicative, powerful, supportive, non-threatening and low-anxious language learning experience (Brett, 1998). However, the applicability of multimedia for low achievers who tend to have low self-confidence and less efficient strategy use is still uncertain.

The aim of this paper is to investigate the problems and challenges low achievers may encounter in multimedia environments. Data from fifteen freshmen who attended a two-semester self-study multimedia project is examined. The preliminary findings show the major difficulties are closely associated with technical problems, learning management and obstacles of learning speaking and listening skills. Various factors, including multimedia features, affective status, peers, instructors...etc, are elicited. The results also reveal the changeable and multi-dimensional nature of impact on learners' self-confidence and motivation. Finally, some pedagogical implications are discussed.

Keywords: multimedia environments, low-achievers, strategy use, challenges, self-confidence.

Introduction

In many countries, mastery of one or more foreign languages is becoming increasingly important in higher education institutions. Particularly, more and more universities and colleges in Taiwan expect students to demonstrate English proficiency either upon college entry or prior to college graduation. However, meeting the requirement seems to be demanding for students who are not proficient in it. The failure low achievers encounter often leads to either the repetition of the same course, or postponing the graduation and future plan, which increases burdens to the institutions and the individuals. This is a much-neglected but growing problem in university environments in Taiwan, but also in other countries where English is both a second language and the medium of instruction.

In addition, multimedia has been widely and creatively utilized in the language learning context in the past decade. With features of multiple media, learner control and interactivity (Pusack and Otto, 1997), multimedia environments provide communicative, powerful, supportive, non-threatening and low-anxious language learning experience (Brett, 1997). A two-semester self-study multimedia learning project was conducted to investigate the learning process of a group of low achieving freshmen. The goal of this research is to gain deeper insights into how these students participated learning in multimedia environments. However, this paper intends to report one perspective of the research findings, which only focuses on the problems and challenges low achievers encounter in multimedia environments. The following research questions will be addressed in the study:

1. What challenges do low-achieving college students encounter in multimedia self-study group project?
2. What factors are involved?

Rationale of this study

The potentials of multimedia environments have been documented in many researches. Joiner (1997) pinpoints the most advantage of such computer-assisted multimedia application is “instantaneous random-access to any sentence or segment on the sound source and the ability to replay and re-listen with ease to difficult passages”. In other words, interactive multimedia programmes facilitate learners by providing a considerable and easily accessible online helps to contribute to the comprehension process. Joiner further indicates five main characteristics of face-to-face listening including immediacy, interactivity, control, multisensory input, and the availability of various options for obtaining help. Brett’s studies share the similar views, as he concluded eleven significant advantages of multimedia for language learning as follows. 1) Combination of media; 2) interactivity; 3) autonomy/ learner control; 4) non-threatening/non-judgmental; 5) flexible- a variety of modes of use ; 6) role of teacher; 7) efficiency; 8)IT and face validity; 9) motivation and interest; 10) repeatability; 11) authentic real world materials (1998).

However, some researchers propose that there are certain limitations for computer-assisted language application. Firstly, learners need to have the ability to distinguish their own utterance and the model’s. In self-teaching multimedia environments, it is possible that learners do not make improvement when they fail to perceive the difference between their performance and that of the model (Goh, 1993; Pennington & Esling, 1996). Another concern is that learners need to have the ability of self-correction toward the habitual errors. As a result, the above limitations imply that learners need to have certain abilities to take the full advantages

of multimedia environments.

Although a large research body confirms the potentials and value of computer-based learning environments, there are still doubts regarding the application for low achievers. It is found that learners of low ability may learn less while encountering certain complex learning tasks. Some studies then suggest that learners of low ability may need to be taught strategies and techniques when they confront complex instructional tasks (Hannafin and Sullivan, 1995; Pusack and Otto, 1997; Reeves, 1993). This implies that the learning process might be comparatively demanding for low achievers in the multimedia learning environments, as they are often considered the ones who show low self-confidence, negative learning beliefs (Horwitz, 1988) and less effective strategy use (O'Malley & Chamot, 1996). For this reason, the applicability of multimedia for low achievers seems uncertain. More qualitative studies are urged to develop deeper understanding about what actually help or inhibit low achieving students learn in multimedia environments.

The research

Research design

A qualitative approach was adopted. It is especially valuable because the nature of this study emphasizes process, interaction, context, reflectivity and emergence of concepts. A multimedia self-study project was conducted and twelve students voluntarily participated in this two-semester project on a weekly basis. Details were carefully explained to each informant at the beginning of the project, and requirements were explained, such as completing consent forms, submitting weekly e-mail learning diaries, being interviewed four times individually, participating in two focus groups and being observed in conventional classrooms and multimedia computer labs.

Informants

Twelve low-achieving freshmen were recruited according to two requirements: the low score of English achievement and high FL anxiety. One hundred and fifty freshmen from Chang Gung University in Northern Taiwan were asked to complete the Foreign Language Classroom Anxiety Scales (Horwitz, Horwitz, & Cope, 1986). According to the scores of the scale and their grades of English subjects from the Joint College Entrance Exam, which was below the average, twelve students were invited to attend this project.

Procedures

At the first session, the instructor explained the general procedures of each session including a five-minute announcement, an eighty-minute self-study session and a five-minute group debriefing at the end of each session. The instructor briefly introduced different ready-made commercial software (e.g. interactive movies,

comedies, magazines, news, dictionaries) and encouraged them to try different functions, including recording, role-playing, dictionary, dictation, repetition, and testing. Informants then chose what they wanted to learn at the beginning of each session. During the last five minutes, they shared their reflections at the debriefing with a group of three to four informants.

The Findings

This section reveals challenges emerging from the learning process of a two-semester self-study multimedia group project. According to the data triangulated from learning diaries, interviews and observations, three themes are identified, including technical problems and obstacles in using speaking functions, and difficulties in managing learning. To address the two research questions, each of the challenges will be analyzed regarding the factors involved.

Technical problems

The first challenge informants reflected is technical problems. Although much guidance was provided, the general set-ups were relatively demanding and problematic for students. The data shows that they were exposed to a series of technical tasks while setting up hardware and software (e.g., several clicks to respond to the computers, adjustment of headphones and microphones, recording volume setting-up...etc). Furthermore, the tasks seemed to become extremely complex and time-consuming especially when the unexpected conditions happened (e.g., sudden break-down, ill-functioning of certain part of the programme, improper set-up of volume ...etc.). Hence, the informants often responded with frustration, confusion or even anger as stated in the following diaries entries:

S8: I spent most of the time on installing the software today. Therefore, I did not learn much. Then there was only little time left. I was so upset! I hope I could be luckier to install it next time.

S11: Installing (software) was such a pain! This problem happened to me so many times this semester. I changed three computers today. For some reasons, the computers did not work properly. I had to move to the other one to start installing again after I realized it did not work. Finally, I managed to start practicing speaking. However, it did not let me record. What a waste of time!

Additionally, among the reported technical problems, recording the utterance appeared to be one of the most mentioned technical challenges, as it required various techniques. Poor recording quality, such as no sound or low volume, seemed to easily triggered informants' anxieties when they were not able find solutions to control it. It was a struggle for the informants when they wondered about the real cause of why the computer could not capture the sound properly. The following

excerpts show their frustration and confusion in dealing the recording problems:

S1: I used recording (function). Still I could not hear my voice clearly. I checked my pronunciation that was very different from the original one in the software. I kept adjusting it but it did not work. I kept thinking whether it was the problem with my voice. ...I tried to read out the item the mouse pointed. But I could not make them totally correct after trying many times. Then sometimes it seemed it could not capture what I said. I still don't know whether that was the problem with my microphone or the software.

S2: Today I still used the recording function a lot. But the same as last week, I just couldn't hear my own voice clearly. This made me extremely upset...@_@. I spent a lot of time figuring out how to record it properly. But I still don't know what to do. What's the matter? Was there anything wrong with me?

Obviously, as shown above, the technical obstacle indeed posed negative impact on their self-confidence as the informants attributed the problems to their faults. Therefore, the technical problems low achieving students encountered reflect not merely the obstacles of dealing with multimedia functions but also their fragile status of self-confidence. The vicious circle seemed to appear when the frustration was reinforced.

It is noted that there are three factors involved with the technical problems. Firstly, lack of experience and techniques in using multimedia software seems to be the main factor. According to the data from the demographic questionnaires, none of the informants has experience of using interactive software for language learning purposes. In addition, the program design and poor quality of the software and hardware were problematic, which caused the technical difficulties. Finally, the informants' negative learning beliefs cause doubts and anxiety in learning the target language.

Obstacles in using speaking functions

It was noteworthy that the obstacles of using speaking related functions (e.g., recording and role-playing) could be categorized into two dimensions. Firstly, some informants reflected strong fear of speaking the target language particularly during the first semester. In their views, it was very stressful to speak loudly even when they merely practiced with the computers. Take two of the most mentioned speaking functions, recording and role-playing, for instance, to be captured by the computer properly, learners' utterance has to be loud and clear enough. However, for the low achieving learners, it required great courage. The following statements demonstrate the informants' hesitation and fear toward using the speaking functions:

S1: Originally, I would like to use recording. But I was very scared of speaking English. Then I decided to give up. But definitely I will try it next time...However, I am truly afraid of English. Maybe I still could not overcome my psychological obstacles! As long as the

instructor was near me, I felt very frightened at once. Though I knew the instructor was kind, I still could not overcome it.

S3: Today I found a very big problem of mine, which was ‘I don’t dare to speak loudly in English’. I always thought everyone (‘s English proficiency) was excellent, especially Whai-Lian who was so brave that she spoke so loudly ^^ . I guess it was because there was someone near me and everyone knew that I don’t dare to speak English. ...I think I must force myself somehow.

S5: I felt anxious when I heard others speaking well. For example, I felt that what Whai-Lian said, such as her pronunciation, was fairly good. Sometimes I could hear her voice when it (the lab) was very quiet. That also made me feel what others would think if they hear mine? So there is pressure and some anxiety for me in multimedia environments.

S6: I hate the feeling of speaking lousily. I don’t like speaking. If I am not familiar with the content, I don’t dare to read it out because it won’t be very fluent. Besides, I am very easy to get nervous. Once I am nervous, I can’t speak properly. I always felt the pressure when I practice speaking.

The data suggests three factors were involved. One is associated with learners’ unrealistic learning belief regarding the quality of utterance. In other words, the ‘perfection’ the informants’ held for the speaking output increased the difficulties for taking risks. For instance, S3 felt great pressure as she hoped to speak the target language very fluently once she spoke up. “The feeling of speaking lousily” seemed to lead to her hesitation to make attempts. Another factor appears to be the lack of confidence for speaking quality that inhibited students’ willingness to practice speaking. This is evident by the self-criticism the informants often commented toward their output. Finally, the presence of peers and the instructor also provoked much pressure and tensions. Although they were aware of the changed role of the instructor in the project, initially it was difficult to overcome their fear for the ‘authorities’ and the competitiveness among peers. According to the data, peers’ performance in speaking seemed to be intimidating, and it in turn generated much pressure.

Secondly, while using speaking functions, the informants had to cope with other dimension of obstacles, linguistic problems. Some informants discovered that it was difficult to adjust their intonation and pronunciation. They contended that they have problems to identify the difference between their speaking and the model’s. This is consistent to Goh’s (1993) finding. Some informants considered meeting the requirements of speech recognition system as a very demanding and frustrating task. The main reason for that was that they did not seem to have the competence or strategies to self-correct the errors. Hence, it led to the regular failure in meeting the requirement of speech recognition system, as indicated in the following excerpts.

S4: I don’t think I have made much progress in terms of pronunciation. Besides, I used

recording function and I found my intonation was always very flat and there were no highs and lows. It was difficult for me to imitate it.

S5: I used recording function today so that I could listen to my English accent. But I felt the English I spoke was very funny! I always could not speak relatively 'normal accent'.

Difficulties in managing learning

According to informants' diaries and interviews, it shows that learners continuously encountered tasks in selecting software, deciding learning pace and self-accessing progress. Some students were overwhelmed by abundant choices of content and functions. As shown by their regular changes of the software they were using, without any obvious reasons, they appeared to be lost. The following excerpts show their confusion as follows:

S3: I often used whatever I liked without repeating the same software. It is very refreshing to keep changing software. But I don't know what I have learnt.

S5: Today I listened to a comedy. Well, it was much more difficult! The sentences became longer that I was not able to catch it. Was the level more advanced because I did the further part? Was it because I skip too much?

Some students had doubts in accessing progress they had made in multimedia environments. It seems that they did not have particular methods or strategies to justify how or what they learnt in a self-study mode, as students mentioned:

S4: I was worried that I fooled around and wasted time here (in this project).

S5: I felt that I expected it to be better (than the reality). The actual result was not much better. It made me think I could learn something but I did not learn much. Sometimes the (background) music just past and I did not know what to do. Maybe I hadn't learnt much because I only listen to it once a week.

As S4 and S5 reflected, they were aware of some changes that had happened to them, but lacked strategies to evaluate it. This also reveals the students were not confident about the progress (e.g. It made me think I could learn something) and they were not skillful in using strategies (e.g. I did not know what to do) to monitor learning. On the other hand, selecting software also challenged learners' ability of decision-making. As S5 stated, she was confused and frustrated when she chose the software that was far beyond her ability. The reflections are consistent with the research by Reeves (1993) and Hannafin and Sullivan (1995) that it is very common that students cannot judge appropriately about strategies for effective learning. Therefore, low-achieving students with limited background knowledge might learn less while encountering complex tasks.

To summarize, there are different challenges and problems low achievers have to cope with while learning in multimedia environments. The factors are associated with three aspects, namely learners, multimedia and other aspects. In terms of

learners, the factors are related to learners' self-confidence status, strategy use, linguistic competence, experience and techniques toward operating multimedia software. In terms of multimedia factors, they are involved with the features of control and interactivity in multimedia environments, content design and the quality of software and hardware. Finally, regarding other non-multimedia factors, they include the impact of peers and the instructors, instructions and other facilitating activities. These factors may help present the complex and multifaceted nature of the learning process in multimedia environments, which actually poses different challenges to low achieving learners.

Conclusion

The findings of this study suggest learning in multimedia environments is not easy for low achievers. Different challenges have been identified, including technical problems, obstacles in using speaking functions, and difficulties in managing learning. The complex factors have also been elicited. Especially for low achieving students, more attention should be given to their problems and difficulties while encountering complex instructional tasks. One practical implication of this study is that instructors should be aware of the factors that lead their obstacles. Much effort should be made to enhance the positive learning beliefs and reduce fear or pressure. Another implication is that, instruction should be provided to reduce the frustration and self-doubts while encountering technical obstacles. Additionally, the strategy instructions are essential to help low achievers develop more awareness of the learning goals and methods.

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