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**ANALYZING CAMBRIDGE ENGLISH *WRITE & IMPROVE* AS A  
SUPPLEMENTARY RESOURCE FOR PRACTICING WRITING IN  
AN ENGLISH CLASSROOM: A CASE STUDY**

**MA thesis**

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## ABSTRACT

Nowadays, the acquisition of digital competence is highly promoted in schools. It has become even more important during the COVID-19 pandemic, where face-to-face lessons could no longer be provided, and other technological alternatives had to be introduced and incorporated into the lessons. To raise the digital competence and digital literacy of teachers and help them find new web-based environments that would achieve their educational goals set, it is important to raise educators' awareness about different web-based learning environments available. One solution would be to provide research on the strengths and weaknesses and learners' perceptions of different online platforms. One type of web-based environments are automated writing evaluation (AWE) systems. One of the newly developed but scarcely researched AWE tools is Write & Improve developed by the Cambridge English. The aim of this study is to analyze Write & Improve as a supplementary resource for practicing writing with sixteen 11<sup>th</sup> grade students and what the strengths and weaknesses of the current AWE tool are. The results of this study are useful for teachers who want to integrate Write & Improve into their lessons to practice writing.

The literature review part of this thesis gives an overview on web-based learning environments and automated writing evaluation programs used in education, a comprehensive description of Write & Improve, and a rubric on how Write & Improve will be evaluated. The literature review provides a theoretical basis for the analysis of the empirical data. The empirical part of this thesis analyzes a case study conducted among sixteen 11th grade students at a prestigious secondary school in Tallinn, Estonia. The students were asked to submit a CAE type essay and a report task. A follow-up questionnaire was carried out on Google Forms, where the students shared their impressions on Write & Improve. The findings of the case study are analyzed based on the rubrics presented in the literature review as well as the questionnaire. The chapter ends with a discussion part that summarizes the main strengths and weaknesses and provides an analysis of them in the context of previous studies and feedback provided on Write & Improve.

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## **ABBREVIATIONS**

AWE – Automated Writing Evaluation

CAE – C1 Advanced; Certificate in Advanced English

CEFR – Common European Framework of Reference for Languages

EFL – English as a Foreign language

ESL – English as a Second Language

ICT – Information and Communication Technologies

WBLE – Web-based Learning Environment

## INTRODUCTION

Technology is reshaping education, where writing has moved beyond pen and paper and is becoming more virtual. Especially during the COVID-19 pandemic, the years 2020 and 2021 have shown the necessity of technology in education. Ensuring there is continuity of learning, the education sector had to look into the use of information and communication technologies (ICTs). To cope with the digitalization, the teachers need to improve their digital competence. To raise digital competence, it is important to raise educators' awareness about different web-based learning environments available. One way of doing so is by providing research highlighting the strengths and weaknesses and learners' perceptions of different web-based learning environments. As a result, the teacher can choose the most suitable one to implement into their lessons to achieve the educational goals in mind.

In Estonia, digital competence has always been encouraged to teach. The Estonian national curriculum for upper secondary schools (2011: § 10) states that schools should help students "to cope with the rapidly changing technological living, learning and work environment". In section 5 it states that it is important for upper secondary school learning to promote independent study and the use of contemporary technology to achieve good results in the tasks given to students. A great solution to promote independent study and the use of contemporary technologies is to use web-based learning environments (WBLE).

According to Yang (2005: 215) and Arkoful (2015: 34), web-based writing environments can improve students' writing and independent learning skills better than the 'typical' classroom writing environment. E-learning provides the opportunity to study anytime and anywhere. Learners can study at their own pace and speed, which makes the writing process less stressful. Furthermore, as a result of all the writing assignments being written online,

teachers do not have to worry about losing or continuously searching for students' written papers or work posted via e-mail.

In addition to having a great number of strengths, WBLE have noticeable weaknesses as well. Arkorful et al (2015: 35-36) explained that one disadvantage of e-learning is that it requires very strong motivation and time management skills. Considering that there are deadlines to be met, the students have to motivate and plan their time themselves, which may add additional stress for the students. Furthermore, the learning process is a bit easier face-to-face, as the teacher can give clarifications and explanations right away. Contacting the teacher through e-mail or the learning platform takes longer and slows down the writing process. Additionally, considerable number of the newer web-based learning environments are not free of charge and might turn out to be quite costly for the institution or the teacher. Thus, before using a WBLE, educators should consider if their institution would pay for the platform, if their classrooms have Internet and computer availability, and if the students have access to necessary technology at home.

When choosing a web-based tool to use, the question is not whether the technology should be used, but how it could be implemented in the lesson and help achieve desirable learning outcomes. According to Cook (2007: 39), a considerable number of educators use web-based environments just for the sake of using them, rather than actually having an educational goal in mind. He put it very well: "It is as though the technology train is leaving the station and no one wants to be left behind". In many institutions the use of technology is highly enforced, and as long as some technology is used, the means or reasons for using the certain environments are not questioned.

Having all those weaknesses in mind, WBLE do provide additional features which are harder to incorporate in a "typical" face-to-face lesson. Some e-learning tools have online discussion features, the opportunity for students to interact with each other's work,

convenient editing opportunities, and automated writing evaluation (AWE). AWE tools evaluate written work and provide machine-generated scores and immediate feedback. One of the newly developed but scarcely researched AWE tools is Write & Improve.

Write & Improve is a website for learners and teachers of English developed at the University of Cambridge. The developers insist that the website corrects English writing straightaway and depending on what the teacher's or learner's choice of task was, scores it on the Common European Framework of Reference for Languages (CEFR), IELTS or B2 First scoring scale. Additionally, it highlights the parts of the text that need improvement and helps with some grammatical mistakes by suggesting the way of how they could be corrected. Write & Improve uses indirect feedback, which means that it just indicates the error, while direct feedback identifies the error and corrects it. Nicholls ("How does Write & Improve work?", n.d.) explains that with indirect feedback learners can continuously improve their text and writing skill in general. Wahlström (2016: 2, 14-15) summarized several studies (Bitchener and Ferris 2012, Chandler 2003, Ellis et al 2008, etc.) which analyzed the effects of direct and indirect feedback on ESL and EFL students and concluded in his article that every student is different and motivational factor plays an important role in how students perceive indirect feedback and what they do with it. After the students receive the feedback, they can choose if they are going to agree with it or not, and whether they do anything about it.

There are limited studies done on the use of Write & Improve as a supplementary resource for studying English and thus there is a research gap. A study conducted by Karpova (2020) mostly introduced the platform and Huijser and Wali's (2018) research summarized the students' perception of the WBLE but did not analyze it further. The aim of the present thesis is to analyze the Cambridge English Write & Improve as a supplementary tool to practice writing, and what the strengths and weaknesses of the current AWE tool are. The

present study was conducted with sixteen 11<sup>th</sup> grade students attending a prestigious school in Tallinn. The research question of the present thesis is what the possible benefits and drawbacks of using Write & Improve as a supplementary tool with 11<sup>th</sup> grade students in English classrooms in Estonia to practice learners' writing skills are. The present thesis will analyze Cambridge's Write & Improve based on the rubrics provided in a study conducted by Baya'a Nimer et al (2009). The proposed rubric has four criteria: Usability, Content, Educational Value and Vividness. Each main criterion has several sub-criteria to cover various aspects of the web-based learning environment. The present study will concentrate on two main criteria: Usability and Educational Value, because other two criteria are more suitable in analyzing other web-based learning environments and not AWE tools, such as Write & Improve. 'Usability' analyzes the user-friendliness of the website and 'educational value' evaluates the features and activities that Write & Improve provides. One of the focal marketing points of Write & Improve, is the grading system. The website promotes its ability to score users' writing aligned to the CEFR. To analyze the accuracy of language proficiency levels provided by the automatic assessment tool, the author of the thesis follows the rubric created, which summarized the proficiency level descriptors presented in the CEFR. Furthermore, the present thesis analyzed the students' feedback on Write & Improve, by summarizing the answers for the questionnaire completed at the end of January 2021. The questionnaire provides the students' point of view on the particular AWE tool.

The present thesis contains the introduction, literature review, empirical study and conclusion. The first core chapter – literature review – provides a description of automated writing evaluation, summarizes the strengths and weaknesses of three popular AWE tools ( MyAccess!, Criterion and Grammarly), introduces the website Write & Improve and summarizes the benefits and drawbacks of the website based on previous studies and the feedback found online. Lastly, it provides a summary of the rubrics used in evaluating Write

& Improve. The second chapter – empirical study – analyzes the results of the study conducted with sixteen 11<sup>th</sup> grade students in a highly rated secondary school situated in Tallinn. The chapter starts with the research question, the introduction of the participants, and the description of the research design and procedures. It is followed by the analysis of the usability, which concentrates on the design and user-friendliness of the website, the educational value, which is about the beneficial educational features that Write & Improve provides, and the analysis of the accuracy of the language proficiency levels assigned by Write & Improve. It is followed by the summary and short analysis of students' feedback on Write & Improve based on the Google Forms questionnaire completed at the end of January 2021. The chapter ends with a discussion section summarizing the strengths and weaknesses of Write & Improve, analyzing them in context of previous studies and online feedback as introduced in Chapter 1, and explaining the limitations of the current thesis. The thesis ends with a conclusion, where the aims, chapters and findings are summarized, and future research suggestions are proposed.

## **CHAPTER 1. LITERATURE REVIEW**

The present chapter provides the literature review on automated writing evaluation programs used in education, an analysis of their strengths and shortcomings, a comprehensive description of Write & Improve, an analysis of its pros and cons derived from previous studies and feedback written online, and a rubric on how Write & Improve will be evaluated. Section 1.1 describes web-based learning environments, automated writing evaluation, and summarizes the strengths and shortcomings of three popular AWE systems: MyAccess!, Criterion and Grammarly. Section 1.2 introduces and describes the online writing assessment tool Write & Improve, what it is and how it provides feedback. It is followed by the summary of its pros and cons stemmed from common reviews found online and previous research on the website. Section 1.3 describes the rubric for evaluating web-based learning environments created by Baya et al (2009) and the rubric summarizing the proficiency level descriptors presented in the CEFR.

### **1.1. Automated Writing Evaluation**

The writing process has moved beyond pen and paper and using technology to practice writing is nothing new in schools. The current Estonian national curriculum for upper secondary school (2011: § 5, § 7) states that students should know how to use contemporary technologies and thus teachers should also learn and introduce new online tools to improve students' language skills. Furthermore, as mentioned in the introduction, educators should have an educational goal in mind and find a suitable WBLE that could help to achieve it.

There are numerous web-based tools that could be used to practice writing in an English classroom. There are blogs, wikis, Google docs, social media websites like Twitter

and many more. These are all web-based environment where the student can submit their assignments and also read each other's works and give feedback. However, some of the environments, like wikis and Twitter, are more suitable for occasional writing practice, rather than for reoccurring writing tasks. Additionally, the teacher still has to assess the written works and the tools do not provide any significant, if any, feedback on the students' language use. On the other hand, there is automated writing evaluation or AWE, which as the name suggests, is a software that provides immediate feedback on writing. According to Chen and Cheng (2008: 94), AWE is not a new technology, it has been under development since the 1960s and was meant to reduce the workload of grading numerous writing tasks, thus saving instructors' and students' time. However, since the 1990s, due to the fast advancement of artificial intelligence, the design and reliability of AWE tools has improved rapidly. Nowadays, most of the AWE systems are web-based and have a variety of editing features, like grammar and spelling, word order, capitalization, etc. Parra and Calero (2019: 210) state that the consistent and immediate explanations and feedback by AWE make it easier for the student to develop their writing skills at their own pace, work independently, and improve their writing mechanics and accuracy.

According to Chen and Cheng (2008: 95), AWE programs are continuously promoting themselves, especially on the social media, online advertising and search engines. AWE is marketed as giving immediate feedback and responding to the writing as a human reader would, and because the demand for the use of technology in educational institutions is rising ever more during the pandemic, more teachers are considering or already using the technology. However, the technology is not 100% perfect and there are skeptics and critics of AWE. According to Chen and Cheng (2008: 95), the biggest skepticism is about the machine's ability to read and understand the written text as a human would. Additionally, the students might start focusing more on the structure and grammar rather than the meaning

of the text. The AWE systems simplify writing, without taking into consideration the context, content and complexity of written language.

Additionally, the AWE scoring system has not been proven to be accurate and trustworthy. Chen and Cheng (2008: 96-97) stated that writers could easily fool the machine. Instead of actually trying, the students could learn how to beat the scoring system. AWE technology usually processes writing as a series of codes, thus missing the content and illogical writing. If a student has an illogical text but uses the lexis and grammatical features preferred by the technology, they get a better score than what they would have gotten in the classroom. Hockly (2018: 83-84) discusses Les Perelman – a well-known critic of AWE – who created an online tool generating long, pretentious, and incoherent essays. The essays created achieved the highest scores possible from the scoring engines only because they used advanced vocabulary and correct grammar. The technology cannot tell the difference between gibberish and lucid writing. Most of the AWE systems have a hard time recognizing and judging sarcasm, idioms, critical thinking, creativity etc. In addition, Hockly (2018: 85) referenced a study by Warschauer and Grimes (2008) which found that when using AWE, the students tended to make minor changes to their text, where most of the changes were on spelling, lexis and grammar. The learners would rather improve their score by correcting minor mistakes, than deal with the content or organization. As AWE is still a developing technology, the usefulness of the scoring systems remains under question.

The automated feedback is usually not as thorough as users usually wish for. Chen and Cheng (2008: 98, 110) state that most of the automatic feedback provides fixed and repeating comments, and generic suggestions. Instead of using AWE as a replacement for the “typical” face-to-face classroom writing environment, it is more suitable to be used as a supplementary tool, because AWE software still needs further development and improvement. The educator will need to research about the AWE tool planned to be used

and skillfully integrate it into the course. Using the web-based environments requires technological competence, so the teacher should be ready to explain the technology to the students and help them when problems arise.

Some of the most actively used AWE programs are Grammarly founded by Max Lytvyn, Alex Shevchenko, and Dmytro Lider, MyAccess! by Vantage Learning and Criterion by Educational Testing Service. According to Chen and Cheng (2008: 94), MyAccess and Criterion provide scores and diagnostic feedback on the writing submitted. Grammarly, as the name suggests, is an AWE system that focuses exclusively on grammar. There have been several studies conducted on the the three websites mentioned.

Fang's (2010: 253-254), Moslehpour's (2016: 154) study on MyAccess, Hockly's (2018: 85-86) study on Criterion, and Chen's and Cheng's (2008: 106-107) study on both of the websites, agreed that overall, the websites had a positive effect on the quality of writing. The technology did point out some of the mistakes in the students' language use and it helped them to write more logically. However, all of the studies agreed that the focus was mostly on the form rather than the content. According to the study by El Ebyary and Windeatt (2010) presented in Hockly's (2018: 85) article the students achieved higher scores by avoiding using more advanced language, as it could have caused them more errors. An additional problem mentioned by the studies, was that the grades assigned were found to be unfair. Even though some students benefited from the feedback on their language use, many of them wished to have had feedback on the content as well. The participants in all of the studies agreed that the AWE technology used were more suitable for beginners rather than intermediate language users. Intermediate learners wanted feedback that focused more on the meaning and content rather than just the form. Furthermore, some of the feedback provided was found to be too vague and more precise explanations were desired. Thus, most of the learners still preferred teacher's feedback over the automated feedback. It was seen as

more helpful, specific and thorough. Even though using MyAccess and Criterion can be beneficial, there is definitely room to grow and advance.

Grammarly is probably the most well-known AWE system. It offers a free text editor and claims to have over 30 million daily users. In addition to having an official website, it could be used as a browser extension and as an additional feature on Microsoft Office as well. The free version corrects spelling, grammar, punctuation and conciseness. Grammarly Premium (2021) – a paid upgrade – provides additional feedback on fluency, formality, vocabulary, plagiarism, tone and sentence structure. According to O’Neill and Russell (2019: 94), one of the advantages of Grammarly is that it provides unfocused feedback, where errors are highlighted across the text, and focused feedback, where the learner can choose specific feedback in certain category (punctuation, word choice, etc.). Karyuatry et al (2018: 88) found Grammarly to be a useful tool in improving students’ writing. In addition to the decreased number of mistakes, the students raised their language awareness. Nova (2018: 85) concluded that most postgraduate students participating in the study were satisfied with the feedback given overall. The research agreed that the technology raised the students’ language awareness, so next time they can try and avoid making the same mistakes. Furthermore, all of the studies agreed that the biggest advantage was the quick evaluation speed, so the students could save time and start revising their writing faster.

On the other hand, O’Neill and Russell (2019: 101-102) conducted research with undergraduate, postgraduate and Direct Entry students from Australia, who had a Grammarly Premium account. The authors found that the automated feedback program tended to miss a lot of errors, like verb tense, sentence structure, word choice, articles, etc. The machine highlighted the minor issues and missed the significant errors completely. Additionally, the automated assessment tool marked unnecessary and wrong parts of the text. It highlighted errors which were not errors, and thus increased the number of errors

marked. This amount of feedback could be overwhelming and also embarrass the students for having so many errors. Nova's (2018: 87, 91) research agreed with O'Neill and Russell, where the learners found the feedback misleading and added that another weakness of Grammarly was the inability to check the content of the writing. The strengths and weaknesses of the AWE systems stated in multiple studies are all quite similar and agree with each other.

In addition to the websites listed above, there are numerous other similar web-based environments that could be used to practice writing, like LanguageTool, WriteToLearn, etc. The AWE tools can be beneficial and ease the teacher's workload, but teachers still remain to be the most influential people in the classroom. The effectiveness of technology integration depends on how well their lesson was planned and their digital competence. When incorporating technology to practice writing, teachers should consider both strengths and weaknesses of using certain online tools, what approach to writing they use, and how could they achieve the educational goals set. Reading the studies analyzing those websites, could greatly save educators' time and help them decide on the best technology to use. There is a newly developed AWE software – Write & Improve – that could be beneficial to use as a supplementary tool to practice writing. Limited studies have been conducted on the use of Write & Improve as a supplementary resource for practicing writing in an English classroom. As a result, further research on its effectiveness and ineffectiveness as a writing tool and a scoring system is needed.

## **1.2. Introducing Cambridge English “Write & Improve”**

Cambridge's Write & Improve is an online tool, developed at the University of Cambridge, where students can practice writing in English and get instant feedback. The website uses software to assess and correct students' writing. The software shows the parts

of the text that may need improvement or are grammatically wrong, so students can work on their problem areas and keep improving. There are different scores the machine can give: the CEFR language level, IELTS score, or B2 First score. The student can try again as often as they would like to, and the website provides graphs that portray the student's writing progress and how close they are to the next level (e.g., from B1 to B2, or from 7.5 to 8).

In addition, the website has multiple other features. For example, there is *+Test Zone*, where the learner can practice writing answers to the IELTS or B2 First exam writing tasks. Using *Test Zone* might help language learners get a better grade on the exam day. *Test Zone* is free of charge and available for everyone. Teachers can also use the *Test Zone* features and assign realistic IELTS or B2 exam writing tasks to their students. In addition to *Test Zone*, there is a feature for the teachers called *+Class View*, where the two first months are free and then, depending on the class size, a fee must be paid. During the trial period the teacher can test the website and consider if it is worth the money in the future. In *Class View*, teachers get more than 250 tasks, and can create their own tasks for the learners as well. The automated feedback encourages students to review and improve their work, thus the teacher will eventually receive a better version of the text. The teacher can add their comments and give the final grade. They can use the automated feedback and grades assigned by Write & Improve to help evaluate students' texts. Furthermore, teachers can see their students' progress, so it is easy to see which learners need extra help and what aspects of English they find difficult.

Harrison (2017) interviewed one of the developers behind Write & Improve, Diane Nicholls. Nicholls said that in Write & Improve there are three types of feedback given – summative, formative, and indirect semi-corrective. She explains that summative feedback gives an estimated CEFR level after the assessment has been completed and formative feedback is given before submission, so the students may correct and improve their work.

Formative feedback is more of a motivational statement for the students, for example Harrison (2017) presented this example of formative feedback provided by Write & Improve: “That’s amazing! Your writing is really improving. Pay attention to the feedback. What changes can you make? Why not try to write longer sentences?”. The indirect semi-corrective feedback makes suggestions on spelling, grammar, word choice and sentence structure; however, it is just a suggestion and the student him- or herself needs to decide if they are going to act upon it or not. The feedback takes about 15 seconds and is anonymous and non-judgmental, which is less stressful for language learners and keeps them continuously encouraged to keep trying.

Nicholls stated (Harrison 2017) that Write & Improve is just a tool, which can only train and motivate learners to learn from their mistakes, practice editing, and reread their work. She confirms that the website will not and cannot replace a teacher. The teacher still gets the final submission, but instead of concentrating on correcting language mistakes such as spelling, vocabulary, punctuation, etc., they could help with argumentation and other task-related topics, that the machine is yet to be improved upon. The creators are aware of the weakness that AWE systems have – that most of the feedback is concentrated on the form rather than the meaning of the text.

Nicholls (Harrison 2017) explains that “Write & Improve works by supervised machine learning based on an algorithm which is fed training data from the 30-million-word-error-annotated Cambridge Learner Corpus.” The machine spots similar mistakes and patterns available in the corpus and marks the error only when it is at least 90% sure. Before launching Write & Improve, the machine had already collected data for more than three years. Nowadays, 5 years have passed since launching and thus more data has been processed, and the feedback has become more accurate. To keep the students encouraged to write, the team behind Write & Improve believes that it is better to leave one error unmarked

than to mark a correct answer wrong. Compared to feedback given on Grammarly, Write & Improve's system is careful not to give too much feedback right away because just like on paper, if there are too many red markings it might discourage learners from writing, learning, and correcting their mistakes. Students first correct common errors, and then on the next submission other errors would be highlighted by the machine. The website cannot force the students to correct and edit their work, it can only encourage and help. In the end, the student is the writer, and they make the final decisions.

There has been limited research done on Cambridge's Write & Improve but there has been multiple feedback written about the website. Ferlazzo (2016) was very impressed by the grammar feedback provided by the machine, which offered accurate alternatives to students' errors. Wilkins (2020) agreed that the feedback was surprisingly accurate, and students got feedback on their vocabulary and grammar mistakes. The Atlas Language School staff (n.d.) agreed that the immediate feedback was convenient and useful. They added that the website was fairly easy to understand and use, and they liked that the website encouraged self-study and self-improvement. Huijser and Wali (2018: 9, 17) conducted a study with 53 B1-level business students, where majority of the participants found Write & Improve to be useful. The most useful aspect of the tool mentioned was the grammar assessment.

On the other hand, Ferlazzo (2016) states that the website does not give any explanations as to why the highlighted words or phrases were marked as a mistake. Students got their errors pointed out to them without knowing what the error or the grammar rule was. Huijser and Wali (2018: 17) agreed that the learners found it difficult to understand the explanations and markings provided by the AWE tool. The Atlas Language School staff (n.d.) agreed that in some cases giving a solution is as important as pointing out the error. In the study conducted by Huijser and Wali (2018: 17) the learners still preferred the teacher's

feedback over the machine's. They find teacher's feedback easier to understand and usually instead of just highlighting the errors, the teacher provides examples or additional explanations. For Wilkins (2020) one drawback was the fee of the *+Class View* feature. In his view, a considerable number of teachers will choose not to use the website if it will not be sponsored by their institution. Another deal-breaker was the general view of the class, which he hoped would have been clearer and more easily understandable. Furthermore, the Atlas Language School staff (n.d.) wrote about not agreeing with the proficiency levels provided by Write & Improve and encouraged their learners to ignore it, as in their opinion, it did not reflect the students' actual language level.

Write & Improve has many strengths, like providing immediate feedback, the encouragement of independent writing and decision making, revision, etc., but the weaknesses should also be considered when deciding to use the website. As seen from the feedback and previous studies, the strengths and weaknesses of Write & Improve vary. Additional research needs to be conducted with a more detailed analysis of the overall usability and machine-generated feedback of the web-based learning environment.

### **1.3. Evaluating web-based environments**

There may be numerous ways of analyzing and evaluating a web-based learning environment (WBLE). The present thesis will follow the rubric created by Nimer Baya'a, Hanadi Mia'ari Shehade and Amal Roby Baya'a as it involves the criteria relevant for assessing the usefulness of the online platform. A rubric is a clear and easy to understand table with main categories and subcategories helping to evaluate a WBLE. According to Baya'a et al (2009: 761), the goal of the authors was to create a useful and practical tool, so teachers not only get a general overview of the websites but also know their strengths and weaknesses. This rubric makes the evaluation of web-based environments more objective

and formative. Objective evaluation is based on quantifiable evidence, the more sub-categories the web-based environment matches, the better it is. With formative evaluation the teachers get a better understanding of what the certain weaknesses and strengths of the tool are and evaluate the software's full potential.

Before creating the table, the authors researched studies analyzing the web-based environments for the objective and popular criteria. Baya'a et al (2009: 763-764) created 4 tables on the components of what a good WBLE consists of. All of the main criteria also have sub-criteria that give more details about the topic. The rubric created has four main criteria: Usability, Content, Educational Value, and Vividness. The 'usability' criterion is about the overall design and user-friendliness of the WBLE. It analyses if the website is easy to navigate, use, and understand. The 'content' criterion is about the information provided by the tool. It examines if the information presented is from authentic and trustworthy resources, if it is factual and professional, and if it is presented appropriately. The 'educational value' criterion analyzes the different features and functions provided by the WBLE. It evaluates if the learning activities provide new information and knowledge for the learners, if the learners get either mechanic or human feedback, if there are communication methods to contact peers, teacher and the creators of the WBLE, and if there are any help tools present. The 'vividness' criterion is about links and updates. The WBLE should use active and suitable links to other websites or itself. Additionally, the designers should continuously update the information on the website.

When evaluating Write & Improve, only two main criteria will be analyzed: usability and educational value. The two chosen criteria help to answer the research question and find the strengths and weaknesses of using Write & Improve in an English classroom to practice writing. 'Content' and 'vividness' categories did not seem to be as useful when analyzing an AWE system such as Write & Improve, because there is no additional information provided

that could be analyzed with the “content” criterion and the website does not disclose when it was last updated, nor does it have any substantial additional links to be analyzed under the ‘vividness’ criterion.

According to the rubric (2009: 763), ‘usability’ criterion has six sub-criteria: purpose, homepage, navigation, design, enjoyment and readability. In Table 1, there are the sub-criteria and their characterizations presented. To analyze Write & Improve, all of the six sub-criteria will be analyzed.

Table 1. The sub-criteria under “Usability” and their characterization by Baya'a et al (2009: 763)

Sub-criterion	Meaning
Purpose	The purpose, benefits and importance of the AWE technology are presented clearly.
Homepage	The homepage has a clear and informative table of contents.
Navigation	The website is easy to navigate, so the user knows where they are and where to go next.
Design	Website is simple and clear. The background is well designed and does not interfere with the text.
Enjoyment	Any additional multimedia is clear, relevant, and appropriate.
Readability	The users can clearly and easily read the Web pages.

The six subcategories are mostly about the Web pages, their design and user-friendliness. ‘Purpose’ sub-criterion is about the web-based environment having information about its purpose, benefits and importance. The users can read what the tool is, what it is for, and why they should use it, so they would not need to additionally research about the present WBLE. ‘Homepage’ is about the homepage being easy to understand and navigate. It should

have a clear and informative depiction of the website contents, so the user can see what the website provides. 'Navigation' is about the website being easy to navigate, so the user can understand where they are and where they have to go. If a website is hard to navigate, the users tend to leave, or if it used during a lesson, the teacher would have to spend more time explaining and helping the learners use the WBLE. 'Design' is about the website having a clear design, where the background blends in and makes the text easily readable. The design should not confuse the WBLE users, and they should be able to easily find what they are looking for. 'Enjoyment' is about the additional media portrayed on the WBLE. If it does exist, it should be appropriate and relevant. Too many images and videos might disorient the users. The 'Readability' sub-criterion is about the font and the size of the written text on the WBLE. The website should be clear and easy to read. Too many different fonts, colors and sizes of the words make the pages visually unappealing and hard to understand and navigate. When planning on using an AWE tool, like Write & Improve, the user-friendliness of the website is an important criterion to consider, especially with young learners. Generally, people judge a website and its reliability based on the website design and the first impression, usually the less appealing a website is, the less the users want to continue using it.

The second main category 'educational value' has seven sub-criteria. However, as seen in Table 2, when analyzing Write & Improve, the focus will be on four: learning activities, communication, feedback, and help tools. The other three sub-criteria – activity plan, resources and rubric – are not relevant for the present AWE tool. 'Activity plan' sub-criterion is about the learning activities being accompanied by an activity plan. Write & Improve only provides writing activities and no activity plans. 'Resources' is about the WBLE referencing additional resources presented on the website; however, Write & Improve has authentic activities and the only reference on the website is for a graduation cap

icon used on the website. The ‘Rubric’ sub-criterion is about the activities having a rubric presented; however, Write & Improve’s activities only have instructions and no rubric.

Table 2. The sub-criteria under “Educational Value” and their characterization by Baya'a et al (2009: 764)

Sub-criterion	Meaning
Learning activities	WBLE should provide learning activities that expose the users to new information and encourage them to construct new knowledge.
Communication	Users should be able to interact with the designer of the WBLE and with their peers through different communication tools (email, chat, forums).
Feedback	Users' performance and outcome of each activity should be tracked and evaluated through a mechanic or human feedback.
Help tools	WBLE include assistant tools that help the users solve problems (technical, contextual, didactical) that they might face in the process of completing the activities.

The ‘learning activities’ sub-criterion is about the activities that the WBLE provides. The activities should be productive and raise users’ knowledge. Write & Improve has hundreds of writing tasks to choose from and practice. ‘Communication’ is about the communication features provided by the WBLE. The users should be able to contact the website designers and the learners should be able to contact their teacher for help as well. ‘Feedback’ is about the need of the WBLE to provide either mechanic or human feedback. The availability of immediate feedback is the biggest strengths of AWE software, like Write & Improve. ‘Help tools’ is about the WBLE including tools that could help the users solve

the problems by themselves. What should the learners do when a problem arises when writing or submitting a task.

In addition to all the previous methods of analyzing web-based environments, Write & Improve also scores the writing, either on the CEFR, IELTS or B2 First scoring scale. When reading about the website and looking at the homepage, one of the main strengths advertised, is the automated scoring system and the opportunity of getting a grade in seconds. The students participating in this study submitted C1 Advanced (CAE) writing tasks and were scored according to the CEFR. The CEFR depicts the learner's language ability on six reference levels (A1, A2, B1, B2, C1, C2). In Write & Improve the scores are used to create a graph that illustrates students' progression of submitted tasks, as shown in Figure 6 (see Appendix 5).

As seen in Figure 6 and Figure 7 (Appendix 5), the website emphasizes the language levels assigned to the user. The users do not see the number of mistakes they have made or decreased, instead as seen on Figure 7, they see the levels assigned to them and the number of submissions. Additionally, as seen in Figure 6, the writing progression graph only shows the language proficiency levels and how the student has either improved or lowered their level. Even the teacher can view and compare the score range of each student on the CEFR levels, see Figure 8 (Appendix 5). As a result of the scoring system being presented as the main depiction of 'progress' and one of the main strengths of Write & Improve, it is important to analyze its accuracy. To determine if Write & Improve assigned an accurate proficiency level for the learners, the present thesis follows a rubric based on the writing and linguistic descriptors of the 2001 CEFR and the 2018 companion volume and concentrates on the certain topics presented: reports and essays, vocabulary control and range, grammatical accuracy, and orthographic control and coherence. The rubric is presented in Appendix 6.

## **CHAPTER 2. A STUDY OF CAMBRIDGE WRITE & IMPROVE**

Chapter 2 focuses on the study conducted during the last three weeks of January 2021 with sixteen 11<sup>th</sup> grade students from a prestigious school located in the center of Tallinn. The goals of the present project are

- 1) to analyze the Write & Improve website by following the rubric created by Baya'a et al (2009);
- 2) to analyze the accuracy of the language proficiency levels assigned by Write & Improve based on the CEFR;
- 3) to summarize learners' feedback on Write & Improve based on the Google Forms questionnaire in Appendix 8.

The goals mentioned above help to answer the research questions of the present thesis. The chapter covers the research question, introduction of the participants, research design and procedures, the analysis of the usability and educational value of Write & Improve based on the rubric created by Baya'a et al (2009), and the analysis of the accuracy of the language proficiency levels assigned by Write & Improve based on the rubric created summarizing the 2001 CEFR and its 2018 companion volume. It is followed by the summary of students' feedback on Write & Improve. The chapter ends with a discussion summarizing the findings and analyzing them in the context of previous studies and online feedback presented in Chapter 1.

### **2.1. Research question**

The purpose of the study was to find out whether Cambridge Write & Improve could be continuously used in English classrooms in Estonia to practice writing. The present thesis analyzes how convenient and user-friendly the website is to use, how accurate the

proficiency levels assigned are, and the learners' opinion on the AWE tool used. Therefore, the following research question was formulated: What are the possible benefits and drawbacks of using Write & Improve with 11<sup>th</sup> grade students in English classrooms in Estonia to practice learners' writing skills?

## **2.2. Participants**

Due to COVID-19 and the strict rules and restrictions, the study was conducted online, with the students from a highly rated school in the heart of Tallinn. The participants were a group of sixteen 11<sup>th</sup> grade students, with 10 male and 6 female students aged between 17 and 18. They have studied English for 9 years since the 3<sup>rd</sup> grade. According to their English teacher, there are B2, C1 and C2 level students.

The particular school and group were chosen because the author of the thesis has had working experience in that school and is familiar with the students. The current English teacher was informed and was also added to the group to later read and grade the writing assignments submitted by the students.

## **2.3. Research design and procedures**

Before introducing the new learning environment to the students, I explored and learned about Write & Improve in advance by making both, a teacher and a student online account, to understand what the participants will see and what might raise confusion. Write & Improve has two subscriptions: *+Test Zone* and *+Class View*. For this research I used *Class View*, where I created a classroom. I added 17 participants: 16 students and their English teacher, who had to see student's tasks and who was interested in exploring the website as well. The students were added via their school email address. If a student does not have an email address, does not want to make one, or share, the website provides a

temporary password and login name that the student could use and later change. I found that using the email method was less time-consuming and if a student forgot their password, it was a lot easier for them to recover it via email.

When making a *Class View* account, the first two months are free, so the teacher and the students can try the website out and decide if it is worth paying for. I tried to get all of the data needed in these two months, as later on it would have become quite expensive. I had 17 people registered and after two months the subscription would have cost £39.00 (almost 45 euros) a month. Individual teacher's subscription to *Class View* is up to 200 students and the final price is calculated per student. However, on the Write & Improve frequently asked question page, Nicholls ("Can a whole school subscribe to +Class View?", n.d.) explained that if the whole institution, with multiple teachers, decided to use Write & Improve, then they would have to contact the team behind Write & Improve and the price for the institution would be calculated based on their circumstances.

After getting familiar with the website, I had an introductory lesson with the students through Google Meet, where I introduced the topic of the thesis, Write & Improve, explained the schedule and the writing tasks, and showed the questionnaire they would have to fill out at the end. The writing activities required to be written and submitted in Write & Improve were CAE writing tasks. The exam consists of an essay and a situation-based writing task. Situational writing could be an article, email/letter, report, or review. The students were learning about reports and thus it was suitable to choose a CAE report task to practice. The English teacher of the class suggested using CAE tasks because most of the students participating were planning on doing a CAE and thus, participating in this study would be beneficial for them as well. The essay task was found online, and the report task was sent by the teacher from the learners' English coursebook. The writing topics chosen were ensured

to fit with the thematic areas presented in Appendix 2 in the Estonian national curriculum for upper secondary schools (2014: 5-6).

When creating a task in the workbook in Write & Improve, three options occur: CEFR, IELTS, and B2 First. This determines how the task will be assessed by the machine, will it estimate a CEFR level, IELTS, or B2 score. Due to the students' plans on doing the CAE, I chose the CEFR level assessment. Afterward, I just had to write the title, e.g. "An essay", "A report", and one-sentence explanation about the topic, "Social Issues" and "Motivating children to exercise". I chose the word count, wrote the instructions, and for the essay, added a picture as well. The created workbook could be seen in Figure 5 (see Appendix 4). The full essay task is presented in Figure 1 (see Appendix 1), and the report task is in Figure 2 (see Appendix 2). The figures show what the learners, me and the teacher saw when opening the workbook webpages. Creating the workbook and the tasks was fairly quick and easy.

The first writing task the students had to submit, was an essay (see Appendix 1). The essay task was found online from the blog *CAE Exam Tips* written by Andrew Girardin (2019). He had a collection of CAE essay tasks and the essays his students wrote. I found the topic of motivating children to do regular exercise interesting and quite an easy topic to write about. I also chose this topic as it concerns one of the thematic areas "health and safety" presented in the national curricula for upper secondary school (2014: 6). The students wrote their essay and submitted it in the workbook created by me in Write & Improve. The students could change and correct their writing task multiple times and stop when they were satisfied with it. We agreed with the teacher that the students would start writing their essays on 11<sup>th</sup> of January and the deadline would be the 17<sup>th</sup> of January. On the website, the teacher could see when the writing task was last edited.

The second writing task was a report about social issues like homelessness, crime and loneliness (see Appendix 2). According to the national curricula (2014: 6), the topic of social issues corresponds with the “values and morality” thematic area. The report task was scanned from the English coursebook used during students’ English lessons and sent by the English teacher. The deadline for the reports was the 24<sup>th</sup> of January and they had 7 days to complete the task.

In the end, there were 16 essays and 14 report tasks submitted. After the essays had been submitted by the students, I reread the essays, analyzed the accuracy of the language proficiency levels given and any interesting error markings. I examined if the students followed the advice provided by the machine and corrected their work, and if and how the language levels improved. Subsequently, the same actions were pursued after the participants published their reports. The proficiency levels provided by Write & Improve were compared to the CEFR descriptors to determine if the levels given were overall accurate.

The research ended with a questionnaire sent to the participants about their experience and satisfaction (see Appendix 8). Due to the pandemic, my interaction with the students had to be online, thus the questionnaire was made in Google Forms and sent out by their English teacher. Afterwards, I summarized the feedback provided by the students and the English teacher. All of the students participated submitted the questionnaire. The answers from the questionnaire gave additional information when analyzing the usability and educational value of the website, and language proficiency levels assigned. To analyze the overall usability, user-friendliness and the features provided by Write & Improve, the “usability” and “educational value” evaluation criteria created by Baya’ a et al (2009: 763-764) were followed.

## 2.4. The usability of Write & Improve

There were six sub-criteria followed to analyze the overall usability of Write & Improve: purpose, homepage, navigation, design, enjoyment and readability. To analyze the six sub-criteria mentioned, students' responses to questions 1, 3, and 4 (see Appendix 8) and my impression were taken into account. According to the rubric created by Baya'a et al (2009: 763), Write & Improve met 4 sub-criteria: purpose, homepage, enjoyment, and readability (see Table 3). However, the website should further develop and improve their design, so the website would be even easier to use. For some of the students the webpage had too much information and tasks available, thus making it hard to navigate across the website.

Table 3. Evaluation of Write & Improve's usability based on the rubric created by Baya's et al (2009)

Sub-criteria	Meaning
Purpose	Write & Improve presented the purpose, benefits and importance of the WBLE clearly across the front homepage.
Homepage	Homepage is easy to read and navigate. After clicking the "Start Practising Now" button on the homepage, the users are transferred to a Write & Improve webpage that has a clear table of contents, and all of the writing tasks present.
Navigation	The website can be quite confusing at first but after some time, it becomes easier to navigate.
Design	Overall, website is well-designed, however, for some of the learners, the sidebar and the amount of information presented were confusing and overwhelming.
Enjoyment	Write & Improve includes pictures relating to a specific writing task but no other multimedia is provided anywhere else. However, Write &

	Improve provides multiple other additional features, e.g., awards, progress chart.
Readability	The learners found no difficulty to read the contents of the website.

Write & Improve has a colorful and inviting website as seen in Figure 3 (see Appendix 3). While scrolling down the front page, the users learn about the automatic assessment tool and two subscriptions: *+Test Zone* and *+Class View*. The purpose, benefits and importance are presented on the main homepage right away. The purpose of the AWE tool, as written on the website, is to score the submitted work on the CEFR and to highlight the parts of the text that need correction, so the user can continuously improve. There were three benefits presented on the homepage right under the purpose. One of the benefits presented was the possibility of seeing what the user has to improve and the possibility of submitting the writing as often as they would like to. Secondly, the writer can progress through a variety of different advancement levels (beginner, intermediate, advanced), and even create their own tasks. Thirdly, it declares to help the users to track and understand their progress by looking at progress graphs. Write & Improve does not explicitly write about its importance; however, there is enough information presented that the user could propose the importance of the WBLE themselves. For some users it might be the automated feedback for others the scoring system. The website does declare to use new AWE technology developed at University of Cambridge that encourages the users to continuously work on their problem areas and keep improving, which could be one seen as the website's importance as well.

The homepage is very well-designed, with the words and titles being clearly visible. It has an eye-catching bright blue background and bold fonts. The homepage has a button "Start Practising Now", which takes the user to the webpage with workbooks and the writing tasks. After accessing the webpage with the workbooks and writing tasks, it can become

somewhat overwhelming, especially for younger students. There are a lot of buttons to press and tasks available, but the webpage does provide a table of contents, see Figure 4.

The screenshot shows the 'Write & Improve' website interface. At the top, there is a header with the site name, social media icons, and a 'Sign out' button. Below the header is a sidebar on the left with a dark background, containing a welcome message for 'Eliza', a 'Sign out' button, and a list of navigation options including 'W&I workbooks', 'Test Zone', 'My workbooks', 'Class View', 'Progress', 'My account', and 'Help centre'. The main content area is titled 'W&I workbooks' and is divided into four columns, each representing a different workbook level: 'W&I Beginner', 'W&I Intermediate', 'W&I Advanced', and 'W&I Business'. Each column has an 'Open' button in the top right corner. Under each level, there are several writing tasks, each with a radio button, a title, and a brief description. For example, under 'W&I Beginner', there are tasks like 'An essay: Sleep', 'An email: A special food you like to eat', 'A story: About the pictures', and 'An essay: Eating at home or at restaurants?'. Under 'W&I Intermediate', tasks include 'A report: Write and Improve', 'Write paragraphs to answer the question: about having different teachers', 'Write paragraphs to answer the question: about advertisements in schools', and 'Write paragraphs to answer the question: about exercise'. Under 'W&I Advanced', tasks include 'A review: Write and Improve', 'Write paragraphs to answer the question: about medical doctors', 'Write paragraphs to answer the question: about office design', and 'Write paragraphs to answer the question: about volunteer work'. Under 'W&I Business', tasks include 'Intermediate - a proposal: New York store', 'Intermediate - an email: Temporary staff', 'Advanced - a letter: Customer loyalty scheme', and 'Advanced - a proposal: Outsourcing'.

Figure 4. Write & Improve (n.d.). Retrieved February 11, 2021. Screenshot of what a teacher and the students see logging into the website.

According to the answers for questions 1-4 in the questionnaire (Appendix 8), 7 out of 16 students found the website confusing to use in the beginning. The students mostly struggled with finding their workbook and writing tasks. The sidebar with the contents of the website, made it more difficult for the students to find the workbook, because when looking at Figure 4, the workbook is right in the middle, under 10 other workbook and task

options. One student wrote: *“The layout of the website was a bit confusing at first. There were many different workbooks and automatically generated tasks that were on the front page, which made it harder to find the ones assigned by the teacher. Otherwise, it was quite nice and organized”*. Another student suggested for the assigned workbook folder to be listed higher on the sidebar. There was another minor design flaw pointed out by the students. 4 students noted that the textbox for submitting writing was too small and uncomfortable to use. As it is the focal point of the webpage, it should be bigger, as seen in Figure 1 (see Appendix 1). Two students stated that because the textbox was so small, they wrote their tasks on other software, e.g., Google Docs or Microsoft Word, and then copy-pasted the text into Write & Improve.

On the other hand, 9 students found the website easy to understand and navigate around. Furthermore, no one had problems with writing and submitting their tasks, and no technical issues arose. The learners had no problems with the workbook, and they found no difficulty in reading the contents of the website. However, to make the user experience even better, the website design could be improved upon, so the students could find their task and workbook easier and faster. A bigger textbox would make the process of writing more convenient, as the users would see their whole text while writing, instead of only a small part. Even though over half of the participants found the website easy to navigate and had no issues with the design, the experiences were not ideal, and the criticism provided was valid, thus the website could not meet all 6 sub-criteria.

The next criterion was ‘Enjoyment’. Some of the writing activities presented on the website do provide pictures relating to the writing tasks, and when creating a new task, the user can add images; however, no additional media is presented on the homepage or the workbook webpages. Even though, there is no additional multimedia, there are other features that Write & Improve provides, for example, students and teachers can see their activity

calendar, writing progress and get awards. A writer can receive an award, for example, for having one checked task or using the website 2 times in a row. However, from the 16 students participating in this study, 14 did not explore or use Write & Improve further. Most of the participants just submitted their tasks, and only two of the students explored the AWE tool further. One of the students said to have completed some of the beginner and advanced tasks provided by Write & Improve; however, most of the participants were not interested or even aware of the award system or any additional features.

Overall, the website is user-friendly and most of the students enjoyed its design and homepage. The website clearly states its purpose and benefits on the front homepage, and every webpage is easy to read. However, Write & Improve is not perfect, and some minor changes in design would make the website even easier to use and navigate. When entering the webpage with the tasks and workbooks, some of the students found it difficult to find the workbook created by the teacher. A good solution would be to either move the teacher or self-created workbook on the top of the table of contents or have the *W&I workbooks* and *+ Test Zone* tabs automatically closed and thus taking up less space. Furthermore, for me as a teacher, it was quite difficult to understand the progress graph feature in *Class View*. I agree with Wilkins (2020), who also wished for the general view of the class to be clearer and more easily understandable. There was just too much information presented all at once, as seen in Figure 8 (see Appendix 5).

## **2.5. The educational value of Write & Improve**

There were four sub-criteria followed to analyze the overall educational value of Write & Improve: learning activities, communication, help tools and feedback. To analyze the four sub-criteria mentioned, students' responses to question 2 (see Appendix 8) and my impression were taken into account. According to the rubric created by Baya'a et al (2009:

763), Write & Improve met 3 sub-criteria (see Table 4): learning activities, help tools and feedback. Write & Improve does not provide the option for users to communicate with each other, and if a problem arises, the user can only contact the help center via the contact form at the bottom of the website.

Table 4. Evaluation of Write & Improve's educational value based on the rubric created by Baya's et al (2009)

Sub-criteria	Meaning
Learning activities	Write & Improve provides learning activities that provide new information and knowledge for the website users.
Communication	The users can contact the help center, however, there are no other communication tools provided, thus learners cannot communicate with each other or the teacher via Write & Improve.
Feedback	Write & Improve provides machine-generated feedback and provides an additional option for teachers to add written feedback and grade the assignments submitted.
Help tools	Write & Improve provides users with a link to a help center, where the learners can read the questions answered by the team behind Write & Improve, and a link to a contact form, where the user can ask for help via email.

Write & Improve provides learning activities for different language proficiency levels. There are tasks for beginners, intermediate, advanced, and business English learners. The *Test Zone* provides IELTS and B2 First writing tasks. There are over a hundred of

different activities for different language levels, so the user can continuously improve and be exposed to new information and knowledge. In addition to the activities provided by Write & Improve, the users can create their own, e.g., from their school textbook or workbook.

The only communication tool provided by Write & Improve is a contact link at the bottom of the page. Through clicking the link, the user can write an email to contact the help center and ask for help or any additional information. Furthermore, there is a link transferring to the help center's FAQ (frequently asked questions) page, where learners can type their question and see if it has already been answered. On Write & Improve learners cannot communicate with each other or the teacher, and vice versa. The students participating in the research did not have any issues when writing or submitting their tasks and thus, there was no need to contact me or their peers. However, according to the rubric, a good WBLE has different communication tools (chat, email, forums etc.). On Write & Improve only the teacher can see students' emails, and thus the learners have no way of communicating with each other. It would be more convenient to have a communication tool in the workbook created by the teacher, so students can chat, ask questions and look at teacher's answers. Additionally, peer feedback could be a useful new feature provided. The students could read each other's papers and provide feedback. The students would not only get the machine-based and teacher's feedback, but also feedback provided by their classmates.

The main feature provided by Write & Improve is the automated evaluation and scoring of writing. Nevertheless, if a teacher has the *Class View* feature and makes a workbook, they also have the ability to provide additional feedback and score the tasks themselves. The grade provided by the teacher can be anything from a number to a letter. The machine-generated feedback makes error correction, provides word-and sentence-level feedback, and assigns a score.

## **2.6. The analysis of the language proficiency levels provided by Write & Improve**

There were 16 essays submitted on the topic of motivating children to exercise. Even though the deadline was the 17<sup>th</sup> of January, some of the students kept submitting their essays after the due date. For research purposes all of the submissions were read and analyzed regardless of the submission date. To keep the students anonymous, they were numbered, and will be referred to as Student 1, Student 2, etc.

From the 16 essays, on the final version submitted by the students, Write & Improve assigned 3 C2 levels, 9 C1 levels, and 4 B2 levels. As shown in Table 5, 11 students started with a lower language proficiency level and through error correction changed to a higher one, 1 student had the opposite happen to them, and 4 students stayed consistently at one level. 12 students started with one level and changed to another, with no other proficiency levels being assessed in-between. However, 4 students had the language proficiency levels continuously change from one to another, e.g., from C1 to B2 and back to C1.

After the essays, the students submitted a written report on the topic of social issues. From 16 students, there were 14 reports submitted, Students 3 and 14 did not submit their work (Table 5). There were 2 C2 levels, 9 C1 levels and 3 B2 levels assigned. 8 students started and ended with the same proficiency level, and 6 changed it to a higher one. Student 13 was the only one who had their proficiency level change numerous times when submitting their work. Compared to the proficiency level assigned for the essays, 7 students got the same score and 7 had a different one assigned to them. 3 students got a higher proficiency level, and 4 students got a lower one. The students corrected and submitted their work different number of times. There is no clear correlation between the number of times a task had been corrected and submitted and getting a higher language proficiency level assigned. It is interesting to note, that none of the students who got a C2 on their essay, got a C2 on their report. One of the reasons may be that the report had a more difficult topic to write

about, and thus the language proficiency level lowered. Additionally, the students had just learned about writing reports, and thus further practice was needed. The students also noted that the Write & Improve evaluation tool did not recognize the structure of a CAE report task. It highlighted the subheadings as errors, which may have also affected the scoring.

Table 5. The language levels assigned throughout the submissions by Write & Improve

Students	Essay task		Report task	
	Language proficiency levels	Number of submissions	Language proficiency levels	Number of submissions
Student 1	C1 – C2	44	B2 – C1	32
Student 2	C1 – C2	6	C1	4
Student 3	C1 – C2	4	-	-
Student 4	C1	11	C1	6
Student 5	C1	2	C1	3
Student 6	C1 – B2 – C1	11	B2	2
Student 7	C1 – B2 – C1 – B2 – C1	19	B2 – C1	26
Student 8	B2 – C1	60	B2 – C1	10
Student 9	B2 – C1	16	B2 – C1	23
Student 10	B2 – C1	11	B1 – C1	26
Student 11	B2 – C1	6	B2	23
Student 12	B2 – C1	3	C1 – C2	2
Student 13	B2 – B1 – B2	24	C1 – C2 – C1 – C2 – C1	21
Student 14	B2 – C1 – B2	6	-	-
Student 15	B2	20	B2	5
Student 16	B2	1	C2	1

From the 16 essays submitted, based on the rubric in Appendix 6, 3 language proficiency levels were incorrectly assigned: for Students 1, 2 and 13. From the 14 reports submitted, 2 scores assigned to Student 12 and Student 16 were incorrect. Students 1, 2, 12 and 16 were assigned a C2 level. Based on the rubric (see Appendix 6), at level C2 the writer can write clear, smooth-flowing, and complex texts. The texts have a logical structure, making it easier to find significant points. The writer can express their thoughts precisely and does not need to restrict their thought whatsoever. They create coherent, cohesive an

error-free texts. The students did submit excellent texts; however, they started with C1 and according to the rubric, that would be the current language proficiency level of their texts, not C2. The texts were clear, smoothly flowing, and well-structured. They had a consistent and helpful layout and paragraphing. However, compared to C2, at level C1 the writers are more prone to search and avoid certain words, and have occasional vocabulary errors. Furthermore, they might have occasional spelling and punctuation slips occurring. The submitted texts relate closer to the C1 definition in the CEFR than C2. For example, Student 12 missed multiple articles and had numerous spelling errors in their report, for example, in example (1), *on internet* should have been *on the Internet*, and *internet based* should have been *internet-based*. Even though these are minor mistakes, a C2 language user would have not made the following errors.

- 1) “*The radio programme decided that the government should focus more on internet security and internet based crimes.*” (Student 12)

Furthermore, Students 1, 2 and 16 were assigned a C2 level for making minor changes to their text. For example, Student 1, in example (2), only changed one word in their essay, *training* to *classes*, and switched from C1 to C2. Student 2 added one longer sentence, shown in example (3), and was assigned a C2. The added sentence did not change the quality of the text overall; however, the students did point out that the machine preferred longer sentences over short ones, and thus it might have affected the scoring system. Finally, Student 16 made minor changes to their report and got a C2. In example (4), *to get all them involved* was corrected to *to get all of them involved*, and *all time low* to *all-time low*. This aligns to some extent with Hockly’s (2018) study on AWE, where students made minor changes in grammar, spelling, or lexis, to raise the score assigned by the machine. In a

classroom or exam setting, these changes would have not been enough to get a C2. A C2 paper is expected to have a wider range of vocabulary, including less common lexis.

- 2) “*Many families refrain from signing their children up for training in sports facilities, because they simply can’t afford it.*” (Student 1)
- 3) “*Because your kids are watching you all the time, your actions, beliefs, and attitudes become integrated into your children’s way of being.*” (Student 2)
- 4) “*...and thus it is almost impossible to get all them involved in the community...*”  
and “*...over the last 10 years and are currently at an all time low.*” (Student 16)

On the other hand, Student 13 started with B2, then moved to C1 and finally back to B2. According to the rubric (Appendix 6), at level B2, there are signs of the mother tongue and inaccurate use of complex structures and lexis present. However, the essay was well-written and had no noticeable errors. Even Write & Improve did not highlight any words or sentences, it wrote: “We do not have any more sentence-level or word-level feedback for this writing”. Additionally, the writer used more advanced vocabulary and phrases, like *counteract, vying, in spite of, come within*. They referenced a quote by Gene Tunney and used multiple linking words, like *consequently, in addition, to begin with, taking everything into account*. By the CEFR definition, the essay is closer to C1 rather than to B2 proficiency level.

The scoring system left many of the students and me confused. There were many cases where a student had changed one word in their text, which was not highlighted by Write & Improve, and changed the language proficiency level to a higher one. For example, in example (1), the word *training* was not marked as an error, but by changing it to *classes*, the language level changed to C2. Even though the language proficiency level became

higher, the machine later highlighted the sentence and added a comment saying: “This sentence could maybe be improved”. The sentence was marked as “problematic”, but at the same time the proficiency level changed to a higher one. Furthermore, in their essay, Student 14, in example (5), changed the word *it* to *sports* and went from a B2 to C1. Interestingly enough, the preposition *for* in *preventing them for*, was not marked as an error, even though it should have been *preventing them from*. When the same student corrected a sentence highlighted by the machine as a ‘problematic sentence’, and changed the word *kids* to *children*, in example (6), the proficiency level changed back to B2. Some students got a lower proficiency level for deleting a sentence or having one typo. For example, Student 6 deleted a sentence “Measuring their abilities might damage their self-esteem” and moved from a C1 to a B2, without any new error markings or explanations as to why that happened. This happened quite often, where the language proficiency level changed because of a one small change that in real life would have not had that big of an effect when evaluating the learners’ language proficiency.

5) “*This may give some children a fear of sports, preventing them for enjoying it in a less competitive manner.*” (Student 14)

6) “*Kids learn by observing the actions of those around them.*” (Student 14)

In the questionnaire the students were asked, in question 5, if they agreed with the final language proficiency levels assigned to them (see Appendix 8). From 16 learners, 7 agreed and 7 disagreed, 2 students could not answer the question as they were unsure about their proficiency level and could not compare. However, even the students who agreed with their score, had trouble understanding how exactly their work was evaluated. The students agreed that the biggest issue was the unexplained scoring. One student wrote that “*Write &*

*Improve usually gave a pretty good estimate, but sometimes it would go from B2 to C1 and vice versa because I changed one or two words in the text*". The learners found that there was no logic behind the evaluation. When students wrote under the word limit, the software automatically assigned a lower language proficiency level (B1 and lower), even though the sentences written were too advanced for the A2 level assigned.

By analyzing the proficiency levels assigned and changes made to the tasks, I agree with Chen and Cheng's (2008: 96-97) research, that the learners could easily fool the machine. Students and the English teacher noted that the length of the sentences changed the proficiency level assigned. One student noted that the longer the sentences were, the higher was the chance of getting a better score. Furthermore, the machine does not highlight everything. Learners would correct words or grammatical features that were not marked by the evaluation tool and get a higher proficiency level. The students would have wished for a more logical evaluation and explanations as to why the proficiency level changed. Even though the scoring process seemed to be illogical, it is worth noting that most of the final essays and reports submitted had a fairly accurate language proficiency level assigned. From the 30 tasks submitted, only 5 were incorrect.

## **2.7. Perceptions of writing with Write & Improve**

Below, the students' perceptions of writing with Write & Improve are discussed. They were collected by means of a questionnaire (see Appendix 8) completed at the end of January 2021.

### **2.7.1. Perceived usefulness of Write & Improve**

In question 9 students had to write about what they liked about using Write & Improve (see Appendix 8). The most frequent advantage mentioned was the opportunity to

get scored on the CEFR scale. From 16 students 7 students found it to be the most useful part of Write & Improve, as it is the only AWE tool they know which provides that. Most students thought that Write & Improve gave a decent estimate of their writing levels, and it is a helpful tool when practicing writing for Cambridge proficiency exams. Additionally, 7 learners liked the design of the website and the additional features that the workbook provided, like the timer and word count. The timer and word count could be seen in Figure 1 and 2 (see Appendix 1 and 2). The word count is under the text box and the timer is on the right side, under the progress graph. There were some minor design flaws that learners would like to see improved, but overall, most of them found it easy to navigate and pleasant to use.

Some student pointed out that the AWE tool was helpful when correcting grammatical errors. Learners liked that the tasks could be submitted numerous times and the feedback was always immediate. One student wrote: *“We can have 20 iterations of an essay, compared to 1-2 when writing on paper. It is great to get some feedback from an outside party – we are not very good at critiquing our own work.”* Students pointed out that the idea behind Write & Improve is very appealing and the website was better than they expected it to be.

In question 7 and 12, the students were asked if they were satisfied with Write & Improve and if they would use it in the future. According to Figure 10, 13 students were satisfied with the website overall and 4 of them are planning on using the website in the future. In their opinion, the website could be useful in checking their future homework assignments. One student stated that they would continue on practicing for the CAE, as there are numerous essay tasks available on Write & Improve. It is worth noting that the 4 students emphasized that they would use the website to just check their proficiency level and simple grammatical or spelling mistakes. 9 students noted that the AWE software is

very promising; however, it is not yet fully developed and until bigger issues are fixed, they would not be returning to the website.

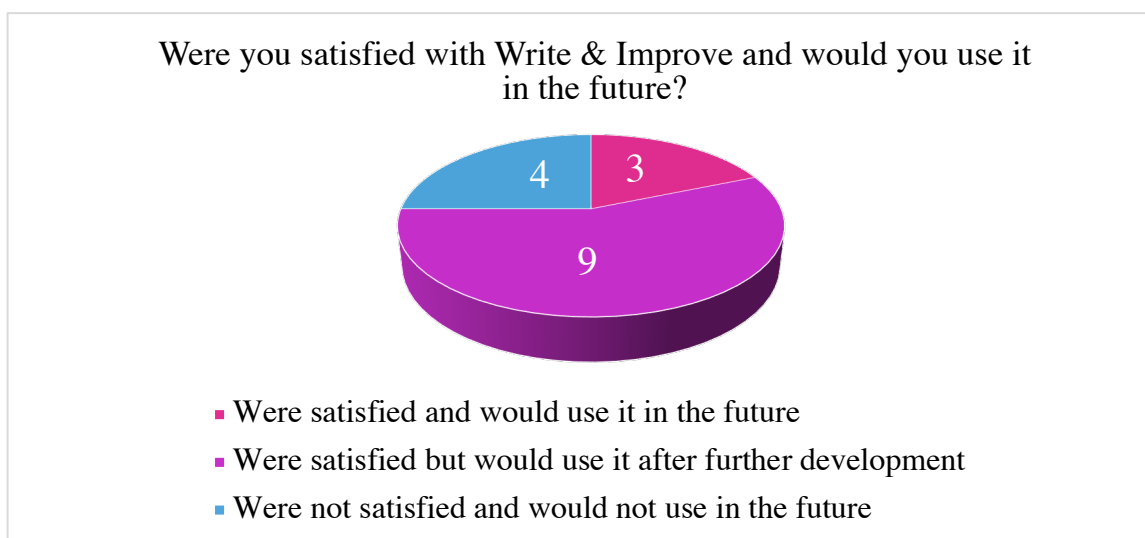


Figure 10. Summary of learners' answers to questions 7 and 12 (Appendix 8)

In addition to using the website by themselves in the future, the students were asked in question 8 if they would like Write & Improve to be used in their future English lessons to practice writing. According to Figure 11, 9 students were for, 5 were against, and 2 were indifferent. Here is an example of one student's opinion on why it would be beneficial: *"Yes, since the writing tasks are similar to those offered in our coursebook and it is a quick way to see our mistakes. I do think that if someone is not very motivated to better their language skills, this tool is just an easy way out."* A student has also stated that the website diminished the chances of oddly built sentences and grammar errors. The tool made the students reread their text more times than they would have in a face-to-face classroom setting. However, most of the feedback provided by the students was about the website being satisfactory but not ideal. Students found that there were still many aspects of it that need further improvement. Some of the feedback provided by the students was: *"7/10. The pros outweigh the cons, but the program still needs much improvement."*, *"I was quite satisfied with Write and Improve, but there are still many aspects of it that need to be worked on."*, *"Overall,*

*this was a fun task and I would definitely use this application again, given that its AI gets a little smarter.”*

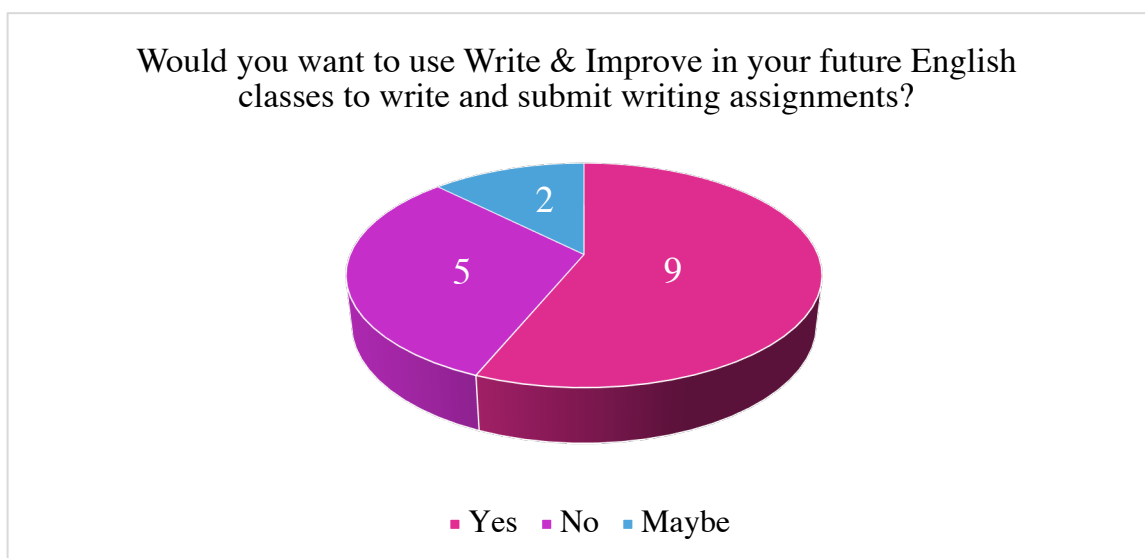


Figure 11. Summary of learners' answers to question 8 (Appendix 8)

In question 11, learners answered if they would recommend Write & Improve to a friend, and 11 students said they would. The reasons for recommending the website varied: to get a quick overview of their language proficiency level, to improve their writing by getting instant feedback, to review the writing before submitting it to the teacher, and to get an additional assessment on the writing. 3 students stated that they would recommend Write & Improve for beginner language learners rather than advanced. The students agree with the participants from Hockly's (2018) research, where they stated that advanced learners need more detailed feedback rather than just on grammar and spelling. Overall, the students were impressed by the AWE tool; however, before the website is fully developed, the students would still prefer additional feedback from the teacher on both the form and the content.

### 2.7.2. Perceived shortcomings of Write & Improve

As mentioned in Section 2.7.1, learners would like to use Write & Improve after it has further developed some of its features. The biggest weakness mentioned by the students when answering questions 6 and 10 (see Appendix 8), was the error correction. There were three flaws mentioned: no explanation behind the highlighted sentences, the machine missing noticeable errors, and receiving no feedback. The students did not expect the AWE tool to correct the content of the text or understand the task, all of the feedback provided by the learners was about the error correction on the form (lexis, spelling, grammar, etc.).

When the machine dislikes the sentence submitted by the user, it highlights it. The website provides the learners with an explanation of the symbols and error markings used by the evaluation tool, as seen in Figure 9 (see Appendix 7). There are two kinds of sentence-level feedback: a lighter and a darker yellow. A light-yellow highlight means that the sentence could maybe be improved and a dark yellow means that the sentence has some problems present. The learners found this feature to be the most confusing, as the machine highlights sentences without providing an explanation or help, especially if there is a problem present. Many of the highlighted sentences were clear and had no errors, e.g., example (7) was marked as a sentence that could maybe be improved and example (8) as a problematic sentence.

7) *“Crime is a prevalent issue all over the world.”* (Student 8)

8) *“Programme host H.Himmelton put forward the suggestion of mandatory social events at school and work.”* (Student 16)

As a result, students started rewriting and correcting the highlighted sentences without understanding what exactly the issue was. Many of the students stated in the

questionnaire, that when the sentence was rewritten and no longer highlighted, the automatic assessment tool would lower their proficiency level. A student commented: *“The program does not provide explanations as to why this or that sentence is poorly structured. The logic behind the way it decides to highlight a sentence is quite whimsical. If I change a word or two in the text, it would suddenly mark sentences as full of errors, or all highlights would be removed and it would say there weren't any mistakes.”* The students’ experience aligns with the study conducted by Huijser and Wali (2018) and Ferlazzo’s (2016) feedback, where the participants found the feedback difficult to understand and incorporate.

Another flaw brought up by the students was the AWE tool missing language errors. Students found other web-based writing tools, like Google Docs, being better at identifying errors. One student even tested it out, and copy-pasted their essay into Google Docs. They stated that the website highlighted more errors than Write & Improve did. Another student wrote: *“I found the error correction very underdeveloped and faulty. It didn't point out any mistakes I had made (even very obvious ones) that other grammar correcting software did.”* From analyzing the reports and essays written by the students, the machine did tend to miss some noticeable errors. Even though Nicholls did state in Harrison’s interview (2017) that the machine does not highlight all of the errors right away, some errors were never highlighted even after over 10 submission. Most noticeably it tended to miss spelling mistakes, and as a result, many of the final submissions had misspellings in them. For example, in example (9) the word *acquaintances* was never highlighted, and in example (10) it was *parentsresort*.

9) “...they just have a naturally decreasing number of acquaintances, and are afraid to form new relationships...” (Student 10)

10) *“Many parentsresort to doing what feels intuitive...”* (Student 7)

Furthermore, the machine tended to miss punctuation errors after transitional words at the beginning of a sentence, e.g., *nowadays*, *first of all*, *however*, *at first*, etc. For example, in example (11), there should be a comma after *first of all*, but that was never brought up to the student's attention.

- 11) "*First of all we know that sitting on the couch behind the screen is many times easier than going to the gym.*" (Student 4)

The third issue students ran into, was that the feedback was not endless. After submitting the task multiple times, many students ran into a problem, where there was no feedback and error correction provided. Many students wrote that they would have liked to improve their proficiency level but had a hard time understanding how, as nothing was suggested by the AWE tool. The website would say that there was no sentence-level or word-level feedback for the current writing, even though the text could have been further corrected. For example, Student 7 got no further feedback from Write & Improve, even though in example (12), the word *plane* and in example (13), the word *meanwhile* should have been highlighted. The texts could have been definitely further improved and corrected.

- 12) "*Almost every European lives next to a street or some other plane, which is all you need for a good workout.*" (Student 7)
- 13) "*Mean-while, making sure everyone lives next to an Olympic-size swimming pool...*" (Student 7)

Students mostly disliked Write & Improve because of the feedback it provided. One student thought the website prioritized proficiency levels and the sentences-level feedback, over the actual quality of text. Write & Improve mostly provides indirect feedback, which ideally should motivate the learners to apply their knowledge and try and solve the issue; however, as the machine provided inconsistent feedback, the students had a hard time trusting the evaluation, and understanding what the exact issue was.

## **2.8. Discussion**

The research question of the thesis was: What are the possible benefits and drawbacks of using Write & Improve with 11<sup>th</sup> grade students in English classrooms in Estonia to practice learners' writing skills? The analysis of the rubrics, the accuracy of the proficiency levels assigned, and the questionnaire provided some interesting findings. Many of the findings correlate with the findings of studies mentioned in Chapter 1, about the use of Write & Improve and AWE systems in general.

The main strengths of Write & Improve, based on the findings of this study, were usability, availability of a high number of diverse tasks, the timer and word count feature, availability of both machine and teacher feedback, quick evaluation speed, and the provision of estimate of writing levels. Design-wise the website can be overwhelming at first; however, by the end of the study, most of the participants found the website easy to understand and navigate. The website could be further developed design-wise; however, none of the design flaws seriously disrupted the students' writing process. I did show and explain the website prior to the assignments being submitted, but some learners still had some difficulty in finding their tasks. One reason behind this might be that the website provides numerous activities and features and by the end of the introductory lesson, the learners might have already forgotten what was explained in the beginning, e.g., where their tasks were and how

to submit them. One option to reduce confusion would be to explain the website and ask the learners to follow the instructions, thus having hands-on practice first. Additionally, the educator could just concentrate on the features that the students have to focus on and ignore the rest.

Interestingly, multiple learners pointed out that the timer and word count features were one of the two aspects they liked about Write & Improve. The word count was immediate, and the students could see the number of words as they were writing. When a writer was within the word limit it was green, when they went a bit over it changed to orange, and when the text became clearly too long it turned to red. It is a helpful feature that made the students aware of the word limit and their text length. With the timer, the students could time their writing process. It is especially helpful for learners who are practicing for an exam, where the time provided for writing is fixed.

Nova (2018: 85), Karyuatry et al (2018: 88), O'Neill and Russell (2019: 94) studies agreed that the biggest strength of AWE technologies was the quick evaluation speed. Through analyzing the questionnaire, most of the participants in the present study mentioned the immediate feedback as one of the reasons for liking Write & Improve as well. The learners appreciated that they could get some kind of feedback before waiting for the teacher's assessment. The website does provide the option for the teacher to provide written feedback and grade as well; however, in this study only the automated machine feedback was provided for the students. As a result, it was understandable when the learners answered that additional teacher's feedback would have been appreciated. If the students had known that the website provides the opportunity for both, machine and human feedback, their opinions on the website might have changed.

According to Chen and Cheng's (2008: 95), a machine cannot read and understand the text as a human would, and it does not take into consideration the task and content of the

written text. Even Nova's (2018: 87, 91) study on Grammarly, also marked its inability to assess the content of the texts as a weakness. However, Nicholls (Harrison 2017), one of the team members behind Write & Improve, agrees that this is where AI, including Write & Improve, needs further development. The website can help with language correction, while the teacher can evaluate the content of the text. Thus, when analyzing the website, the learners and me were not expecting the AWE tool to provide feedback on task-related topics.

According to online feedback provided by Ferlazzo (2016) and Wilkins (2020), and the study conducted by Huijser and Wali (2018: 17), one of the most useful aspect of the tool mentioned was the grammar assessment. The students did agree that they found Write & Improve useful when suggesting alternatives to their grammar and spelling mistakes. They appreciated the explanations and suggestions on how to correct the errors.

The website heavily promotes its capability to score texts according to the CEFR. The Atlas School of English staff wrote an article about Write & Improve, and one of the drawbacks mentioned was the inaccurate proficiency levels assigned to learners. However, the majority of the students participating in the current study agreed with the language proficiency levels assigned to them and according to the rubric created, most of the levels assigned were fairly accurate. The learners were interested in the scores provided. As the learners were preparing for a CAE, they were aiming for a C1 or higher, thus getting assigned an estimate of their writing levels gave a better understanding of how close their writing was to the language proficiency levels desired. It is important to note, however, that not all of the proficiency levels assigned were correct and are just an estimate. Before using the tool in English lessons to practice writing, it is important to state this for the learners.

The main weaknesses of Write & Improve were unexplained scoring and error markings, absence of communication tools and small writing area provided. Even though the proficiency levels assigned were generally accurate, the way the texts were evaluated

was illogical and confusing for some of the students. Students would correct the highlighted sentences and either stay at the same level or lower it, and when they corrected the sentences or words not marked by the AWE system, the proficiency level improved. The students' feedback on the scoring system was in line with Chen and Cheng's (2008: 96-97) findings, where the machine could be easily fooled. Students pointed out that the machine tended to prefer longer sentences and equating them to a higher language proficiency level. Most of the students would make minor changes to raise their score, which is in line with what was presented in Hockly's (2018: 85) study. From the questionnaire, it felt that instead of concentrating on the content and organization of the text, the students concentrated more on the proficiency levels assigned, and trying to improve them.

As mentioned above, one of the biggest drawbacks of Write & Improve, mentioned by the students, was the error correction. Write & Improve tended to miss a number of errors and mark unnecessary sentences, which correlates to the findings of O'Neill and Russell's (2019: 101-102) study on another AWE tool, Grammarly. Similarly, to their findings, Write & Improve highlighted sentences which were not errors, and mostly missed spelling and punctuation errors. Furthermore, similarly to the findings of Ferlazzo (2016) and Huijser and Wali (2018: 17), the students had a difficult time understanding the markings provided by Write & Improve. The machine did not need to correct the text; however, it would have been helpful for the students to understand what exactly needed to be changed. When a sentence is marked as 'problematic', the students want to know what exactly makes it problematic.

It is worth noting that Chen and Cheng's (2008: 98) study found that automatic feedback provides repetitive and generic suggestion. According to Nicholls ("How does Write & Improve work?", n.d.), the formative feedback provided by Write & Improve has currently 268 different graded feedback answers and is continuously growing. However,

another issue not mentioned by the studies was that at some point the feedback stops, even though further corrections could have been made.

Other drawbacks were the size of the text box provided for writing and the lack of communication tools. According to Baya'a et al (2009: 764), a good WBLE should provide some communication methods, like forums or chats. The students could discuss their texts, proficiency levels assigned, read and provide feedback for each other, and ask for help. The chat would be a beneficial feature provided in the *Class View* feature. Currently only the teacher can communicate with the students through providing feedback or contacting via e-mail. If I needed to contact the students, I did it through their teacher. A chat feature could have eased this process. Additionally, the text box was far too small, and it was uncomfortable for some of the students to read and correct their whole text. For a better writing experience, a bigger writing area would have been preferred.

One shortcoming of this study was the questionnaire. The questionnaire should have had more precise questions. For questions 9 and 10 I got various answers from disliking the size of the writing box to the machine highlighting correct linking words. I could have asked about a specific area, e.g., strengths and weaknesses of the scoring, grammar assessment, design etc. A separate question about the design of the website could have been asked. Students only answered if they had troubles navigating the website, but not about the way it was designed. Furthermore, I could have asked if the students would have appreciated communication tools provided on the website. Questions 7 and 12 were very similar, asking the students if they found the website useful and satisfactory, and the answers provided were quite similar as well. Even though no new information was added, these similar questions helped to check how consistent the students were in answering the questions. As a result of the students providing similar answers to similar questions, the answers could be considered reliable.

The thesis represents the findings of using Write & Improve with sixteen 11<sup>th</sup> grade Estonian students and the strengths and weaknesses of the AWE tool according to the students, the CEFR and a rubric created by Baya'a et al (2009). As Write & Improve is still quite a new AWE software, developed only in 2016, it needs further improvement. It has its strengths, and 9 out of 16 students would not mind using the website in their future English lessons to practice writing. It provides the opportunity for the students to track their writing progress, get immediate feedback and get a close estimate of their proficiency level. However, the website is not ideal, the biggest weakness being the unexplained and sometimes incorrect word- and sentence-level feedback. When implementing the tool into English lessons, it is important to have these weaknesses in mind. If a teacher and students use the tool with an understanding of its strengths and shortcomings and have a clear educational goal in mind, the utilization of the tool can prove to be beneficial.

## CONCLUSION

Write & Improve is a new AWE software developed by the University of Cambridge. Previous studies concentrated on introducing the WBLE and the learners' perception of the tool; however, the web-based environment had been scarcely researched, especially in Estonia, and needed further analysis. The present thesis *Analyzing Cambridge English Write & Improve as a supplementary resource for practicing writing in an English classroom: a case study* analyzes the strengths and weaknesses of using Write & Improve when used with sixteen 11<sup>th</sup> grade students as a supplementary tool to practice writing. This study provides a deeper look into the website, its strengths and shortcomings, and what teachers and learners planning on using the website can expect.

The research was divided into two chapters. The first chapter explains what automated writing evaluation systems are and what their strengths and weaknesses based on studies conducted by Chen and Cheng (2008), Parra and Calero (2019), Hockly (2018), Fang (2010) and Moslehpour (2016) are. AWE systems provide immediate feedback on writing and nowadays, most of them are web-based and have a variety of features available. Some of the strengths mentioned were quick evaluation speed and grammar correction. According to the studies, the AWE systems helped to raise students' language awareness. Some of the weaknesses mentioned were the machine's inability to differentiate between gibberish and lucid writing, inaccurate scoring, vague and complex feedback, and recurrent incorrect error assessment. According to the studies, due to the machine processing writing as series of codes, the learners can learn how to beat the scoring system. Furthermore, instead of concentrating on the content and organization of the text, the learners tended to correct minor mistakes concerning the form.

The chapter continues with a comprehensive description of Write & Improve and its strengths and weaknesses according to previous research and feedback available online. Write & Improve is an AWE software developed at the University of Cambridge. The website provides three types of feedback – summative, formative, and indirect semi-corrective. The main strengths of Write & Improve mentioned were grammar assessment, user-friendliness, and continuous encouragement of self-improvement and self-study. The main weaknesses mentioned were unexplained error markings, confusing general view of the class, and incorrect language proficiency levels assigned.

Lastly, the chapter ends with the description of the rubrics chosen to analyze the website and the accuracy of the proficiency levels assigned. The present thesis followed the rubric created by Nimer Baya'a, Hanadi Mia'ari Shehade and Amal Roby Baya'a (2009). Two criteria analyzed were 'usability' and 'educational value'. The chosen criteria helped to answer the research question. To analyze the language proficiency levels assigned, a rubric was created, which summarized the writing and linguistic descriptors presented on the 2001 CEFR and the 2018 companion volume. To analyze learners' perception of Write & Improve, a questionnaire on Google Forms was created.

The second chapter analyzed Write & Improve based on the rubric created by Baya'a et al (2009), the accuracy of the language proficiency levels assigned and the students' perception of the website. The discussion summarized the main strengths and weaknesses and analyzed the findings by comparing and referring to the studies presented in Chapter 1. According to the rubric created by Baya'a et al (2009), Write & Improve is quite user-friendly and easy to navigate. For the WBLE to fully meet all criteria, it would need to improve the table of contents, so the teacher-created workbook could be easily found, the size of the text box, so the students could see the full text when writing, and add a communication tool, so the students and the teacher could chat between each other. The

language proficiency levels assigned were predominantly accurate, with only 5 being assigned incorrectly. However, the students found it difficult to understand how the language proficiency levels were assigned or changed. The proficiency level either decreased or rose just by making minor changes to the text. From 16 students 12 were pleasantly surprised by the website and were generally satisfied with the features it provided, and 9 students would not mind in using it in future English classes if teacher's feedback would also be provided. Nevertheless, it is important to note that the error correction was the biggest drawback of the AWE tool. The feedback tended to miss misspellings and punctuation errors, and sometimes it would mark sentences as 'problematic' even though there were no issues. In most cases, students tended to get confused and would have wished for further explanation of the error markings and scoring.

This study could be further improved upon. The questionnaire could have been modified to better help to achieve the aims of the thesis. Further studies are needed to thoroughly analyze the machine-generated feedback and scoring system provided by Write & Improve. Furthermore, future studies could be conducted on the same topic but among a bigger number of participants to provide more data on the use of Write & Improve as a supplementary resource to practice writing.

Write & Improve is a software still needing further development and improvement; however, that does not mean that the website is not worth using. The website not only acts as an AWE system, but it also saves all of the tasks submitted by the students. The teacher has all of their texts in one online platform. They can see the students' changes and improvements and add their own feedback and score. Considering the shortcomings of the website are known, the educators will be well aware of what to expect when first using it. Write & Improve can prove to be a useful supplementary resource when practicing writing,

as long as the teacher has a clear educational goal in mind that Write & Improve could help to achieve.

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## APPENDIX 1. Essay task



11.A

### An essay: Motivating children to exercise

You have listened to a radio discussion programme about how to motivate children to do regular exercise. You have made the notes shown in the picture.

Write an essay for your tutor discussing two of the ways in your notes. You should explain which way is more effective in motivating children to do regular exercise and provide reasons to support your opinion. Write your essay in 220-260 words in an appropriate style.

*Do not write your real name and surname or email address in your answer.*

Start again  Saved 

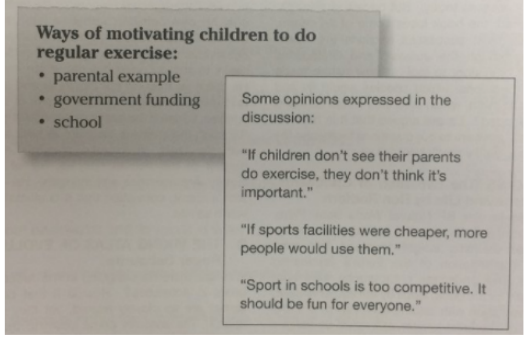
Write your text here.

**0 words entered. For this task you should enter between 220 and 260 words. Start writing!**

Check →

### Task help

Images Feedback Changes



### Your progress

Your progress graph will appear here after we finish checking your work.

### Task timer

Click on 'Start timer' to time your writing.

Reset timer Start timer

← Back

Figure 1. Write & Improve (n.d.). Retrieved February 11, 2021. Screenshot of how the essay task looks for the teacher and students on Write & Improve.

## APPENDIX 2. Report task

The screenshot displays the 'Write & Improve' report task interface, divided into two main columns. The left column contains the task instructions and a writing area. The right column contains supplementary information and controls.

**A report: Social issues**

You have listened to a radio programme on social issues that affect the community. Your teacher has asked you to write a report on social issues like homelessness, crime and loneliness, suggesting ways to deal with the issues.

Write your report in 220-260 words.

*Do not write your real name and surname or email address in your answer.*

**Start again** Saved

Write your text here.

**0 words entered. For this task you should enter between 220 and 260 words. Start writing!**

**Check** →

**Task help**

**Images** **Feedback** **Changes**

Your feedback will appear here after we finish checking your work.

**Your progress**

Your progress graph will appear here after we finish checking your work.

**Task timer**

Click on 'Start timer' to time your writing.

**Reset timer** **Start timer**

Figure 2. Write & Improve (n.d.). Retrieved February 11, 2021. Screenshot of how the report task looks for the teacher and students on Write & Improve.

### APPENDIX 3. Homepage of Write & Improve

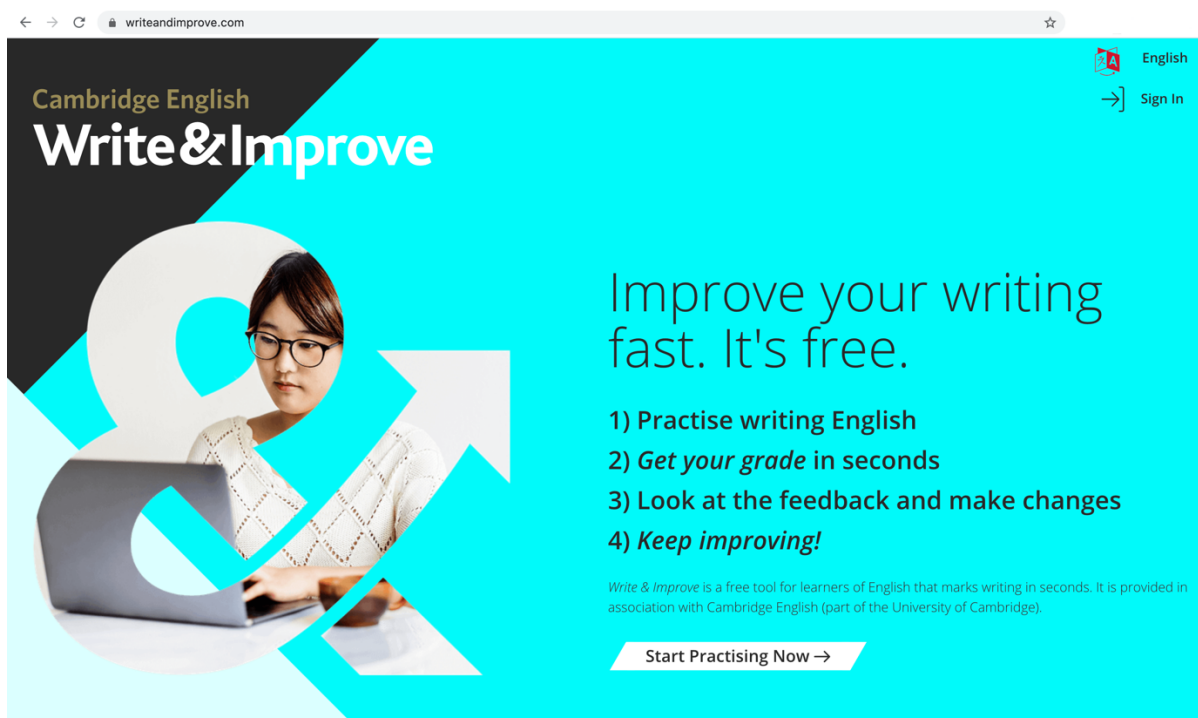






Figure 3. Write & Improve (n.d.). Retrieved March 1, 2021. Screenshot of the Write & Improve homepage.









## APPENDIX 4. Teacher created workbook

11.A 



### Your tasks

 Students' Writing  New Task

 Leave workbook

- A report: Social issues**      
 You have listened to a radio programme on social issues that affect the community. Your teacher has asked you to write a report on
- An essay: Motivating children to exercise**      
 You have listened to a radio discussion programme about how to motivate children to do regular exercise. You have made the


### Invitation code

ZFBQ3G28  

Invite people to your workbook via email.

Enter the email addresses of people you would like to invite to your workbook below and click the 'Invite' button, or send them the above invitation code.

Sorry, you can't invite more account members to your account because you have run out of places.  
[Change number of account members](#)

 Invite

### Your writing

You haven't taken any tasks in this workbook yet.

### Workbook members


 Students' Writing

Figure 5. Write & Improve (n.d.). Retrieved February 11, 2021. Screenshot of what the teacher and students see when opening the workbook.

## APPENDIX 5. +Class View

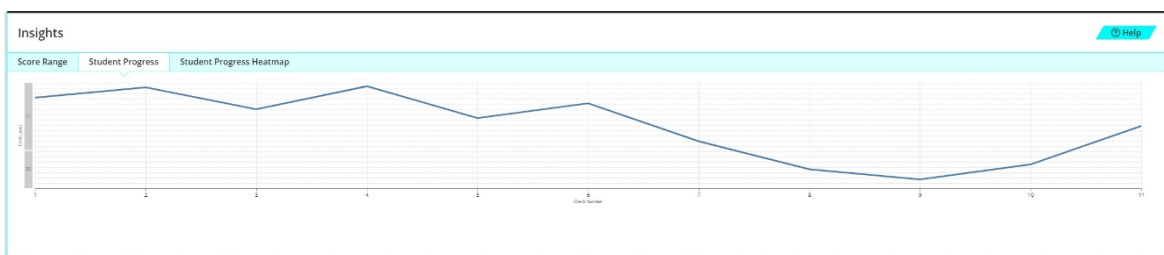


Figure 6. Write & Improve (n.d.). Retrieved February 11, 2021. Screenshot of a student's essay progress chart and number of submissions presented in +Class View.

Check	Date	Level
60	18-01-2021 15:42	C1
59	17-01-2021 23:18	C1
58	17-01-2021 23:17	B2
57	17-01-2021 23:17	C1
56	17-01-2021 23:16	C1
55	17-01-2021 23:13	C1
54	17-01-2021 23:11	B2
53	17-01-2021 23:11	B2
52	17-01-2021 23:10	B2
51	17-01-2021 23:10	B2

Figure 7. Write & Improve (n.d.). Retrieved February 11, 2021. Screenshot of a student's essay development presented in +Class View.

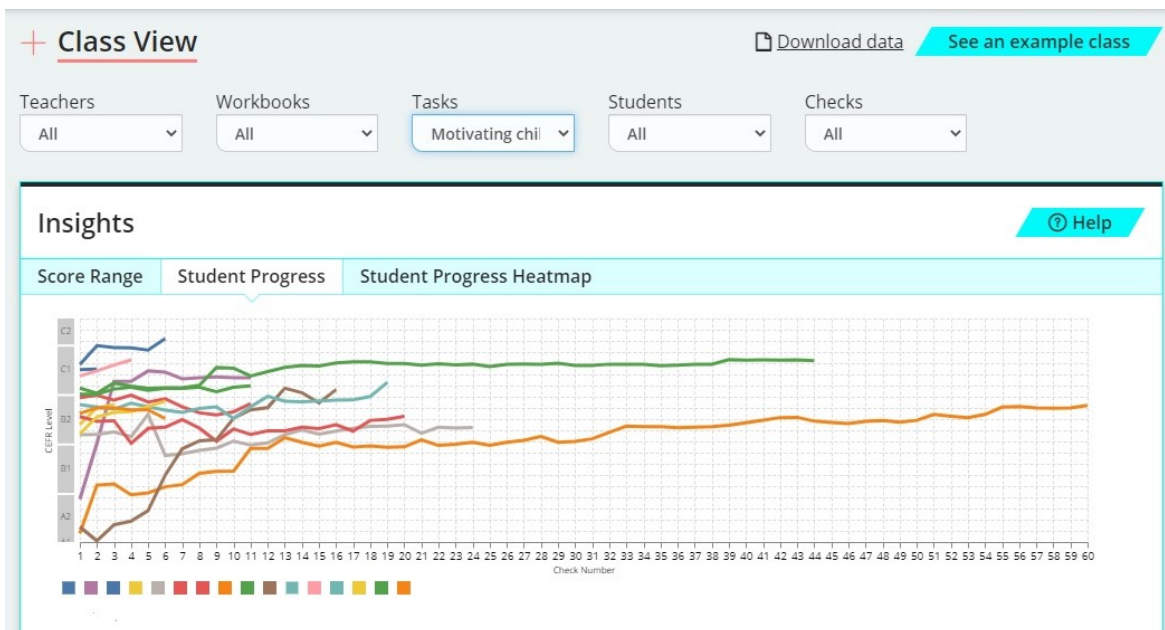


Figure 8. Write & Improve (n.d.). Retrieved February 11, 2021. Screenshot of all of the students' progress and number of checks presented in +Class View.

## APPENDIX 6. Writing performance assessment for proficiency levels B2-C2

	B2	C1	C2
Written reports and essays	<p>Can write clear and detailed texts on the topic of their interests and convey the idea found important.</p> <p>Can give arguments, solutions and reasons for or against a particular statement.</p> <p>Can specify the pros and cons of the argument presented.</p> <p>The essays and reports are logically structured, where the important points and relevant information are presented.</p>	<p>Can write clear and well-structured text on complex topics, highlighting the important issues and add additional points of view, reasons, and relevant examples.</p> <p>Can write an appropriate introduction and conclusion on a complex academic topic.</p> <p>The topic has to stay in their field of interest and the writer needs to have the opportunity to write multiple drafts and revise their work.</p>	<p>Can write clear, smooth-flowing, and complex texts.</p> <p>The texts have a logical structure making it easier to find significant points.</p> <p>Can offer numerous perspectives on complex academic topics, where the author can distinguish between their interest and ideas, and opinions presented in the sources.</p>
Vocabulary control and range	<p>The writer can express themselves easily and clearly without having to shorten what they want to say.</p> <p>The author has a fairly good range of language. They can provide clear descriptions and develop arguments without using complex sentences.</p> <p>Can understand the main terminology related to their field of interest and general topics; however, some confusion and incorrect word choices do occur.</p>	<p>The writer can use a wide range of complex linguistic structures and does not have to restrict what they want to convey.</p> <p>Can use synonyms, idioms, and colloquialisms pretty well.</p> <p>The writer is more prone to search and avoid certain words.</p> <p>There are occasional, but not significant, vocabulary errors.</p>	<p>The writer can express their thoughts precisely and does not need to restrict their thought whatsoever.</p> <p>Can understand broad vocabulary and idiomatic expressions and colloquialisms, not only related to their field of interest.</p> <p>The writer consistently uses correct and appropriate vocabulary.</p>

Grammatical accuracy	<p>Can use simple language structures and a couple of complex grammatical forms.</p> <p>The writer does not make mistakes that lead to misunderstanding and in general show good grammatical control.</p> <p>Some minor and occasional errors and flaws in sentence structure and inaccurate use of complex structures occur.</p>	<p>The writer can maintain grammatical accuracy and errors are uncommon and difficult to pinpoint.</p>	<p>The writer can maintain consistent grammatical control of complex language.</p>
Orthographic control and coherence	<p>Can produce intelligible continuous writing, where spelling and punctuation are fairly accurate.</p> <p>The texts show signs of mother tongue.</p>	<p>The writer has a consistent and helpful layout, paragraphing, and punctuation.</p> <p>Spelling is mostly correct, with occasional slips.</p> <p>Texts are clear, smoothly flowing, and well-structured.</p> <p>Can use cohesive devices and organizational patterns.</p>	<p>The writer writes error-free. They create coherent and cohesive texts and use a wide range of cohesive devices.</p>

*Table 6.* Proficiency level descriptors based on the CEFR (Council of Europe 2001: 61-62, 110, 112, 114, 118, 125; 2018: 75-77, 131-134, 137, 142)

## APPENDIX 7. Feedback explanation provided by Write & Improve

**Feedback explained**
✕

---

### Word-level feedback

When Write & Improve finds a problem in your writing, a symbol next to the word that is affected is shown. There are four different types of symbols:

- ❗ **Incorrect word?** Is this word correct?
- ⚠ **Did you forget something before this word?**
- ➡ **Did you forget something after this word?**
- ☆ **Suspicious word.** Something doesn't look right about this word.

You can find more information about the error by clicking on the symbol.

---

### Sentence-level feedback

The colour of the sentences shows Write & Improve's opinion of the quality of each sentence. Sentences with a white background are sentences that Write & Improve considers good, whereas sentences with a solid coloured background have areas that could be improved. The crossed lighter-coloured background shows that the sentence is better but could still be improved.

This seems to be a good sentence.

This sentence could maybe be improved.

There are some problems in this sentence.

---

### Score feedback

CEFR Levels

Level	Explanation
<b>C2</b>	Mastery or proficiency
<b>C1</b>	Effective operational proficiency or advanced
<b>B2</b>	Vantage or upper intermediate
<b>B1</b>	Threshold or intermediate
<b>A2</b>	Waystage or elementary
<b>A1</b>	Breakthrough or beginner

[You can find out more about what levels mean on our FAQ](#)

Figure 9. Write & Improve (n.d.). Retrieved February 17, 2021. Screenshot of the explanation of the feedback provided by Write & Improve.

## APPENDIX 8. Questionnaire

### User feedback on Write & Improve

Thank you for partaking in this research and taking the time to fill in this questionnaire, you will remain anonymous. The research outcome and report will not include reference to any individuals.

The information gathered through this questionnaire will be used as a part of empirical research analyzing the strengths and weaknesses of using Write & Improve in an English classroom to practice and submit writing.

Please answer the following questions based on your experience using Write & Improve. The survey will take approx. 15min.

#### \*Required

1. Was the website easy to navigate? Please elaborate. \*
2. Have you further explored Write & Improve and completed tasks outside of the ones you had to submit for this research? \*
3. Did you find the workbook(task/writing) feature easy to use? If no, please elaborate. \*
4. Did you run into any problems writing or submitting your work? If yes, please elaborate. \*
5. Did you agree with the language proficiency level assigned by Write & Improve? Please elaborate. \*
6. Was the error correction provided by Write & Improve helpful? Please elaborate. \*
7. Did you find the website useful, and would you use Write & Improve in the future? Please elaborate. \*
8. Would you want to use Write & Improve in your future English classes to write and submit writing assignments? Please explain your choice. \*
9. What did you like about using Write & Improve? Write at least 2 advantages. \*
10. What did you dislike about using Write & Improve? Write at least 2 disadvantages. \*
11. Would you recommend this website to your friends or schoolmates? Why not? \*
12. Overall, how satisfied were you with Write & Improve? Please elaborate. \*

## RESÜMEE

TARTU ÜLIKOOL  
ANGLISTIKA OSAKOND

Eliza Podburtnaja

**Analyzing Cambridge English *Write & Improve* as a supplementary resource for practicing writing in an English classroom: a case study**

**Veebikeskkonna *Cambridge English Write & Improve* analüüs täiendava vahendina inglise keele tunnis kirjutamise harjutamiseks: juhtumiuuring**

Magistritöö

2021

Lehekülgede arv: 72

Käesoleva magistritöö „Veebikeskkonna *Cambridge English Write & Improve* analüüs täiendava vahendina inglise keele tunnis kirjutamise harjutamiseks: juhtumiuuring“ eesmärgiks on analüüsida *Write & Improve* veebilehekülje eelised ja puudused, mis võivad ilmneda inglise keele tunnis kirjutamise harjutamisel. Uuring viidi läbi kuueteistkümne 11. klassi õpilase seas ühes mainekas gümnaasiumis Tallinnas.

Töö koosneb kahest peatükist. Esimeses peatükis antakse teoreetiline ülevaade veebipõhistest õpikeskkondadest ja automatiseeritud kirjutamise hindamisprogrammidest. See tutvustab *Write & Improve*'i, kirjeldab selle plussid ja miinused varasemate uuringute ja internetis antud tagasiside põhjal, ning tutvustab hindamismaatriksi, mille abil *Write & Improve* abivahendit hinnatakse ja analüüsitakse teises peatükis. Kirjanduse ülevaade annab teoreetilise aluse empiiriliste andmete analüüsiks. Empiirilises osas analüüsitakse juhtumiuuringut, mis viidi läbi kuueteistkümne 11. klassi õpilasega mainekas gümnaasiumis Tallinnas. Õpilastel paluti esitada CAE-tüüpi essee ja aruande ülesanne. Google Forms'i kaudu viidi läbi järelküsitlus, kus õpilased jagasid oma muljeid *Write & Improve*'i kohta. Juhtumiuuringu tulemusi analüüsitakse kirjanduse ülevaates tutvustatud hindamismaatriksi ja küsimustiku vastuste põhjal. Arutelu osas tehakse kokkuvõtte teises peatükis esitatud peamistest eelistest ja puudustest, mis *Write & Improve* kasutamisega seoses ilmnesis ning analüüsitakse neid varasemate uuringute ja *Write & Improve*'i kohta antud tagasiside kontekstis.

Uurimustöö küsimuseks oli: Millised on võimalikud eelised ja puudused *Write & Improve*'i kasutamisel 11. klassi õpilastega inglise keele tundides õppijate kirjutamisoskuse harjutamiseks Eestis?

*Write & Improve*'i peamisteks eelisteks käesoleva uuringu tulemuste põhjal olid: kasutajasõbralikkus, erinevate ülesannete olemasolu, taimer, sõnade loendamise funktsioon, nii masina kui ka õpetaja tagasiside olemasolu, kiire hindamiskiirus ja kirjutamise taseme hinnangu andmine. *Write & Improve*'i peamised puudused olid: selgitamata hindamis- ja veamärgistused, kommunikatsioonivahendite puudumine ja väike kirjutusala.

Käesoleva töö tulemused võivad olla abiks õpetajatele, kes soovivad integreerida *Write & Improve*'i oma tulevastesse inglise keele tundidesse. Tulevased tööd võiksid põhjalikumalt uurida *Write & Improve*'i pakutavat tagasisidet ja hindamissüsteemi. Lisaks sellele tulevased tööd võiksid läbi viia sama teemat käsitlevaid uuringuid, kuid suurema arvu osalejate seas, et saada rohkem andmeid *Write & Improve*'ist kui inglise keele kirjutamise harjutamise abivahendist.

**Märksõnad:** kirjutamise harjutamine, keeleõppe, automatiseeritud kirjutamise hindamisprogramm, *Write & Improve*

## **Lihtlitsents lõputöö reprodutseerimiseks ja üldsusele kättesaadavaks tegemiseks**

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1. annan Tartu Ülikoolile tasuta loa (lihtlitsentsi) minu loodud teose

“Analyzing Cambridge English Write & Improve as a supplementary resource for practicing writing in an English classroom: a case study”,

mille juhendaja on Natalja Zagura,

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*Eliza Podburtnaja*

Tartus, 18.05.2021

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Eliza Podburtnaja

18.05.2021

**Lõputöö on lubatud kaitsmisele.**

Natalja Zagura

18.05.2021