

Direct Instruction and Use of Online English Writing Software on EMI Class-Takers' Self-Efficacy

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ABSTRACT

EMI (English as a Medium of Instruction) classes are now accepted policy at Korean universities, yet students often struggle with required academic English writings. The present study examined an EMI class that used direct instruction and access to online assistive English writing software. From preliminary analysis, 26 students expressed interest in how an EMI academic writing class could facilitate improved English writing skills. Study participants completed a survey on self-efficacy and learning needs and assignments for an EMI academic writing class. To establish inter-rater reliability, three trained raters assessed the written essays of students prior to and after instructional intervention. Fleiss' Kappas statistics showed moderate reliability. Students' opinions on the use of online software were also analysed. Paired t-test was run on the quality of students' pre- and post-instruction assignments, and there was significant difference in the rated scores. Self-efficacy was found to have moderate positive association with improved post-essay writing scores.

Key words: English Mediated Instruction, Academic Writing, Self-Efficacy, Direct Instruction, Online Writing Software.

1. INTRODUCTION

The 4th Industrial Revolution and changes to modern technology dictated educators prepare students for the modern workforce by modifying the learning environment so that it centres on creativity, complex-problem solving, and emotional intelligence. However, there will always be a need for written communication. Moreover, since English is used globally, "is commonly used as a medium for the communication of information and news, and is a major language of international business, diplomacy, and science and the professions" [1], there is a need to cultivate and develop students' written communications, especially in the EMI environment. In fact, [2] argues that "universities are ABOUT writing and that specialist forms of academic literacy are at the heart of everything we do."

While Korean education does much in terms of teaching English grammar rules and the mechanics of writing, it does not focus as much on aspects such as formality of vocabulary choice and standard forms, the establishment of an initial setting

or background information, planning, revision and editing, provision of a proper amount of information and effective use of redundancy, and logical flow. Like other nations where EMI is increasing, Korea has also seen a rise in the demand for and number of EMI classes, both at the undergraduate and graduate levels. [2] pointed out that by 2050 English will be spoken by half of the world's population, so "English seems to becoming less a language than a basic academic skill for many users around the world."

Korean EMI university instructors require students to write in order to assess their learning and expect students to demonstrate not only content understanding but also the appropriate writing genre and tone of the writing style. That is, nowadays, rarely at university are Korean students required to merely restate learnt information. There is an underlying expectation of writing for a purpose.

A study on EMI instructors from 55 countries found that EMI instructors "firmly believed that teaching English was not their job. They did not consider themselves responsible for their students' level of English [nor] see themselves as language teachers in any way" [3]. Productive communication skills, however, are not necessarily by-products of learning in an EMI environment. Students can better develop through lessons, practise, and strategy development. In other words, EMI studies that look at students' academic writing performance and

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perceptions are needed so that when asked to submit an English assignment, students can present their ideas and discipline knowledge clearly and at a level expected at a higher education institute.

With demand and the need to produce written discourse in EMI classes, Korean universities have started to offer academic English writing courses or workshops. It is hoped that students will improve their writing performances, reduce feelings of anxiety and frustration writing in English, produce written communication that considers readers' expertise, and present content that is coherent and structurally sound so that both content and purpose are conveyed.

The purpose of the English academic essay writing course, from which data for this study are collected, is not language acquisition and proficiency, but to write so that their academic papers are readable by professors and other experts in the field. This requires knowledge of writing conventions beyond the preparation taught in general EFL/ESL language writing classes. Moreover, instructors of these EMI writing classes do not focus deliberately on instructional techniques aimed at improving students' English receptive and productive language skills, but instead, use English to deliver the courses' subject matter.

Discussing writing's importance, development, and instruction, [4] pointed out how writing accomplishes a variety of goals, two of which are influencing others and learning. As of September 10, 2018, the Royal Literary Fund on its website asserts "different varieties of essay will require different types of writing and sometimes a single essay will require more than one type of writing." The expectation is that an EMI academic writing class would help students not only become more accomplished writers but also take on more responsibility for their writing as independent writers because as [5] clearly pointed out:

if students are not taught the skills of creating new statements through evaluating, assimilating, and responding to the prior statements of the written conversation, we offer them the meager choice of being parrots of authority or raconteurs stocked with anecdotes for every occasion. Only a fortunate few will learn to enter the community of the literate on their own.

In another study, [6] found that from the American College Test study approximately 20% of new university admissions students had to take a writing class and that from a National Governors Association survey the importance of writing in the workforce is strong, with 75% of professional employers considering writing ability when hiring and for promotion. In case of Korea, as [7] summarised: "given English's dominance as a lingua franca, the expansion of EMI at Korean colleges and universities is an inevitable process... [Korean universities need to consider] how to effectively implement EMI at higher education institutions... and how to reduce EMI's side effects."

2. LITERATURE REVIEW

2.1 English as the Medium of Instruction and Learning Outcomes outside of Korea

Reporting on Swedish students learning physics in English, [8] found that "despite *all* students initially maintaining that language was not an important factor for their learning", students engaged in the EMI class learn differently than if they were learning in Swedish. In their study, students were unaware of the differences such as a reduced willingness to ask and answer questions, more time on the process of note-taking rather than on content understanding, increased out-of-class time spent on reviewing and previewing materials, and more dependence on multi-representational material support. In addition to these issues, [9] found that first-year EMI students "experience four particular problems... understanding specialist vocabulary, listening to lectures, writing in an appropriate academic style, and meeting institutional and disciplinary requirements."

In terms of actual performance outcome, one study highlights EMI learning as positively influencing achievement. Examining the relation between intensive study in the EMI environment and gains on International English Language Testing System (IELTS) scores, [10] found that "intensive study in the English-medium environment does make a significant difference to performance" [but] IELTS scores did not truthfully reflect progress and confidence in students' ability to cope with the expectations of academia.

With expectation that an EMI writing class could influence written performance, a class that addresses the number of notable differences studying in an EMI environment is liable to not only reduce struggles EMI class-takers experience doing writing assignments and help them manage their writing assignments, but also assist students in the production of work expected at university.

2.2 English as the Medium of Instruction and Learning Outcomes within Korea

Investigating EMI classes, [11] found coinciding results with other Korean context EMI studies, that "although students worry about insufficient understanding of EMI course content owing to their discomfort with English, this does not harm their actual test scores or grades." Student sentiment, then, plays a vital role in attitude towards and satisfaction with EMI classes. [12] suggested bettering student-instructor relationships through communicative techniques, for the "role of communication in the classroom is much more than simply the means of transmitting content and message." One way would be for the EMI writing instructor to become facilitator of learning, promote both in- and out-of-class individual and group discussions, and provide access to the use of off- and online software technology, rather than be sole provider of one-way information.

Investigating EMI class policy, [7] found that in general EMI has had positive outcomes in terms of overall satisfaction among affected parties such as Korean students. Nevertheless, further examination led them to discover a lack of "individualised assistance to students who do not have the necessary English competency to achieve adequate performance in an 'English-only' academic setting... [In particular,] students experiencing EMI who struggle with their readings or need help proofreading a paper have nowhere to go." Looking more specifically at content learning in an EMI introductory English

linguistic class, [13] found in terms of language skills that, likely due to the EMI class being one-directional, the productive skills of writing and speaking were not significantly affected by EMI, and as a result, advocated for pushed output opportunities in EMI classes. In Hong Kong EMI students showed a lack of proficiency in English writing [14] (p. 95).

[15] discussing future training directions for EMI instructors, advocated for the need to adopt approaches that familiarise instructors with ways teach and integrate academic writing into their EMI classes as well as how to provide English language feedback to students in the EMI classes. She also claimed students in EMI classes would appreciate feedback from their EMI instructors. An EMI class focused specifically on the needs of writing for academic purposes, then, could help students obtain more success in EMI content classes and result in more positive attitudes towards EMI learning.

2.3 Self-Efficacy for Learning and Performance

Students suffer from anxiety when they are asked to produce English written text in classes, causing many to shun writing in English or worse, to develop hatred towards the skill. Self-efficacy is a belief in one's competence to complete or perform a task. Individuals who have high self-efficacy judge themselves as being capable of performing the steps needed to do the task. For students in EMI classes, this implies that it could be an essential factor affecting academic success. In another study, [16] claim that self-efficacy is positively and significantly linked to learning and success. They write, "self-efficacy can lead to more engagement and, subsequently, to more learning and better achievement; however, the relations also flow back to self-efficacy over time. Accordingly, the more a student is engaged, and especially the more they learn and the better they perform, the higher their self-efficacy."

2.4 Writing Instruction

A survey by *The Chronicle of Higher Education* (2006, March 10) found that most university professors claim first year students are ill-prepared for the demands of university level writing with one professor asserting: "I teach composition, and many of my students do not understand the very basics of formulating an argument—for example, you must support a claim with evidence." John Duffy, for *Inside Higher Ed* ("Virtuous Arguments" March 16, 2012), claimed writing courses are:

one of the few places in the academic curriculum, in some institutions the only place, where students learn the basics of argument, or how to make a claim, provide evidence, and consider alternative points of view. Argument is the currency of academic discourse, and learning to argue is a necessary skill if students are to succeed in their college careers. Yet the process of constructing arguments also engages students, inevitably and inescapably, in questions of ethics, values, and virtues.

Although focusing on students with learning disabilities, [17] proposed three explicit components that every writing instructional programme should have: steps of the writing process, critical dimensions of different writing genres, and channels for providing feedback from peers or the instructor. Students in their study, through explicit instruction, improved

writing content in a variety of different essay writings. [18], summarising the writing instruction needs of Korean university students, stressed logical reasoning, creativity, critical thinking, and effective communication ability.

Theory of Instruction: Principles and Applications by [19], presents a theoretical basis for developing and implementing instructional material that guides students towards better and accelerated learning. The direct instruction approach originated from that theory; [20] described it as "an approach to establishing new behaviour and maintaining it" and involves careful execution of instructor-led, sequential, structured lessons so that learners establish the new behaviour by making positive incremental improvements. A six-stage overview of direct instruction involves: introduction, development, guided practice, closure, independent practice, and evaluation [21]. For academic writing, direct instruction is necessary; the instructor assesses students' initial levels and the needs of the class, the instructor models academic writing styles, types, etc., students are given opportunities to practice, the instructor and peers provide frequent feedback and constructive criticism, students revise their work, and work is evaluated by an assessment rubric.

2.5 Use of Online Proofreading Software

A report by the McKinsey Global Institute's May 2018 *Skill Shift Automation and the Future of the Workforce* [22] report discussing changes to the skill categories in the new era, claimed that "higher cognitive skills—such as advanced literacy and writing, and quantitative and statistical skills" could remain stable until 2030, but it also discussed a possible decline in these skills: not because of the absence of writing but because machines will handle basic aspects. In other words, EMI writing class instructors need not centre on incorrect grammatical aspects, spelling, and punctuation. Jessica Richards, for *Top Ten Reviews* ("The Best Online Grammar Check Websites of 2018" May 7, 2018) wrote, advancements in assistive online technology have made the best ones easy to use, timely, accurate, and provide means of customising the software's suggestions to match the writer's genre and writing style. Albeit, she cautioned that "some didn't even have quality or accurate writing on their sites." The screen shot image is shown in Figure 1.

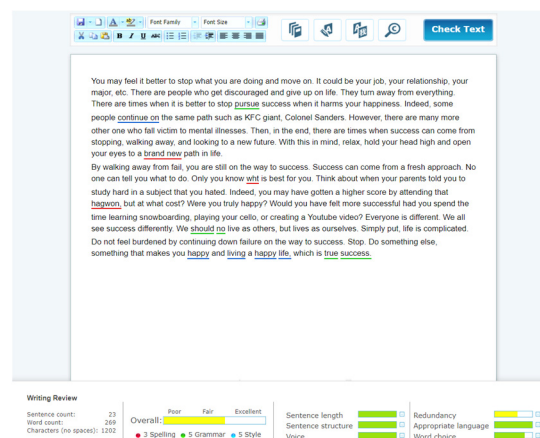


Fig. 1. The screen shot image of online writing enhancement software, White Smoke

EMI writing class instructors are able to, for the most part, waive the more basic aspects of writing by offering students access to view their work with the analysed output by the software. The writing class, then, may focus on developing students' writing skills by practising the processes of brainstorming, discussing, drafting and revising, giving peer comments and feedback, and learning proper writing styles, conventions, and cohesiveness needed for various academic writing assignments so that they can confidently perform and willingly enrol in EMI content classes.

2.6 Writing Instruction in Korea

In Korea, students have little exposure to writing in English prior to university. Much of the learning in primary to secondary school is centred on listening and reading, followed by speaking, and then writing, for the first two skills are easier to test. Until more recently, teachers did not see any importance to teaching the productive skill of writing, and this is largely due to the teaching-learning environment. For instance, there was and still remains limited time for English teachers to engage with students; that is, there could be up to 12 separate grade 9 classes, a single teacher could teach between 12 and 20 hours per week, and classes are 50 minutes in length, so teachers focus their limited time on teaching skills that help students do well on tests. At lower levels of secondary (grades 7 and 8), some teachers have begun to ask students to produce written text, but this is a one time writing performance assessment and is extremely simple. [23] summarised this as a product-based approach where "writing as mainly concerned with knowledge about the structure of language, and writing development as mainly the result of the imitation of input, in the form of texts provided by the teacher."

Korea assesses students through standardised tests, so in this learning environment there is little opportunity for active classroom learning, especially writing. In other words, the definition of linguistic competence offered by [24] summarises the focus of English writing classes in Korea: "knowledge of spelling, pronunciation, vocabulary, word formation, grammatical structure, sentence structure, and linguistic semantics." Language features imparted to students in class, however, are often taken out of context, so students are rarely exposed to features and function at the same time. Moreover, teachers along with concentrating on grammar explanation, introduce ways that lead to effective translation of English sentences into Korean. The grammar-translation method, despite criticism of it as an outdated approach, is an effective method for Korean instructors in their ultimate goal of bettering students' ability to read and comprehend English text, key aspects tested on the university admissions test.

Because of students' limited exposure to authentic connection between form and function and little or no time to produce text of their own creation, they struggle to properly or effectively write in English at university in their EMI classes. [25], even thirty years ago, claimed students need to experiment and implement writing strategies and that the learning environment should consider learners' "need to gain self-control and autonomy through strategy use."

In general education English departments at Korean universities the goal of English writing is language competency.

Much research has been carried out on students in these courses, often which are requisite requirements prior to graduation. Researching the writing process of Korean students, [26] found that students did not remain at the planning stage long enough to fully organise their work, were inactive at the editing and revising stages due to both a lack of confidence and indifference to their audience, and had strong preferences for feedback and error correction from the teacher rather than peers. Students would benefit from an approach to English writing that strengthens both their metacognitive and cognitive strategies. More recently, [27] examining English academic writing classes, found the most popular pedagogical strategies among instructors were "providing oral feedback on students' accurate grammar use in sentence-level and explicitly articulating what students should consider when organizing paragraphs and writing a thesis statement." They also reported that most teachers "seemed unaware of other multiple pedagogical options or they simply did not think that the other approaches would be useful for these student writers." Those who incorporated techniques that were less grammar centred and less focused on the 5-paragraph essay organisation, opened the minds and creativity of students, enabling them to develop fluent writing skills. [28] suggested that "writing strategies as a whole have significant predictive power not only for the writing achievements, but also for content scores and language scores."

2.7 Research Questions

The present study explores writing instruction intervention and the relation between students' self-efficacy and improved essay writing performance. It investigates direct instruction, the assistance of online writing software, and the wants of EMI class-takers. More specifically, the paper looks at the following enquiries.

Do students significantly improve their writing skills after direction instruction?

Is the improvement in their writing skills related to self-efficacy?

3. METHODS

3.1 Data Collection

A preliminary survey of demographics, background questions related to perceived writing skills and overseas experiences, and general perceptions toward EMI classes and policies in higher education institutions was administered to students (N=29). With students expressing interest and concern for how EMI classes could help improve their English skills, a follow-up study was conducted (N=26). Prior to direct writing instruction, during week 1 of the class, students were asked to write a pre-instruction essay (pre-treatment), which they submitted at the start of class in week 2.

In week 14 student were requested to write an essay on the same topic as week 1, which was collected in week 15 (post-treatment) along with a set of survey items including Self-efficacy (SE) from Motivated Strategies on Learning Questionnaire (MSLQ) [29]. The survey was completed on a 7-point scale by the participants: 1 being 'not true at all' and 7

being 'very true'. Perceived satisfaction was used to see students' perceptions toward the EMI class in general.

Students who were interested in getting their work analysed by the software requested as such, and their opinions on the use of the online writing software (i.e., White Smoke) was also analysed in this study. Other uses of digital equipment or the Internet, such as using their smartphones for texting or browsing social media, were not permitted, and students agreed to be responsible at the onset of the class for both their personal and classmates' learning. Any concerns students had with software suggestions were discussed with peers or the teacher. The instructor encouraged use of the software, but its usage was not mandated.

All lectures, activities, and materials administered during the class were through the medium of English, and students gave informed consent before proceeding.

3.2 Sample

Participants were Korean university students who registered for the EMI English Academic Essay Writing class, in the Department of English Culture and Language. The course was open to all full-time students at the university. The two classes had enrolments of 13 and 16 students, respectively. However, two students from the latter class, because they did not complete either the pre or post essay submission, and one student from the second class, because the student submitted the exact same essay at the pre and post stage, were excluded from the sample, resulting in a sample size of 26. Among the 26 participants, ten were males and sixteen were females. Fourteen students majored in English Culture and Language, six students majored in English Literature and Language, five participants were from the majors of Bioengineering, International Studies, French Language and Literature, Computer Engineering, and Business Management, and one person did not indicate their major. The sample of 26 participants was comprised of 5 second year students, 12 third year students, and 9 fourth year students, and the participants were mostly in their early twenties ($M=22.63$, $SD=1.75$, $min.=20$, $max.=27$). The details of sample is described in Table 1.

Table 1. Demographic variables of the sample

Demographic Variable	Details			Total
Gender	Male =10		Female=16	26
Year-in-school	2 nd =5 (19.2%)	3 rd =12 (46.2%)	4 th = 9 (34.6%)	
Age	M=24.3 SD1.49		M=21.60 SD=.82	
Major	English, French Language =20	Engineering =3	International studies, management =3	

3.3 Instruction

The main overlying goal was to empower students with the means to success in other EMI classes while at university as well as later in their chosen careers. The classes centred on

modes (exposition, narration, description, and argument/persuasion) and tones/styles (colloquialisms, contractions, exaggeration, hyperboles, generalisations, personal pronoun usage) of writing discourse, essay varieties, avoiding plagiarism, effective integration of outside sources—paraphrasing, direct quotation, and blended format—writing powerful and provocative thesis statements, critical thinking with clear connections, logic, and rhetoric, readers' knowledge, and respect for lexis (connotation, denotation, linking, wordiness, sexism, active rather than passive voice, less reliance on adverbs and adjectives, simple versus elaborate, etc.). Additionally, to meet the need of writing in English according to the American Psychological Association (APA) style desired at the university, students also received guidance on creating an APA annotated bibliography.

The classes also included practical experience engaging in the writing process, from brainstorming, researching support, revising, to making and reflecting on peer and instructor feedback by using or modifying one of the various instructor designed essay prompts. Students were asked to select a topic, move from brainstorming and research to a first draft, and then after receiving peer feedback and making revisions, move to a second draft. The instructor provided feedback and suggestions on this draft before students wrote a third and final draft. This latter aspect of the class follows the writing process as explained by White and Arndt, which is cited in [30]. They state that writing is cyclic process of "problem-solving which involves such processes as generating ideas, discovering a voice with which to write, planning, goal setting, monitoring and evaluating..." However, together, all course lessons and work follows more closely the genre approach to writing, for as Hyland [31] stipulates, "Genre implies that students write not just to write but to write something to achieve some purposes."

In addition to the above protocols for the class, students were encouraged to bring various electronics like laptops, tablets, smartphones to class, search online during class for relevant or needed information, and use an English, rather than Korean, word processor. Students were also provided with analytical results of their work and the instructor uploaded the results.

While the EMI class did include one-directional lectures, only 10-15% of the class was lecture-based, and for the rest of the class time, the instructor took on the role of facilitator after instruction was given. The instructor moved about the class, from group to group or individual to individual as the work dictated to assist and offer commentary on the learning direction.

3.4 Ratings

Students' pre- and post-instruction intervention essays were rated by two separate trained raters, a linguistics specialist and an English culture and language graduate according to an adapted version of the 2005 *The Multimedia Adapted Test of English Writing Assessment Criteria* (MATEWAC)'s writing assessment rubric [32]. For research purposes, the essay writings were re-evaluated independently by a third rater, a Linguistics specialist, familiar with Korean students' writing competencies having worked in Korea for 25 years prior to

retiring back home to the USA. All three raters were not instructors of the study EMI class.

Unlike timed essays, students were given an entire week to submit their essays, which allowed them time to work through the writing process and use all channels and instruments necessary to complete the writing, for typically, university content instructors would not ask for an essay of substance in a brief amount of time. In other words, because students did not have to frantically pull together thoughts and instead, it was felt they could write well organised, well thought out, and well supported essays with language that is effective and exact. Raters were made aware of this fact prior to rating, and as such, ratings were done with consideration of content as well and were asked to give ratings between 1 and 7, with 7 being the highest. Microsoft Excel and SPSS 21.0 were used to compute the reliability. The test of inter-rater reliability had Fleiss' Kappa statistics of .53 pre-intervention and .60 post-intervention indicating moderate agreement consistency among raters¹

4. RESULTS

4.1 Descriptive Statistics and Correlation

Due to the small sample size, neither gender differences (males= 10 and females= 16) nor university school year (2nd = 5, 3rd= 12, and 4th = 9) from collected demographics could be tested to determine correlation to writing skills. However, self-efficacy of learning performance ($M= 4.66, SD= .74$) for the 26 participants was found to have a relatively strong positive correlation at the 0.05 level (2-tailed) with the students' improved post-essay writing scores according to the Pearson's correlation analysis, $r= .474$. In other words, increased writing performance through skills learnt from direct instruction, to a certain extent, is associated with high self-efficacy. The results of correlation analysis are presented in Table 2.

Table 2. Correlation coefficients of self-efficacy, pre-instruction, and post-instruction

	Self-efficacy	Pre-instruction	Post-instruction
Self-efficacy	1	.220	.474*

Note. $p < .05$

4.2 The Areas Participants Wished to Improve

With regard to English writing improvement, students were asked to comment on areas they felt personally needed improvement. Eighteen students responded to the open-ended question examining the areas that they felt they needed to improve in order to take EMI classes. The results were:

¹ **Note:** N= 26 students, n=3 raters, Nn= 78, and the benchmarks of kappa range are those set out in Landis and Koch (1977, 165): Kappa Statistic < .00 Poor, .00- .20 Slight, .21-.40 Fair, .41-.60 Moderate, .61-.80 Substantial, .81-1.00 Almost Perfect.

- 1) (wider range) vocabulary (e.g., "I need more help with vocabulary.") (30%)
- 2) (improve) coherence (e.g., "I want to improve coherence throughout the paper and across paragraphs.") (13%)
- 3) logic and sound reasoning ability (e.g., "I need to learn develop and use logical arguments.") 4.3%
- 4) (reduce errors) grammar (e.g., "I want to write English without grammar errors" "I want to learn how to learn proper grammar usage." 17.4%
- 5) (improve) cohesiveness (e.g., "I need to learn to develop idea connections in my writing and the flow between paragraphs." 4.3%
- 6) organisation (e.g., "I want to learn how to create a well-organised essay.") 4.3%
- 7) reading (e.g. "I want to improve my reading ability.") 4.3%
- 8) various essay styles/types (e.g. "I need to learn proper writing types/styles.") 13%
- 9) solid/narrowing topic creation (e.g. "I want to learn how to focus on the topic." "I want to improve my content.") 8.7%

4.3 Students' Writing Rating Results & Samples from Students' Writings

To determine whether post-writing performances of students in the EMI writing class reflected instruction intervention; i.e., demonstration of improved writing skills, rated pre- and post-essay instruction scores were examined. Analysis indicated there is significant difference in the rated essay scores between pre-instruction ($M= 3.80, SD= 1.0$) and post-instruction ($M= 5.23, SD= 0.83$) with $t(25) = -7.52$ at $p < .001$, indicating students in general improved their writing quality.

Table 3. Examples of students' essay writing rating change from level 2 to level 6

Essay Writing Rating Change From Level 2 to Level 4
English Culture and Language
Pre: People are always advised, "Never give up," However, I don't think so.
Post: People are always advised, 'Never give up,' but actually, people easily gives up on things.
Essay Writing Rating Change From Level 3 to Level 5
International Studies
Pre: Therefore, people who are trying to do something but feel certain they will not succeed have to keep trying what have done because they also could be built successful career in relation area like Alex Ferguson.
Post: There are many people who succeed though they went through many failures like Alex Ferguson.
English Culture and Language
Pre: However hard I tried to study English, I could not reach at advance level.
Thus, I wanted to give up studying English. But I did not.
Post: Many people are afraid of doing something continually because they already know what a failure is. The reason why they are afraid of attempting to try something or do not do their best is they already went through failure. They do want to go through failure again.
English Literature
Pre: Generally, thinking changes action. but this is action

changes thinking.

Post: A person who works diligently for what are trying to achieve will sooner see positive results than those who wait for results to come to them.

Essay Writing Rating Change to Level 6

Bio-engineering

Pre: Even though we encounters situations in which it is impossible to succeed and we failed, but we can struggle.

Post: To discuss with this subject, there are three types of efforts that should be considered. First, there are struggles with personal satisfaction according to achievement, second, struggles to be recognized by societies and to guarantee a stable future, and lastly, struggles by responsibility to follow rules of communities and duties of societies

English Culture and Language

Pre: Simply to put, it is a step stone to the goal of life, which can only be taken after one's put enough of efforts in to it.

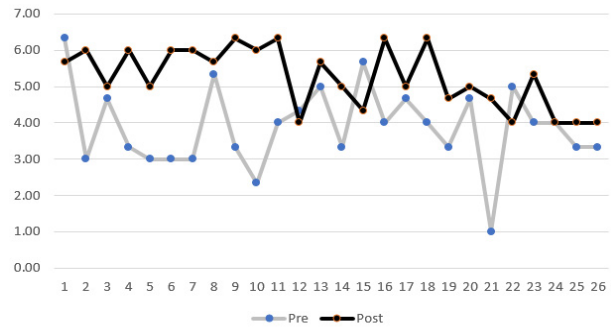
Post: Failure is a stepping stone to a bigger success, and the stories of many celebrities from the various fields in addition to the histories of the world confirm its idea.

Further investigation of the relations between pre-and post-essay writing performances was carried out qualitatively, and samples from essays demonstrating sizable score improvement, clearly reflecting what was learnt in class, are presented in the tables that follow. The instructor uploaded their analyzed work output when requested and allowed students to view the results online without teacher intervening. Specific concerns were discussed later in class.

Any issues or concerns by the students regarding assistive software suggestions were presented and discussed in class, either with a peer and/or with the instructor.

Table 3 section 1: Change from Level 2 to Level 4, presents one student's improvement to a more understandable and stronger level. Unlike most students who began the class at a level 3 or higher, the student started at a low level 2. Students who improved from a level 3 to level 5 are the ones with jumps in their writing ability and it was most common in the present study, and from a variety of starting positions came diverse endings.

A number of dramatic improvements were also found in jumps from a level 3 or 4 to a level 6 among both English and non-English majoring students (e.g., Bio-engineering major students). The table specifically shows the examples of how the students' writings were before and how their writing ability improved after the instruction. The details on how much students have improved are shown in Figure 2.



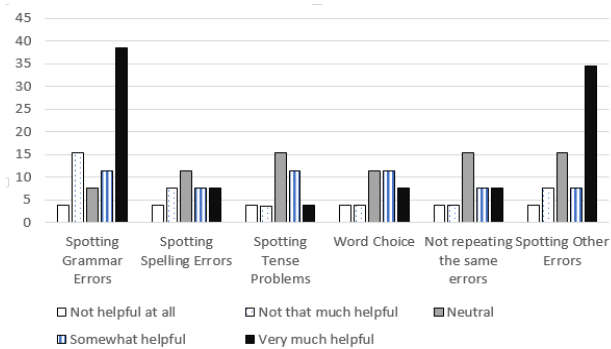
Note: X-axis denotes the participants and Y-axis shows the score rated by the 3 trained raters.

Fig. 2. Writing improvement scores on pre and post instruction

4.4 Assistive Online Writing Software

A large number of students did not opt to request the help of the assistive online writing software (n= 13), but the post-essay rating mean scores of students who utilised the available technology per request at least once ($M= 5.67, SD= 0.70$) as a learning supplementary aid to the class instruction were higher than the rating mean scores of students who did not use the software ($M= 5.05, SD= 0.76$). It could be that students who verify their writing by online aids per request are more attentive, eager to improve, and/or committed to success.

The time spent using the writing software was found to be $M= 14.42$ minutes, $SD= 19.38$, with a minimum of half a minute to a full hour. Frequency analysis revealed that among students who used the feedback from assistive online assistive writing software, 50% said they found it helpful, 30% were neutral, and 20% said it was not helpful (Figure 3).



Note: X-axis denotes the participants' responses to the question "To what degree was using the feedback from the online writing software helpful?" and Y-axis denotes the percent expressed by the participants.

Fig. 3. Writing improvement scores on pre and post instruction

Among the reasons for it being helpful, in descending order, are noticing grammar errors, vocabulary issues, tense inconsistency, made them consciously avoid recurring errors, it pointed out errors, and spotted spelling mistakes.

5. DISCUSSION

Examination of the direct instructional effects on students' self-efficacy and willingness to adopt learning strategies found that students do significantly improve their writing skills and that this improvement is somewhat related to self-efficacy. Online writing assistance software was also found to be effective, and supervised, yet unrestricted, use of electronics in the classroom was found to be successful. Nowadays, many schools (primary, middle, secondary, and even university) are condemning and prohibiting electronics in the classroom. For instance, Allison Jones, for *CBC News* ("Ontario to Ban Cellphones in Classrooms Next School Year" March 12, 2019), reported that "cellphones will be banned in Ontario [Canada] classrooms during instructional time, starting in September [2019]. However, study results are comparable to the study [33] in which use of automated writing evaluation enhanced Taiwanese university students' writing skills by the end of just one semester. That is, the use of electronics and access to online software can benefit learning, both in and out of the classroom. Also, many of the warnings and ill-advice connected to online assistive writing software were confronted, discussed, and resolved in class through the use of the teacher as both lecturer and facilitator, the concept of writing as a process, and the benefit of peer discussions and feedback.

Another factor contributing to the success of the direct instructional effect on students' self-efficacy and willingness to adopt learning strategies appears to have been the benefit of the teacher as facilitator and supporter, rather than lecturer. That is, especially in Korea, it is a dramatic departure for both teachers and students to learn in this type of environment. The third contributing factor could be that the class was more peer-focused for the students. The analysis by [33] of Korean university students' peer review and revision also found that working together with peers influenced engagement with negotiations and the sharing of ideas and that they became motivated to write, gained awareness of their own writing, and built rapport. Unlike the findings [34] however, students in this study received direct instruction and had access to online writing software in addition to working with their peers, so students were able to go beyond merely making "surface-level revisions with additions and corrections" and their recommendation for a "writing course focusing on global revisions with content rather than local revision" could be achieved.

In Korean EMI courses, "assistance from language teachers is not available; students are expected to 'sink or swim' in EMI courses without any help with linguistic forms from language teachers" [35]. In a more elaborate study, [28] concluded that when non-English majors incorporated and utilized writing strategies into their writing, they did so more frequently at the while-writing stage rather than the planning or revision stages, but students who used these strategies more often would attain higher scores on writing tests. For this study, the concept of writing as a process before an essay is finished, improved students' writings to a high degree, not only in cohesion and coherence, but in terms of actual content. Students also had freedom over topic selection, how they would write about that topic, and essay writing type.

Universities in Korea have begun to address the need to write in English by offering academic essay writing classes. However, in these classes, it is important that instructors allow students to freely express themselves in their writings, to introduce strategies for successful writings, to expose students to social contexts and various essay varieties, and to engage students in an integrated writing process so that they write more meaningful, logically, critically, and purposefully. That is, to prepare students for the writing they will need in their future jobs and careers and to help them acquire skills they need for personal and public life, instructors must "cultivate various techniques of absorbing, reformulating, commenting on, and using reading" [5].

6. CONCLUSION AND LIMITATIONS

Writing ability, globally and domestically in Korea, is recognised as a core competency that should be nurtured at university because writing is a means of logically explaining and expressing opinions and assertions, writing contributes to the cultivation of logic, creativity, and thinking, and scholars, arguing from the viewpoint of humanities, claim writing education helps students to form their life and world view and grow into productive educated persons [36]. It is often supposed that English major students are good at writing in English and hence suffer much less than non-English major students when their EMI classes required an English paper. However, with English related major students enrolling in the EMI academic writing class, there is significant justification for examining both their writing skills and other non-English major students' writing skills.

The present study sheds some light on the finding that students may be better equipped to manage their EMI writing assignments if they are taught specific academic writing skills prior to taking EMI content classes. The study showed that students' writing skills improved significantly after direct instruction intervention and students who successfully improve their writing skills through direct instruction exhibit high self-efficacy. Moreover, supervised electronics usage in the classroom is useful as is the use of online writing assistance software. Because writing is a social process, this study showed how, in the classroom, students' writing skills can be strengthened, and students can develop their own voice and reflect on their own approaches and experiences in the process of writing different genres.

The present study is limited to Korean students who enrolled in the department of English Culture and Language's EMI English academic writing class, which had open enrolment regardless of major. Future studies should examine other academic areas to re-test the consistency of the findings as well as students' monitoring skills, which could develop from the use of online assistive software. Also, there is a need to investigate a bigger sample as well as instruction only and software use only. Moreover, students in this study may have benefited from the online writing assistance software because they were more motivated, sharper, or computer savvy. However, the current generation of university students is very much accustomed to electronics in all forms, so further research is needed.

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