The Use of a Computer-based Writing Program: Facilitation or Frustration?

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Abstract

The invention of computer-based writing program has revolutionized the way of teaching second language writing. Embedded with artificial intelligence scoring engine, it can provide students with both immediate score and diagnostic feedback on their essays. In addition, some of such programs offer convenient writing and editing tools to facilitate students' writing process, such as MyAccess. However, the effectiveness of using such programs to improve students' writing skills in the L2 is not conclusive yet. To gain a deeper understanding of how such a computer-based writing program works in EFL writing classes, this study explored factors that may lead to facilitation or frustration when the program MyAccess is in use. The participants were three EFL writing classes consisting of 68 third-year English majors in a Taiwan's university. Data included students' responses to a questionnaire, writing samples, feedback given by MyAccess, and focus-group interviews with the students. The findings show that only 55% of the students felt this program either moderately or slightly helpful to them in improving their writing skills and that the students were much less satisfied with the grading function than the writing/editing functions. Their dissatisfaction was largely because this program failed to give specific feedback in the content and rhetorical aspects of their writings. Moreover, the study also found that the different ways the three writing classes used this program and the instructors' familiarity level with the program coupled with their technological skills greatly affected the students' attitudes toward this program. The study concludes that pedagogical approaches and contextual factors are more crucial than the functions of the program in determining its effectiveness.

INTRODUCTION

The rapid development of computer technology, particularly artificial intelligence (AI), has given rise to a brand new type of computer applications in the field of second language writing: computer-based writing programs. These programs, usually equipped with an automated essay evaluation tool, have been increasingly used as an alternative tool for improving students' writing skills for two major benefits. First, they provide immediate feedback from reports on grammatical errors to holistic evaluation of the content and organizational aspects of essay writing; second, they provide convenient writing and editing tools to facilitate students' writing processes. Moreover, these programs also help writing instructors reduce time spent correcting and commenting on students' compositions (Warden & Chen, 1998). Thus, writing instructors can have more time to turn their attention to other aspects of process-oriented writing instruction (Chen, 1997).

Among many computer-based writing programs, *MyAccess* is probably one of the most popular implemented by many universities in Taiwan to improve students' writing skills. *MyAccess* functions as both a writing tool and an essay grader. As a writing tool, it provides scoring rubrics, online portfolios, word banks, a thesaurus, and an editor including checkers for spelling, grammar, punctuation, and word usage. As an essay grader, it provides an

automated holistic score on an either 4-point or 6-point scale along with immediate diagnostic feedback in terms of focus, development, organization, style, and grammar and mechanics. Hence, students can find out their strengths and weaknesses and focus more on particular domains in which they receive lower scores. Some research has shown that *MyAccess* is a useful tool for students to write better revisions (Elliot & Mikulas, 2004). However, other studies have found that the automated feedback provided by this program is insufficient and unspecific, thus providing little help in students' writing process and sometimes even causing frustration (Yu & Yeh, 2003; Yang, 2004).

The effectiveness of using such a computer-based writing program to improve students' writing skills is not conclusive yet. More importantly, though many studies have evaluated various functions of these programs, we do not know clearly how they are actually used in the writing class, how they are integrated into the writing curriculum, for what pedagogical purpose they are used, and what attitudes both writing instructors and students have towards the programs. There may be many pedagogical factors other than the design of the program itself that will affect its effectiveness. To gain a deeper understanding of how such a computer-based writing program works in EFL writing classes, this study aims to explore factors that may lead to facilitation or frustration when the program is in use.

LITERATURE REVIEW

The interest in computer-based writing programs, particularly those with automated essay evaluation tools, has been rapidly growing in the last ten years. These programs have been promoted as "cost-effective ways of replacing or enhancing direct human input" (Ware & Warschauer, 2005, p. 5). Two of the most well-known programs of this type are probably *Criterion* (developed by the Educational Testing Services) and *MyAccess* (developed by Vantage Learning). Using these programs, students can choose from a range of practice essays topics to write multiple drafts and receive immediate feedback in the form of both holistic scores and diagnostic comments on grammar, organization, style and usage. The electronic graders of these programs have been trained to look for lexical complexity, syntactic variety, topical content, and grammatical errors based on a set of previously scored responses containing "known score" papers marked by human graders for each score point. These marked papers are used as a basis for the programs to infer the rubric and the pooled judgments of the human graders. The agreement rate on holistic scores between the *Criterion* e-rater and human expert graders is typically 97% (Burstein, Chodorow, & Leacock, 2003). As for *MyAccess*, its scoring engine, *IntelliMetric*, has been claimed to achieve a 99% agreement rate by Elliot (2001), the Chief Operating Officer for Vantage Learning.

In addition to the reliability of automated scores, Higgins et al (2004) examined *Criterion* for its responsiveness to coherence in 989 twelfth-grade students' essays. They found that *Criterion* is capable of identifying four aspects of coherence of essays, including a) relationship to the prompt (essay questions topic), b) relationship of other discourse elements, c) relevance with discourse elements, and d) error in grammar, mechanics, and usages. Moreover, Attali (2004) evaluated *Criterion* for its feedback and revision features. Using a large-scale field data from approximately 9,000 drafts and revised compositions of sixth-twelfth grade students, he found that the students understood the feedback given by the program and utilized the feedback to improve their revised versions, thus yielding better quality writings in terms of organization, development, grammar, word usage, and style.

In a similar vein, several researchers are also interested in examining the efficacy of *MyAccess*. Based on four separate studies, Elliot & Mikulas (2004) reported that fifth-eleventh grade student writing skills, as measured by student performance on statewide

writing assessments, were significantly improved by using *MyAccess*. In a survey administrated to 94 eighth-grade students using this program, over 80% rated their satisfaction with the automated feedback on their essays as both helpful and accurate. However, Herrington (2001) found that the scoring engine of *MyAccess* can be fooled by the writer, partly because it awards scores for essay length, even when the content is less than adequate. One way of fooling the system is to copy the same paragraph many times and paste it within the composition. The writer can thus devise means of beating the program, rather than making genuine efforts to improve his or her writing. He also noted that the system failed to recognize nuances such as sarcasm, idioms and clichés used in students' essays.

Although a number of studies have shown the usefulness of the automated feedback on essay writing, many developers of such programs suggest that the automated essay grading tool should be used only as a supplement to classroom instruction (Burstein, Chodorow, & Leacock, 2003; Burstein & Marcu, 2003). Consonant with this viewpoint, Oladejo (2005) further points out that language teachers should not assume that such automated grading tools can, or will, replace human graders, for these programs can only detect the surface errors of students' writing but fail in examining the content or rhetorical aspects of students' writings. In addition, human graders outperform electronic graders because they can provide post-grading consultation to individual students, which gives the teacher an opportunity to clarify unclear comments or to explain unlearnt language forms. This kind of rich negotiation of meaning in the interaction can never be done by an electronic grader.

In Taiwan, a number of studies have been conducted to investigate the effectiveness of *MyAccess* used in the EFL university context. Yu & Yeh (2003) examined the use of the computerized feedback of *MyAccess* along with a bilingual concordancer as facilitating tools in enhancing college students' writing in English. They found that most students considered feedback from *MyAccess* useful for writing their first revisions, yet they soon felt little help after receiving similar or the same feedback several times. Some students also pointed out that the computerized feedback was not specific enough to help them revise their writings. Yang (2004) investigated the effectiveness of using *MyAccess* in three different contexts. Her study involved around 300 subjects from freshman English classes, English composition classes, and one class from a self study program. She found that, although a majority of the students felt positive toward the automated essay grading tool, particularly in terms of the fast speed of the feedback, they also pointed out that the fixed, repeated feedback became meaningless to them. It is also noteworthy that only 13% of the students thought that the scores they received from *MyAccess* were adequate, whereas more than a half felt uncertain about the scores. The students commented that, in comparisons with the feedback obtained from their writing teachers, the automated feedback seemed too general and inaccurate. Some of them even expressed that they did not trust the computer scoring.

The main value of the above two studies was their focus on students' perspectives of *MyAccess* used in the EFL university context. However, their findings did not provide sufficient insight into the reasons behind students' perceptions in the use of this computer-based writing program, and neither did they describe how this program was actually used in the writing classes or how it was integrated into the writing curriculum. The present study, therefore, was conducted to gain a deeper understanding of what pedagogical factors, in addition to the design factors, may affect the effectiveness of using this program as both an essay grader and a writing tool in EFL college writing classes.

METHODOLOGY

The Context

MyAccess was put to use in three third-year EFL writing classes offered to English majors at a national technological university in the spring semester of 2003 academic year. The main purpose of implementing this program was to enhance students' writing ability and lessen writing instructors' workload. These three writing classes were taught by three different instructors and varied slightly in class size: 26 students in Class A, 19 in Class B, and 23 in Class C. The three writing instructors shared some commonalities in their teaching approaches. First, their course objectives all aimed to familiarize students with the essentials for writing academic essays. Second, they used the same textbook and taught similar contents. Third, they adopted a similar process-oriented writing curriculum. However, the way each of them used *MyAccess* in the class was different, though they all attended a one-hour training workshop provided by a *MyAccess* program trainer. The differences in the use of the program among the three instructors are reported in the next section as part of the findings, so that we can see how the program was used affected students' reactions toward it.

Data Collection and Analysis

The data included the students' responses to a questionnaire made by the researchers, three focus group interviews with the students from each writing class, and the students' writing samples. The questionnaire surveyed students' views and reactions concerning the use of *MyAccess* in helping them improve their writing ability, containing multiple choice questions and open-ended questions. In total, 53 out of 68 students (21 from Class A, 18 from Class B, and 14 from Class C) responded to the questionnaire. Their responses were coded first and then analyzed both quantitatively and qualitatively.

To triangulate the findings from the questionnaire responses and uncover hidden factors affecting students' perceived effectiveness of this program, focus group interviews were conducted as well. 5 students from Class A, 5 from Class B, and 6 from Class C agreed to participate in the interviews. Each focus group interview lasted approximately one hour. The interviewees were asked to talk about how *MyAccess* was used in their writing class, how they felt about *MyAccess* used as a writing tool and an essay grader respectively, and what problems they encountered when using this program. All the three focus group interviews were audio-taped and then transcribed in Chinese and translated in English.

The third data source was students' writing samples documented in *MyAccess* online portfolios. The online portfolios contained students' writing records, including multiple versions of their essay writings along with each version's scores and diagnostic feedback given by *MyAccess*. A pseudonym was given to each student for the sake of privacy protection. The collected writing samples were used for close examination to triangulate the findings particularly from the interview data.

FINDINGS AND DISCUSSION

Part A.   Students' Reactions toward *MyAccess* as an Essay Grader

As shown in Table 1, the students' reactions toward *MyAccess* as an automated essay grader were generally negative. There was only one item viewed positively by a majority of students (71%) – the speed of the feedback. It was disappointing to find that only 6% of the students felt satisfied with this grading function and over 50% indicated that they were not

satisfied. More surprising, none considered the scores given by this electronic grader adequate and over 60% regarded inadequate. Moreover, only one-fourth thought that the diagnostic feedback given by *MyAccess* helped them to revise their writings, but close to 50% found it not helpful at all. If we look at the mean of each item, the first three items did not reach 3.0 (Note that 3 indicates neutral), which revealed that the students' overall reaction toward the grading function of the program, including automated scoring and diagnostic feedback, was quite unsatisfied.

Table 1.   Students' Reactions toward *MyAccess* as an Essay Grader

Item / (N=53)	Agree	Neutral	Disagree	Mean*
1. I'm satisfied with the automated grading system of *MyAccess.*	3 (6%)	20 (37%)	30 (57%)	2.28
2. The scores given by the grading system are adequate.	0	20 (37%)	33 (63%)	2.26
3. The written feedback given by the grading system is helpful for revision.	13 (24%)	15 (28%)	26 (48%)	2.57
4. The speed of the feedback is fast enough.	38 (71%)	13 (24%)	2 (5%)	3.87

* Note: The mean is calculated based on a scale ranging from 1 to 5 (1: strongly disagree, 2: disagree, 3: neutral, 4: agree, and 5: strongly agree).

Two important reasons that were identified from the students' self-reports can explain their dissatisfaction with the program's grading function: 1) fairness of the automated scores and 2) informativeness of the diagnostic feedback.

1)   Fairness of the automated scores

Many students remarked strongly that the scores that they received from the automated grading system of *MyAccess* were unfair, thus inadequate. They did not think that the scores given by this electronic grader reflected their actual English writing ability. Here are a few examples of their comments:

"The scores are not fair! The grading machine gives a score to your writing based on the quantity instead of the quality. That is, the more you write, the higher score you get."

"I remembered one time when I just finished the introduction, I clicked on the button of submission. To my surprise, I got 5[1] for that one-paragraph writing. It was weird that a writing without a body and a conclusion still got a score of 5. From then on, I started to doubt the fairness of this grading function."

"The grading program was too kind to me! I mean sometimes I still can get high scores without adding a conclusion in my essays. I wrote only the introduction and the body, and the program gave me a score of 5. How come an essay without a conclusion can get such a high score?"

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[1] *MyAccess* provides a holistic score on a 6-point scale. A score of 6 indicates that the writer communicates his or her message very effectively and a score of 1 indicates that the writer does inadequately.

"The program likes to see we use many transitional phrases in our writing. For example, if I add "as a result" or "on the other hand" at the beginning of some sentences but without changing anything else, I can immediately gain one more point. That is one way we often use to get a higher score. See, we know how to trick the program!"

"When I submitted the same piece of writing to both my writing teacher and *MyAccess*, I found that there was a big gap between the grades given by my teacher and those given by the software, so I don't really trust the program's grading function."

From the students' comments, we can find that there are some flaws of the design in the scoring engine of *MyAccess*. It seems that the scoring engine favors lengthiness of an essay and the use of transitions, but it ignores the content and organizational aspects of writing at a discourse level. As Herrington (2001) pointed out, the scoring engine of *MyAccess* can be fooled by writers once they know the tricks. Thus, the students could use some tricks to gain a higher score for their writing although the ideas in their content were not well organized. This is a very important reason that made them doubt the fairness of the scores given by the program. The grading system does not appear to have the ability to judge whether the ideas presented in students' writings are developed coherently and logically, though it claims to help students develop writing ability in the domain of "Content and Development."

Below is a sample of a student's essay (see Figure 1) that received a holistic score of 5^2 from the grading system but failed to achieve coherence and completeness. As we can see, this essay contains only two paragraphs but no conclusion. We are not sure if the first paragraph can be called an introduction because it already gives many details describing some problems that people living in genteel poverty may have and some consequences these people may get. Moreover, this paragraph is not well organized, for it contains more than one controlling idea and some of the ideas presented here are not coherently or logically developed (For example, how come a person living in genteel poverty can "spend a lot of money"? and what does "people" refer to in the sentence "people's lives will be awful"?). In addition, we can see that the writer mentions at the end of the first paragraph that genteel poverty "can bring about two major problems in our society," but there is only one problem described in the second paragraph. This problem, as stated in the first sentence of the second paragraph "First, people are not strong enough to face the reality", however, dose not directly point out the negative influence that living in genteel poverty may exert on our society. Also, the focus of this paragraph seems to be shifted to finding other means instead of work to get rich. There are also too many ideas in this paragraph and some of them are not connected well, particularly as shown in the last two sentences, which appear abruptly and have no clear connection to the previous sentences.

Such an essay is likely to receive a low score if evaluated by a writing instructor, for it contains serious logical and organizational problems. In such a case, if students are satisfied with the score of 5 (because it is the second highest) and do not continue revising their works, then this program cannot provide them much help. Perhaps as one student describes, this grading system is "too kind" to them. Receiving a high score for such a draft, on the one hand, can help them build more confidence in their writing; on the other, it may also confuse them and hinder their continuous improvement.

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[2] Although this essay received a holistic score of 5, it got different scores in specific domains: focus and meaning: 5, content and development: 4, organization: 4, language use and style: 4, and mechanics and convention: 5.

Figure 1.　A Student's Writing Sample

Prompt:

In our society we face a number of problems, such as crime, poverty, and pollution. What do you think is the biggest problem we face in our society today, and why is it a serious issue? Write an essay explaining the issue or problem you have chosen and why it is having such a negative effect on our society.

Student's Writing:

People living in genteel poverty can be the biggest problem in our society. These people spend a lot of money to buy clothes, watches, and various ornaments to show off their fake social statuses. They hope that some precious and extraordinary opportunities will fall on them. Furthermore, they are busy applying for another credit card at the same time to prevent them from bankruptcy. As a matter of fact, they are unable to discharge their debts. In such a vicious circle, one day they may ruin our society and drag down our nation's economy. Definitely, people's lives will be awful. The significant causes can bring about two major problems in our society.

First, people are not strong enough to face the reality. We work and we receive the rewards. However, some people do not work, but they reap the rewards as well because of their inheritance. Accordingly, this behavior forms an illusion that it is not a must to work for money. Most of people know what the truth is, but they lie to themselves. They would like to pay attention to their appearance instead of creating their own futures. They realize that they have to involve much cost to succeed, but they choose the other side around. A shortcut, which makes them feel rich, is to keep up appearance. After all, people who have awareness must coerce them to face the reality. Eventually, they will not only bankrupt but also impose a burden on all the citizens.

2) Informativeness of the diagnostic feedback

The second major reason why the students were not satisfied with *MyAccess* as an essay grader was that many of them felt the automated feedback was not specific or informative enough to guide them how to revise their writings; therefore, they still hoped to get individual, detailed feedback from the writing instructor. Furthermore, some found the feedback helpful only for their early drafts, but if their scores were not increased after revising their drafts, they would get similar or identical feedback, thus providing no help and even causing frustration because they had no clue how to strengthen their writings. Below are some of the students' comments on the diagnostic feedback given by this program.

"Basically, the feedback from *MyAccess* was quite general and vague. So, when I received such feedback, I still had no idea what my problem was exactly. I really hoped to get the teacher's help to identify my personal weakness in writing."

"The first time when I got the comment from the system, I felt very excited and I found it was useful. However, I became more and more disappointed when I noticed the feedback each time I got was similar."

Moreover, a few students pointed out that their essays were sometimes judged as "off-topic" by the system without any explanation, which made them even more frustrated. One student expressed her frustration and anxiety in the following statement:

> "I think I was a hard-working and responsible student, and I spent much time writing and revising my compositions. Unfortunately, it was often the case that my essay was judged off the topic, but I didn't know why. Being rejected by the system meant that I got no point in my final grade. I was very upset and nervous about that!"

This student felt frustrated and worried actually for two reasons. First, the program did not explain why her writing was off the topic and thus she did not know where to start revising. Second, the scores on each of her essays that she received from *MyAccess* were counted as part of her final grade in this course. That was a part of the grading policy her instructor set to "push" students to use this program, which made students care very much about the scores they got for their writings and hence increased their anxiety or even cause their frustration (We will discuss in more detail how instructors used this program differently later). Here we see that when the scores were emphasized by the instructor, the students were actually more eager to get specific diagnostic feedback from the program.

Part B.   Students' Reactions toward *MyAccess* as a Writing Tool

In regard to *MyAccess* as a writing tool, we investigated the helpfulness of the four important functions this program provides: My Editor, Thesaurus, Word Bank, and Online Portfolio. 1) My Editor is a proofreading system, which not only provides spelling correction but also analyzes text to detect and correct errors in grammar, mechanics, style, and usage. In addition, it provides an explanation of potential problem and suggestion on how this mistake might be improved. 2) The Thesaurus is an on-line dictionary offering a list of synonyms for the word being consulted, so that it can help students expand their vocabulary size and avoid the repetitive use of the same words in their writing. 3) The Word Bank offers words and phrases for a number of writing genres, including comparison, persuasive, narrative, and cause-effect types of essays. Further, it also offers words and phrases used for a summary and a conclusion. 4) On-line Portfolio allows students to document and access their own writings and revisions anytime they desire. It contains a student's multiple versions of essays along with the feedback and scores given by *MyAccess*.

Table 2 shows that the students generally did not think that these four functions facilitated their writing process to a considerable degree, for the mean of each item did not reach 3.0. My Editor was the one viewed slightly more helpful than the other three functions. Those who considered My Editor useful in facilitating their writing process reported that this function helped them easily detect their grammatical and spelling mistakes along with punctuation ones. They also added a remark that the frequent use of the grammar checker raised their awareness of their commonly made mistakes.

For the Thesaurus and the Word Bank, only slightly over one-fourth of the students find them helpful. Some students pointed out that these two functions helped them expand their vocabulary repertoire and sometimes even stimulated them to come up with more appropriate words or phrases to express their ideas. Others did not find them useful because of two major reasons: first, the corpus size was not large enough; second, the two functions only listed words and phrases without providing examples of how they are used in sentences. They suggested that the program should expand the corpus size and provide examples illustrating the use of the listed words and phrases in the context.

Table 2. Students' Reaction toward *MyAccess* as a Writing Tool

Item / (N=53)	Agree	Neutral	Disagree	Mean*
5. It is helpful to use My Editor during my writing process.	17 (32%)	17 (32%)	19 (36%)	2.85
6. It is helpful to use Thesaurus during my writing process.	14 (26%)	19 (36%)	20 (38%)	2.81
7. It is helpful to use Word Bank during my writing process.	14 (26%)	16 (30%)	23 (44%)	2.68
8. It is helpful to use Online Portfolio during my writing process.	8 (15%)	22 (41%)	23 (44%)	2.53

* Note: The mean is calculated based on a scale ranging from 1 to 5 (1: strongly disagree, 2: disagree, 3: neutral, 4: agree, and 5: strongly agree).

Online Portfolio was the one viewed least helpful among the four functions. Several students who liked this function remarked that it helped them maintain and access their writings and feedback easily and conveniently. It also helped them constantly check their progress. When they found the essays they wrote were getting better and better, they gained a sense of achievement as well. Other students did not find this function helpful mostly because they seldom used it during their writing process.

It is also noteworthy that approximately 40% of the students did not consider these functions helpful. These students either seldom used the four functions and thus did not see the values or they used these functions several times but found too limited. However, there is another factor that may not be identified immediately but can affect students' perceived helpfulness concerning the use of this program: the way the writing instructor uses the program in the class. Next we will compare the use of the program in the three writing classes and discuss how pedagogical factors may affect the effectiveness of its use.

Part C. Effectiveness of Using *MyAccess* in the Three Writing Classes

When the students were asked to self-evaluate the effectiveness of using *MyAccess* to improve their writing skills, only 55% indicated that it was helpful, yet the helpfulness was either moderate or slight but not to a great extent, and the other 45% did not view it helpful at all (see Table 3). This result was not surprising when compared with the first two tables. Since the students generally held negative views on *MyAccess* as both an essay grader and a writing tool, it would be predictable that they did not consider it effective to use this program to improve their writing ability. However, it is of interest to find that students in each writing class perceived the effectiveness differently.

Looking at both Table 3 and Table 4, we can find that the students in Class A appeared to view the program more positively than the students in the other two classes. For example, only 14% of the students in Class A thought that the program provided no help for their writing improvement, but there were 72% in Class B and 58% in Class C who denied its helpfulness. In addition, we can also find that Class B was often the group who viewed the program least favorably, yet they valued the writing tools offered by the program slightly more highly than Class C.

Table 3. Students' Perceived Effectiveness of Using *MyAccess* – Class Comparison

To what degree do you think using *MyAccess* can help you improve your writing skills?	Greatly helpful	Moderately helpful	Slightly helpful	Not helpful
Class A (N=21)	0	6 (29%)	12 (57%)	3 (14%)
Class B (N=18)	0	1 (6%)	4 (22%)	13 (72%)
Class C (N=14)	0	2 (14%)	4 (28%)	8 (58%)
Total (N=53)	0	9 (17%)	20 (38%)	24 (45%)

Table 4. Students' Reaction toward *MyAccess* – Class Comparison

Item	Mean*		
	Class A	Class B	Class C
1. I'm satisfied with the automated grading system of *MyAccess*.	2.76	1.78	2.21
2. The scores given by the grading system are adequate.	2.43	2.06	2.29
3. The written feedback given by the grading system is helpful for revision.	2.71	2.39	2.57
4. The speed of the feedback is fast enough.	3.76	3.56	4.14
5. It is helpful to use My Editor during my writing process.	3.19	2.72	2.50
6. It is helpful to use Thesaurus during my writing process.	3.09	2.67	2.57
7. It is helpful to use Word Bank during my writing process.	2.95	2.56	2.43
8. It is helpful to use Online Portfolio during my writing process.	2.71	2.39	2.43

* Note: The mean is calculated based on a scale ranging from 1 to 5 (1: strongly disagree, 2: disagree, 3: neutral, 4: agree, and 5: strongly agree).

What made the three writing classes differ to a considerable degree in their perceived effectiveness of using *MyAccess*? Through the focus group interviews, we found out that, although the three instructors followed a similar process-oriented writing curriculum and used the same textbook, the ways they used this program in their classes were different, including the emphasis on the program's functions, the requirements and the grading policy, the number of essays completed using the program, and the ways of post-grading feedback and consultation provided by them. In addition, the instructors' familiarity with the software along with their technological skills may also affect how the program was used and how the

students felt about the helpfulness of its functions. Table 5 summarizes the differences in the use of this program in the three writing classes.

Table 5.　Different Ways of Using *MyAccess* in the Three Writing Classes

	Class A	Class B	Class C
Ways of Introducing *MyAccess*	Teacher gave a detailed instruction and in-class demonstration on how to use the program as both an essay grader and a writing tool.	Teacher gave a brief instruction and asked students to explore the program by themselves.	Teacher gave a detailed demonstration on how to use the grading function, but she asked students to explore the editing functions by themselves.
Emphasis on the Functions of *MyAccess*	Teacher emphasized both grading and editing functions.	Teacher emphasized more on the various editing functions.	Teacher emphasized more on the grading function.
Requirements & Grading Policy	Students were asked to write multiple drafts on assigned topics using the program at home. They were not allowed to turn in their essays to the teacher until they got a score of 4 given by the program.	Students were asked to write paragraphs on assigned topics using this program in class. Then they were asked to develop paragraphs into an essay at home and submit it to the teacher. The scores given by the program were not important.	Students were asked to write essays on assigned topics using this program at home. The scores they got from the program accounted for 40% of their final grades.
Duration of Using *MyAccess*	4 months	1 month	4 months
Essays Completed Using *MyAccess*	4 essays	2 essays	6 essays
Post-grading Feedback & Consultation	Teacher gave individual written feedback to each student essay and held class discussions on selected essays for each writing topic.	Teacher gave individual written feedback to each student essay and provided after-class consultation for students when needed.	Teacher gave brief written feedback to students' essays at the end of the semester, but not right after they turned in their essays.
Teacher's Familiarity Level with *MyAccess* & Technological Skills	High familiarity and advanced technological skills.	Low familiarity and not sufficient technological skills.	High familiarity only with the grading function and advanced technological skills.

When comparing the ways *MyAccess* was used in the three writing classes and the students' reactions toward the program (see Tables 3, 4, and 5), we can infer that pedagogical factors play a significant role in affecting the effectiveness of using this writing software. As the results found in Class A reveal, the program seems to work the most effective when the

instructor asks students to use it as both an essay grader and a writing tool but only treat it as a facilitator and a supplement to classroom instruction. The program can help students write drafts in the right direction and reduce surface errors, but in terms of content development and organization, students still need their writing instructors to give them more specific, detailed feedback or provide post-grading consultation to further help them with their individual writing problems that the software cannot detect. On the other hand, we also see that the instructor's over reliance on the grading function of the program without giving proper, timely assistance to students (as found in Class C) may cause confusion or frustration to students when the program is used to facilitate their writing process.

Finally, the instructor's familiarity level with this computer-based writing program along with their technological skills may also affect the effectiveness of using the program in the class. From the interview data, we found that many students emphasized that the instructor's computer and technological skills needed to be competent enough to use a computer-assisted language learning program in the class. They further commented that the instructor's unfamiliarity with the software and insufficient technological skills affected their attitudes toward the use of the program, as a student from Class B remarked,

> "It was totally a mess when we tried using *MyAccess* in the class for the first time. When my teacher demonstrated the program and taught us how to use it, she still encountered a lot of technical problems. At that moment, what I thought was – how could I use the software to help my writing if my teacher did not know how to use it well? So, I was *not* surprised to know that my teacher decided to stop using *MyAccess* after we tried two writing topics. We [the teacher and the students] all felt frustrated when we were using the program."

In fact, the students in Class B used *MyAccess* to facilitate their writing for only one month. The instructor and the students reached a consensus on discontinuing the use of it after they had tried writing two essays with the program, because they considered the interface of *MyAccess* not user-friendly and had too many technical problems that they were unable to solve. It was mainly the frustration from the technical aspect that made them give up using the program; accordingly, this group's perceived effectiveness of using *MyAccess* was often the lowest in many regards. However, students in Class A and Class C did not report that they encountered many technical problems and even if they did, they could quickly solve the problems with the instructor's help.

It was also worth noticing that the students in Class C viewed the editing functions provided by *MyAccess* even more negatively than the students in Class B. This can be explained probably from the fact that the instructor in Class C did not introduce the various editing functions to the students and neither did she emphasize the advantages of using those functions. When the teacher is not familiar with the program's functions and not aware of the values of those functions, it would be difficult for students to find out the values and make good use of these functions on their own.

CONCLUSION

This study is a small-scale exploratory one. The main purpose is not just to determine the effectiveness of using *MyAccess* in some EFL university writing classes in Taiwan, but more importantly, it is intended to find out factors residing both in the design of the program itself and in the pedagogical aspects of using this program that may affect the effectiveness of its use. In fact, as many researchers, educators, and developers of computer-based writing programs have recommended or even insisted, all computer-assisted learning programs should be used as a supplement to classroom instruction but never as a replacement of the

teacher. There is no single system or program that is perfect in all aspects; thus, we should avoid an unreasonable expectation that any good software should be able to do everything. As Bax (2003) warns us, people using computer technology for language learning and teaching often fall into two fallacies: the "Omnipotence fallacy" and the "Sole Agent fallacy" (pp. 25-26); that is, they tend to assume that computers can do everything and should replace current learning and teaching technologies or even the teacher and that the key or only factor in successful implementation of the technology is the technology itself. We may often unconsciously exaggerate the power of technology but ignore the contextual aspects of how the technology is used and what pedagogical factors will affect the effectiveness of its use. This paper hopes to increase language teachers' awareness of how such a computer-based writing program can be used more effectively as a facilitator in the writing class to benefit both students and the writing instructor. Even though we have found a number of weaknesses and limitations of the program itself, it does not mean that we should stop using it immediately. Instead, we probably need to reexamine the learning and teaching context and put its values into the best use and see if the program can help us meet particular contextual and pedagogical needs.

There is another crucial issue worth our attention concerning the use of such a writing program: What is the goal for us to use a computer-based writing program to facilitate students' writing? Or more specifically, what kind of writing do we wish our students to produce with the help of such programs? As Leki (2005) claims, the term "good writing" should be operationalized differently in different contexts and for different purposes. What good writing will look like and how good a student writer will be expected to become are imperative questions that writing teachers will need to ask themselves and decide what the answers will be. We cannot just claim that we are using a process-oriented approach without specifically defining what "good writing" is for our students to achieve. Ware & Warschauer (2005) point out that computer-based writing programs currently hold up rather static models of what is considered "good writing", for example, a prototypical five-paragraph essay. They suggest that second language researchers will need to develop more rigorous evaluative criteria that reach beyond the formulaic models. Before such new writing technologies are developed, we need to re-consider whether such "static" writing models are the ones we want our students to learn and to produce. When their goal is to attain a high score on a large-scale institutionalized or commercialized writing test, programs such as *MyAccess* can probably provide them great help in training them to produce "good writing" that the test graders prefer to read. On the other hand, if the goal is to help our students to become more creative and imaginative in their writing, or as Leki (2005) said, to help them "to create L2 texts that come to accurately reflect their maturity and expertise" (p. 88), then such computer-based writing programs are probably not a good choice. This can also explain why students may feel a big gap between their instructor's evaluative feedback and the one given by the scoring engine. The core issue exists in what model we are using for "good writing".

More than 35 years ago, Mesthene (1969) already stated clearly that "new technology creates new possibilities for human choice and action but leaves their disposition uncertain. What its effects will be and what ends it will serve are not inherent in the technology, but depend on what men will do with technology" (p. 492). For optimal learning and teaching to occur, we writing teachers, on the one hand, welcome new possibilities that new technology brings to writing instruction, but on the other, we need to make deliberate decisions on how to put new technology into more effective use in our particular context and on how *not* to use new technology for inappropriate or undesirable purposes. *MyAccess* is only one example of such new technologies, and it is often *not* the case that *MyAccess* itself that will lead to facilitation or frustration, but, more crucially, the way it is used by both the teacher and students determines how effective it can be.

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