

USING WRITE&IMPROVE – AN AUTOMATED WRITING EVALUATION TOOL IN ENHANCING ENGLISH WRITING SKILLS OF DISADVANTAGED STUDENTS: A RESEARCH PROJECT IN THE RAINBOW CLASS ORGANIZATION

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ARTICLE INFO	ABSTRACT
Received: 08/4/2023	The article reports the impacts of Write&Improve, an automated writing evaluation (AWE) tool in enhancing English writing skills of disadvantaged students. This study was conducted in a highland classroom which is under the control of The Rainbow Class Organization in Sa Pa town, Lao Cai province. 30 secondary school students who participated in the study were divided into 2 equal groups, in which only the experimental group implemented Write&Improve to practice and develop English writing skills. The results of the pretest and post-test of both groups were collected and analyzed by the software SPSS. The findings demonstrated that Write&Improve significantly influenced the writing ability of the participants, assessed according to the four criteria developed from those of Cambridge. Based on those results, the paper also proposes pedagogical implications. To observe more significant outcomes, future research may concentrate on larger scale, alternative tools, and longer time periods, and discover other Write&Improve's utilities as well.
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ỨNG DỤNG PHẦN MỀM ĐÁNH GIÁ BÀI VIẾT TỰ ĐỘNG WRITE&IMPROVE ĐỂ NÂNG CAO KỸ NĂNG VIẾT TIẾNG ANH CỦA HỌC SINH CÓ HOÀN CẢNH KHÓ KHĂN: MỘT NGHIÊN CỨU TẠI TỔ CHỨC LỚP HỌC CẦU VỒNG

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THÔNG TIN BÀI BÁO	TÓM TẮT
Ngày nhận bài: 08/4/2023	Bài báo nghiên cứu ảnh hưởng của ứng dụng đánh giá bài viết tự động Write&Improve trong việc nâng cao kỹ năng viết tiếng Anh của học sinh có hoàn cảnh khó khăn. Nghiên cứu này được thực hiện tại một lớp học vùng cao tại thị xã Sa Pa, tỉnh Lào Cai thuộc tổ chức Lớp học Cầu Vồng. 30 học sinh trung học cơ sở là đối tượng tham gia nghiên cứu được chia thành 2 nhóm bằng nhau trong đó chỉ có nhóm thí nghiệm được ứng dụng Write&Improve để học kỹ năng viết. Các bài kiểm tra đầu vào và đầu ra của cả hai nhóm được thu thập và phân tích bởi phần mềm SPSS. Kết quả đã chứng minh rằng Write&Improve ảnh hưởng đáng kể đến khả năng viết của người tham gia đánh giá theo bốn tiêu chí phát triển theo Cambridge. Dựa trên các kết quả, bài báo cũng đề xuất các ứng dụng sự phạm. Đề quan sát các kết quả quan trọng hơn, nghiên cứu trong tương lai có thể tập trung vào quy mô lớn hơn, các công cụ thay thế và khoảng thời gian dài hơn cũng như có thể khám phá các tiện ích khác của Write&Improve.
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TỪ KHÓA	
Write&Improve	
Kỹ năng viết tiếng Anh	
Học sinh có hoàn cảnh khó khăn	
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1. Introduction

Vietnamese society is gradually integrating with the Southeast Asia and the world as a whole in tandem with the growth of the economy, culture, education and other aspects. As a result, studying foreign languages in general and English in particular is more crucial than ever. The use of information technology, therefore, will partly improve English learning strategies in line with the trend of globalization. However, compared to the other three skills, less emphasis has been done in the classroom on developing students' English writing abilities [1]. For example, learning speaking and listening skills, students can watch videos with subtitles to compare whether what they have heard is right or not, respond to questions from the teacher, and have any errors they make corrected instantaneously. However, this is quite limited to writing skills as it requires the teacher considerable time to read each student's work in order to provide feedback, only one or two students' papers can be corrected during each class period.

Meanwhile, teacher evaluation is crucial for assisting students in identifying their writing errors and applying those lessons to future writings [2]. Because few students receive teacher assessments, the English writing skills of students who participated in this research are consistently much lower than the other three remaining ones, making it difficult for students to improve their writing proficiency. This means that teachers must spend significantly more time correcting students' assignments after school hours, or else they will need to hire private tutors or use correction services more frequently. Nevertheless, volunteer teachers with limited time find this problem challenging. Because all of the students at Rainbow Classroom are underprivileged children who are orphans or pupils with disabilities or psychological issues, it is much more difficult to engage a correction service or hire a tutor, both of which are expensive options.

As a result, the incorporation of an automatic writing assessment technology like Write&Improve along with teacher feedback emerged as the solution to the issue. This research program, created in collaboration between iLexIR and Cambridge English Examinations, aids students in quickly correcting errors in word usage, coherence, vocabulary, spelling, and grammar. This software can be used by teachers or organizations to give students assignments, collect student work that has been reviewed by the software, add comments and marks, and monitor students' learning progress. English writing ability can be substantially enhanced by the accurate feedback of Write&Improve [3].

Numerous studies have shown that several benefits of information technology (IT) in education were recognized since implementing IT in teaching helps to improve student engagement and access to tailored knowledge. Studies demonstrate that the use of IT improves educational effectiveness and learning results in several language competency domains, particularly English writing abilities. To illustrate, Alharbi [4] emphasized the value of the final product as the language ability for in-class or outside learning in order to click strongly on the learning quality question. The application of current softwares that have been produced in recent years is always a priority, especially in today's booming IT era. The automated article grading method stands out among them and has drawn a lot of interest from authors. For example, Zhang's [5] has studied the perceptions of students when engaging the automated feedback tool Write&Improve in English writing classroom. Several attempts have been made to specify the standard set of requirements for the adoption of these similar writing evaluation tools to enhance students' writing skills within the context of English education [6]. Research also shows that automated article review tool feedback enhances writing development efforts by reducing the requirement for human evaluation and increasing organizational and linguistic applicability (Karpova [3]; Wali and Huijser [7]). However, the efficiency of automatic writing evaluation softwares and their significance in research have not yet drawn significant attention in Vietnam. Although some studies have demonstrated non-traditional education (fusing information and communication technologies) to be effective in teaching new writing skills, the majority of

writing instruction in Vietnam is still seen as conventional. Typically, Ngan & Quang [8] and Pham [9] carrying out a study on using Grammarly to fix grammar errors in students' writing found that improvements can be observed between the class that was advised to utilize the tool as a proof-reader and the class that wasn't. Another study by Pham & Tran [10] investigated the impact of Vietnamese high school teachers' use of Google Forms on eleventh graders' grammatical knowledge and their opinions of Google Forms as a tool for learning English grammar. The findings of the study focused on the grammatical understanding of eleventh-grade students and how they viewed this intervention. According to the study's conclusions, using Google Forms effectively helped learners acquire their grammatical skills. In addition, the goal of the study by Lieu and Phuong [11] is to look at how Edmodo affects EFL students' ability to write paragraphs. The study's conclusions showed that using Edmodo considerably enhanced students' ability to write paragraphs. These studies, however, only concentrate on the grammatical requirements of an automatic evaluation tool, although many other criteria, including vocabulary, cohesion, and coherence, are required for a good essay. Besides, those kinds of feedback were just considered fixing writing errors, while lacked instructions about the reason why there were the errors.

Despite the fact that Cambridge's Write&Improve automated essay evaluation program stands out as a complete platform for English writing abilities for directions as mentioned earlier, it is not well known or utilized nationally. Therefore, no specific research has been done on the efficiency of this program in Vietnamese educational institutions in general or in non-profit organizations that work with underprivileged groups of people, like The Rainbow Class Organization, in particular. Due to the aforementioned factors, the researcher carried out this study in a highland classroom of The Rainbow Class Organization in Sa Pa town, Lao Cai province with the desire to help in some tiny ways with the effectiveness of studying writing in English. The main objective of the study is to investigate and assess how using Write&Improve affects the writing capability of the underprivileged pupils. More specifically, the research attempts to measure the enhancement of students' English writing skills after implementing Write&Improve. In response to that research aim, the current study addresses the following research question: "To what extent can Write&Improve help students in The Rainbow Class Organization develop their English writing skills?"

2. Research methodology

2.1. Research design

The current study was conducted as experimental research on the grounds that the researcher wants to assess the results by comparing the two groups of disadvantaged students. The choice of this research design can be explained by several convincing reasons. The first to mention is that the researcher has taken the responsibility to manage and teach these two groups of pupils 10 lessons each in person and given them the opportunity to join 10 extra online classes via Skype. On the one hand, this fact created favorable conditions for the researcher to utilize Write&Improve in classrooms to compare the effectiveness of this application conducted among the students in the two assemblages. On the other hand, that situation also leads to certain problems because of the students' facilities and the distance between the researcher and the participants. Another reason is that experimental research can consistently yield results that are precise and pertinent since it offers such a high level of control. Compared to other verification methods, it is feasible to ascertain if a product, theory, or concept is legitimate. This enables understanding its validity in a lot less time. Furthermore, measures including personality scales, interview schedules, and paper-and-pencil assessments are employed in experimental research. This would be a suitable choice owing to the need to evaluate the base of the students' writing skills and the outcomes as well as examine the attitudes of the participants towards Write&Improve.

2.2. Research subjects

30 underprivileged secondary students from the age of 13 to 16 are the study's intended participants who are ethnic minorities such as Nung, H'mong, and Dao. Those pupils, most of whom have the same level (pre-intermediate) and some students are better than others, were assembled to form free-of-charge English classes by the owner of a home stay where the classes take place every day. These classes are associated with and under the control of The Rainbow Class Organization. Those pupils were chosen for the study for several reasons. Despite receiving a wide range of knowledge from volunteer teachers using a variety of methodologies and approaches, writing has not been proven to increase. This can be attributed to the fact that writing skills require a significant amount of time for feedback, which is crucial for students if they wish to enhance their writing skills. According to McGrath, Taylor, and Pychyl [12], course instructors use feedback as a method of interaction with their students regarding their writing. However, teachers seldom ever have enough time to review every essay, so it is essential, time-saving, and cost-efficient to use an automatic feedback method. Additionally, the participants are pupils from grade 6 to grade 9 who are struggling to master English writing and wish to enhance their academic performance. They also share the same curriculum and teachers. Moreover, those students were split into two groups, one of which would implement the Write&Improve application while the other did not employ such a tool to support their writing learning. According to the researcher's guidelines, this study would be carried out in classrooms both online and in person as well as in the self-study course at home.

2.3. Data collection instrument

A pre-test is the greatest option to have a thorough grasp of the student's abilities before using Write&Improve. Besides, a post-test is employed to gauge to what extent this application might enhance students' writing abilities or even the outcomes they get after about a semester of using it. More specifically, the researcher created two tests including a pre-test and a post-test to evaluate students' abilities based on the following criteria: using vocabulary, grammatical structures, connections and coherence in ideas in a writing work, task responses. These criteria are based and developed from assessing writing for Cambridge English Qualifications. This is reasonable even though the researcher has a general understanding of the situation regarding the ability of the entire class.

2.4. Data analysis

Without informing either the control group or the experimental one, the post-test was given to both after the intervention. The administration of the post-test and the grading of the participants' writing followed the same steps as the pre-test. Afterward, the program SPSS was used to collect and analyze the data from the results of these tests (SPSS 26.0) in terms of mean and standard deviation. An independent t-test was conducted on the grades students received on a test taken before the experiment was carried out. Besides, the researcher used a paired sample t-test on SPSS in order to analyze the data in order to address the research question differences between the input and output tests of the two groups.

3. Findings and discussion

3.1. Findings

3.1.1. Students' English writing capabilities within the experimental group before and after the interference

Table 1 demonstrates that the experimental group significantly improved their English writing abilities after using Write&Improve (with $p=.000$ for all 4 scoring criteria and grade point average). This significant change is plain to see. As the average score difference of input and output was 3.29, the experimental group also improved the most in their capacity to apply advanced grammatical

structures when compared to the group that did not incorporate Write&Improve. After a few months of training and self-study with Write&Improve, the average score for grammatical criteria for this set of students has nearly doubled, to $M=7.54$. Also, the disparity between the two tests' results demonstrates that the average score dissimilarity for meeting test requirements swings less than the other criteria, notably increased by 2.36. In the meanwhile, scores on vocabulary, writing coherence, and the overall average of all criteria climbed by around 2.8.

Table 1. Paired *t*-test for the experimental group before and after the intervention

Group	Criteria	Test	No.	Mean	St. Deviation	T - value	Sig. (2 tailed)
Experimental Group	Vocabulary	Pre-test	15	4.15	1.28452	-16.139	0.000
		Post-test	15	6.96	0.67591		
	Grammatical Structures	Pre-test	15	4.25	1.58678	-7.751	0.000
		Post-test	15	7.54	0.62313		
	Connections and Cohesion in ideas	Pre-test	15	4.82	1.38471	-9.668	0.000
		Post-test	15	7.60	0.64476		
	Task response	Pre-test	15	5.18	1.40163	-8.616	0.000
		Post-test	15	7.54	0.42224		
	Average	Pre-test	15	4.60	1.31286	-11.056	0.000
		Post-test	15	7.41	0.46891		

3.1.2. Participants' English writing capabilities of the two groups before and after the interference

The number of students in the two groups is the same ($N=15$), according to the findings of an independent *t*-test conducted on the grades students received on a test taken before the experiment was carried out. Table 2 shows the homogeneity between scores in the writing section of the pre-test of the students in both the control group and the experimental one prior to the application of the treatment. Apparently, the experimental group and the control group had relatively equivalent writing styles, yielding a *p* value of 0.384. Also, this conclusion is readily apparent from the group statistics' column "Mean", where the control group's mean value ($M=5.00$) is marginally higher than the experimental group's ($M=4.60$).

Table 2. *T*-test results for the similarity of the input levels of the two groups

Group	No.	Mean	St. Deviation	T - value	Sig. (2 tailed)
Control group	15	5.00	1.15481	0.884	0.384
Experimental Group	15	4.60	1.31286		

It can be seen from Table 3's Independent Samples test data that the software's processing of the control and experimental groups both show an improvement in the average output test score. Nonetheless, when the *p*-values for each of the scoring criteria are less than 0.05, there is a significant difference between the means of the two groups. Although the inputs shared by the two groups share certain similarities, as was previously examined, the end outcomes are different. Overall, the experimental group's post-test scores averaged $M=7.41$, higher than the control group's $M=6.27$, demonstrating that utilizing Write&Improve with rapid and automated feedback had a significant impact on students' writing abilities.

Table 3. Participants' English writing capabilities of the two groups before after the interference

Group	No.	Mean	St. Deviation	T - value	Sig. (2 tailed)
Control group	15	6.27	0.61368	-5.740	0.000
Experimental Group	15	7.41	0.46891		

3.2. Discussion

The results of the data analysis to date have been thoroughly described above in order to address the research question posed in the current study. The data analysis produced information that was

pertinent to the effects of Write&Improve, an automated evaluation tool on participants' English writing abilities. The important findings of the study are summarized in this part's opening section in connection to the research topic covered in earlier parts. The discussion of the findings is then carried on from the perspective that was inferred inductively from the data examined, namely the impacts of the application on the English writing capabilities of the disadvantaged students. The conclusions of a significant amount of earlier research in this field were supported by the findings of this study. The research question focused on how much the automated feedback tool Write&Improve improves the ability of the underprivileged students in Sa Pa, Vietnam, to write in general English. According to the findings, it is crucial to note right away that the majority of participants' English writing abilities have significantly improved across all evaluation criteria. The results of this study are in line with those of Wali & Huijser [7], who discovered that more than half thought their writing abilities were good. This is likely to have affected how they responded to the feedback tool in this case, particularly if the feedback suggested that their essays were not as good as they felt them to be. This is in line with earlier findings from Palermo & Wilson's [13], which revealed that the pupils participating in their study improved their first-draft writing performance at comparable rates in both teaching situations. These findings contrast with Zhang's [5] study, though, in that he asserted that individual students varied from one another in their engagement with AWE feedback, as evidenced by their perceptions of AWE feedback and use of revision operations during the revision process, which were influenced by both personal and contextual factors. It is important to remember that student learning is influenced more by their interaction with AWE input than by the feedback itself. But it's interesting to note that Write&Improve's explicit correction can be considered one of the best approaches. The findings of Karpova [3], who discovered high efficacy among language learners, further supported this. As a result, it is worthwhile to include this not only in teaching and learning but also assessment.

4. Conclusion

The findings of the whole study of utilizing Write&Improve, an automated feedback tool in the writing class and self-study of the disadvantaged students in The Rainbow Class Organization can be concluded in the following. Regarding the impacts of Write&Improve on the participants' writing capabilities, the first thing the participants could maximize is to use appropriate grammatical structures in their writing. Normally, they have to revise and check their work by themselves because the teacher does not have sufficient time to check all of their writing, which leads to the fact that students misuse a lot of unsuitable structures. Write&Improve appears to be the solution for this issue. Within 20 periods of writing skills conducted in the current study, the ability of participants to use correct grammar has been significantly improved, the highest in the four criteria of assessment. Feedback from Write&Improve is also presented in the form of indirect indications to stimulate students' critical thinking. Students need to brainstorm ideas and put them logically into writing. Expanded vocabulary and grammar mean that students have checked their basic knowledge and can more easily fulfill the demands of the assignment.

Students should alter the way they self-study their English writing abilities since feedback has a major and demonstrable impact. Also, with the advancement of information technology, it is now crucial to incorporate web-connected apps into your self-study of this skill. Using Write&Improve in self-study is a measure that should be taken, as it has been demonstrated to be incredibly beneficial in all areas of writing abilities. It not only piques students' interest but also encourages them to read each piece more thoroughly. Teachers should also use this technology into their lessons because it has many positive effects. Teachers will soon be able to benefit from an efficient helper who can aid with the time management issue. Also, employing this method in class helps all students in the class probably feel more impartial about evaluations instead of only concentrating on correcting for a select group of children, which fosters a greater sense of

learning in the students. Last but not least, this program may assist teachers in integrating with built-in AI, allowing them to closely monitor students' practice progress and growth.

This research has certain restrictions, just as many others. First, a note on the study's scope: Because it only focuses on a small group of ethnic minority pupils, the findings are only applicable to secondary school classes. Because there are not as many people in this class as there are while studying at home, using the Write&Improve program is less of a hassle. Also, the Write&Improve program includes a wide range of utilities, including the ability to manage a classroom inside an organization, but this research solely focuses on the ones linked to automated writing evaluation. Moreover, because students come from diverse family backgrounds and self-study situations, they may find it more or less difficult to use this application, which lessens its efficacy. Future research may go deeper into additional concerns. Tools for gathering data and a longer application period could produce more insightful findings regarding how this application affects English language learners generally rather than simply students from disadvantaged families. Alternatively, the researchers might do out studies involving a lot more people than in this one. Moreover, researchers can take use of Write&Improve's other advantages for academic institutions or specialized groups.

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