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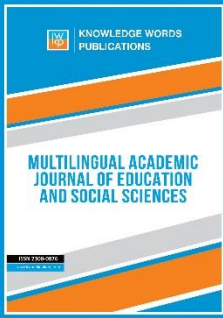
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Did you Run the Telegram? Use of Mobile Spelling Checker on Academic Writing

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Abstract

Technology in education has a pivotal role in language learning in this era of globalization. This study aims to determine the impact of mobile spelling checker on academic writing among pre-university students of a college in Malaysia. Two objectives are formed. The primary objective is to evaluate the result of the mobile spelling checker on academic writing produced by Malaysian pre-university students. Additionally, another objective is to investigate their perceptions regarding the mobile spelling checker utilised. The quantitative research approach was used. A survey questionnaire was employed to explore their perceptions and satisfaction about the spelling checker used. Cluster random sampling was employed. The samples consisted of 99 pre-university students. The results provide light on the proper usage of mobile spelling checker for academic writing. The mobile spelling checker receives many favourable responses. The research concludes that the mobile spelling checker can meet the diverse demands of pre-university students in addition to the linguistic requirements of core courses and industry.

Keywords: Pre-University Students, Mobile Spelling Checker, Telegram, Academic Writing, Malaysia

Introduction

Clear and effective writing is a critical component of academic and professional success. Writing has also been mentioned in Malaysia Education Blueprint, as written by Ministry of Education Malaysia (2013) as one of the skills that can be requested by parents to the Ministry to have classes and sessions outside of schooling hours as it is claimed as one of the hardest skills for students to get higher scores in examinations (Ahn et al, 2021; Sung & Kim, 2021). Not only can a misspelling affect readers' impression of the writing's quality, but it may also fail to communicate the writers' original intention when combined with other technical mistakes. Yet, even among college students, spelling mistakes are a reasonably frequent writing issue. For instance, when native adult speakers were evaluated using handwritten spelling-to-dictation,

they made 5.5 per cent of spelling mistakes on commonly encountered terms such as train, hat, and cake (Yin et al., 2020). Rahmanian and Kuperman (2019) discovered that when adult native English speakers were experimentally evaluated, the percentages of making a spelling mistake were significantly greater which were 34 and 28 per cent. For many learners, a fast technical answer is provided by word processors' spelling checker. While nearly all digital writing devices now have a spell-check function that either gives a list of intended words or automatically corrects mistakes, it is not yet apparent if this feature benefits or hinders spelling acquisition.

The impact of spelling checker with an error correction feature on second language acquisition may be traced back to the early 1960s when the quality was first offered (Lee, 1997). Due to the potential and expected ubiquity of the function, it had piqued the attention of many researchers from a variety of disciplines. For education professionals, for example, the issue was whether the ease of correction would degrade the quality of writing by causing learners to concentrate excessively on surface-level mistakes rather than on higher-level metacognitive processes such as content structure or revision (Shang, 2019). Unique education researchers examined whether the highly personalised environment and feedback associated with word processing can help writing for learners with learning impairments (Wong et al., 2020; Zhang et al., 2020; Singh et al., 2021). Numerous researches cited before focused on unintended educational advantages rather than the primary purpose intended by the programmer or software. What was often ignored was the immediate impact of spelling checker. The researchers investigated how the primary role of spelling check impacted the most fundamental writing ability, namely spelling ability in this research.

This study aimed to investigate the impact of mobile spelling checker and conventional tool in writing among pre-university students whether it promoted or hindered correct spelling. Following that would assess pre-university students' opinions about mobile spelling checkers and the factors that affected their choice. The research questions were formed as:

- 1) What are the differences of academic writing skills using conventional manual detection between pre-mobile learning questionnaire (MLQ) and post-MLQ of satisfaction and perception components in the control group?
- 2) What are the differences of academic writing skills using spelling checker between pre-mobile learning questionnaire (MLQ) and post-MLQ of satisfaction and perception components in the treatment group?

Meanwhile, the hypotheses were formed as below:

- 1) There is no significant difference of academic writing skills using conventional manual detection between pre-MLQ and post-MLQ of satisfaction and perception components in the control group.
- 2) There is no significant difference of academic writing skills using spelling checker between pre-MLQ and post-MLQ in the treatment group.
- 3) There is no significant difference of academic writing skills between pre-MLQ and post-MLQ of the components of satisfaction and perception of treatment group and the control group.

According to Pérez-Paredes (2019); Mushin et al (2020); Short et al (2021); Demirbag and Bahcivan (2021); Rahmati et al (2021); Mohsen and Mahdi (2021), they integrated

computer-assisted language learning (CALL) into language acquisition. These scholars integrated CALL on data-driven learning (DDL) and corpora in language learning and teaching, teacher education and also in context of teaching English with the help of technology. As a consequence, this research aimed to fill a gap regarding the application of mobile technology instead of CALL in language acquisition. On the other hand, many researchers, including Allagui (2019); Chen et al (2020); Alobaid (2020); Wong and Muhammad (2020); Oh and Song (2021); Eutsler (2021), had included mobile technology into their researches such as creative writing, writing and vocabulary. After finding a research gap, this study attempted to fill it by examining spelling acquisition.

Mobile technology included a spelling checker, a dictionary, and a red-underline alert feature. In contrast to previous studies (Jeong et al., 2017; Zaidi et al., 2020), the researchers divided performance into two categories: error detection and correction. This study used a quantitative approach. First and foremost, 99 pre-university students were assessed on their ability to write an essay with a minimum of 250 words in the pre-test. Following that, the intervention (Telegram's spelling checker) was conducted for 8 weeks. Later, they were again tested by writing another essay with similar topic (with a minimum of 250 words). The essays were marked for correct spelling. Later, a survey questionnaire was distributed through Google Forms to 99 (47 control; 52 treatment) research participants of both groups. The data was analysed quantitatively.

This study was critical because the results influenced the widespread usage of mobile spelling checker as mobile technology tool for academic writing in the aspect of spelling acquisition. In addition, Covid-19 still threatens Malaysia in 2021. Every English instructor tries to develop a realistic and efficient approach for assisting learners in successfully learning English (Wong et al., 2022). Thus, it may serve as a guide for instructors interested in adopting and integrating Telegram's spelling checker into their online teaching and learning sessions for different writing purposes.

Literature Review

Writing is a complex system, and the writing process is a strong predictor of whether a learner is a skilled or novice writer (Barrs, 2019). While speaking is an ad hoc activity, writing is a recursive process that enables writers to revisit their work and make revisions (Keen, 2017). Many theories may be used to describe and investigate the use of technology in writing and connect previous research with the use of technologies in writing skills. Nevertheless, in the purpose of this research, mobile learning is an important component of educational technology since it allows students to study, interact, and exchange ideas on the spot (Naciri et al., 2020) and to propose the constructivists idea which insist that students were expected to practice self-learning mode when learning on their own (Mattar, 2018), were employed as the underpinning theories.

Connectivism and Mobile Technology

Rather than a new theory of learning, connectivism provides educators with a model or mental representation of something that cannot be immediately seen or experienced (Dorin et al., 1990). While the status of George Siemens and Stephen Downes' connectivism theory was continued to be contested for many years, it is undeniably that it is truly relevant to today's classroom of technology usage for online education. Without a doubt, online education is a direct technical

reaction to diverse educational cultures, methodologies, and inspirations (Rapanta, et al., 2021). Through the use of 3D interactive graphics in conjunction with web technology (Web3D), teachers will build an engaging, realistic environment for students in an online setting (Chittaro & Ranon, 2007).

Each of the known learning theories, behaviourism, cognitivism, and constructivism, contributes uniquely to the design of online resources by defining how learning occurs: Behaviorist researchers (Murtonen et al., 2017) emphasise facts and the prerequisites for conceptual understanding; cognitive practitioners (Seufert, 2018), emphasise how the process should be implemented for optimal learning; and constructivist scholars (Paul et al., 2021) emphasise a shift toward real-world application, in which the learner is allowed to construct personal meanings from the material presented. Connectivism may be utilised as a critical instructional guide or theory to help improve existing learning theories for use in a globalised and networked society, but not as a stand-alone learning theory (Ally, 2007).

Jean Piaget established two principles of learning within the context of cognitive constructivism (Hof, 2021). First and foremost, learning must be actively offered; second, learning must be genuine and relevant to actual life (Piaget, 1977). Connectivism expanded this concept by enabling the learner to participate actively in presenting a body of information via the use of particular technology possibilities (Corbett & Spinello, 2020). In this research, Telegram's spelling checker was the particular technology chosen for 37 participants to involve actively in learning.

Mobile learning (m-learning) is more than just using a phone to study a language; it also entails physical locations (Statti, & Villegas, 2020). Academics had long recognised the need for content adaptation and profiling for mobile usage (Nikolopoulou, 2021). Mobile-Assisted Language Learning (MALL) is a term developed by particular academics to emphasise the use of mobile phones in enhancing the relevance, creativity, location, activity, and autonomy of language classrooms (Chen et al., 2020). From a technology-centred perspective, the mobility of mobile devices and the flexible access to instructional materials enabled by mobile learning are emphasised (Francom et al., 2021). Additionally, research had been conducted on the relationship between the mobile phone and the four macro-skills of language learning: speaking, listening, reading, and writing (Hamid & Jahan, 2020).

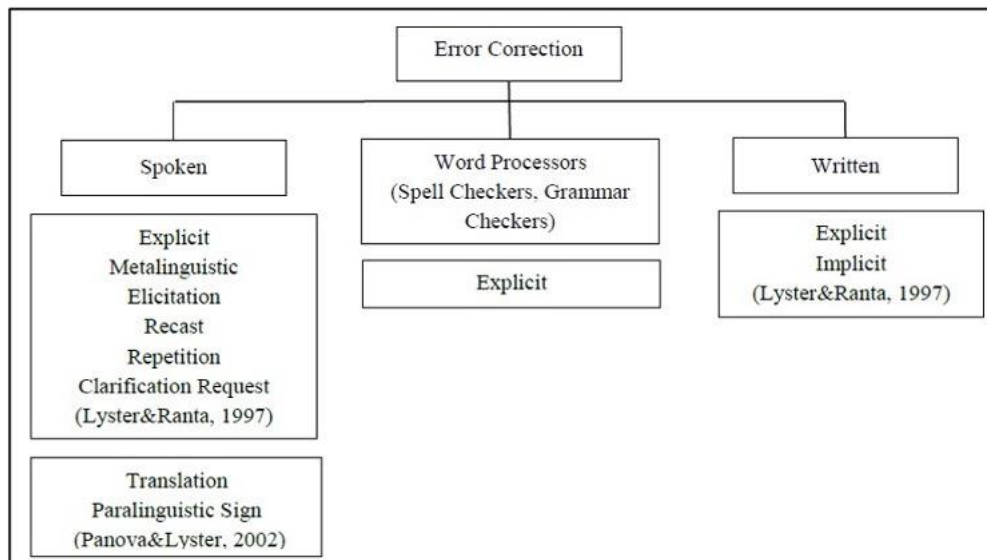
Technological advances have had a significant effect on teaching and learning in the business sector and educational settings, including writing (Shin et al., 2021). Many writing tools are available for personal, professional, and academic use (Skovhus, & Poulsen, 2021). Many teachers had been encouraged to investigate relocating or adopting new teaching techniques that include digital writing tools and settings by significantly increasing technology integration in the classroom (Petchprasert, 2021). Hicks and Bose (2019) had highlighted the need of adapting writing pedagogies to suit changing learner behaviours, especially when using new devices and on the go. In this research, via spelling checker as a tool of mobile learning, students may immerse themselves in a mobile-assisted language learning world while being supported by the features to identify and rectify spelling errors.

Error Detection and Error Correction

A spelling checker is a function in word processors that automatically detects and corrects spelling errors (Singh & Singh, 2018). The primary function of spelling checker is to fix misspelt words (Rimbar, 2017). It helps students identify and fix typographical mistakes during the word

correction process (Lin et al., 2017). The graphic below illustrates the many methods of correcting errors in spoken and written language, as Lyster and Ranta (1997), and Panova and Lyster (2002) described. While spelling checker and grammar checker are widely used and highly recommended for correcting and editing written works, they do not fall within the category of verbal or written error correction. Hence, in the context of this current research, error correction in word processors and spelling in writing were focused.

Figure 1
Different Types of Error Correction



The separation of detection and correction demonstrates that recognising mistakes does not always imply that they would be automatically corrected (Wong & Lim, 2019). The distinction between error detection and error correction is essential because, according to Crosthwaite (2017), the inability to correct deviant language could be due to either failure or inability to detect the misspelt word despite having the vocabulary knowledge or a lack of vocabulary knowledge to make the correction. Thus, in this current research, Telegram’s spelling checker plays its role to assist participants to identify misspelt words in the essay written instantly. The effectiveness of written and spoken error correction is still unclear, as evidenced by past research (Luo et al., 2020). Error correction has advanced thanks to the widespread use of mobile phones and word processors. Spelling checkers, while mainly employed in writing, also performed duties in written mistakes correction (Guo et al., 2021). It gave fast feedback when a mistake was identified. By correcting and suggesting correct words, it can also assist inexperienced writers (Tarp et al., 2017). It was also clear that when spelling checker was used, students used additional words or vocabulary suggested by it (Dymock & Nicholson, 2017).

Detection Process

When participants in both control and experiment groups were checking for their misspelt words in their essays, each word became a basic work unit that must be examined and the checking process allows them in gaining a fundamental understanding of how to prepare,

draught, revise, and edit text (Wijekumar et al., 2019). They were directly involved in learning actively and constructively. Subsequently, when used in conjunction with error-detection aids such as red-underline, spelling checker, and dictionary, the red-underline may act as a visual signal to redirect students' attention (Keller et al., 2020). Thus, it reduced needless load and increased performance of the students while they were improving their spelling, writing skills and also adding new vocabularies for themselves as they use the spelling checkers (Alhumaid, 2019). The research anticipated that throughout the process, error detection performance would be enhanced with error-detection-aid circumstances rather than without. Additionally, it was anticipated that under error-detection-aid conditions, students [low achievers] managed to locate misspelt words although they might not know the correct spelling for the errors. Eventually, correct forms of spelling would be improved for writing.

Correction Process

Another strategy for improving spelling is to optimise the correcting process. Spelling checker makes it possible to obtain correctly written words. Both the spelling checker and digital dictionary an installed application employed in this research included a correction feature. Thus, the error-correction aids (spelling checker) may redirect students' attention (Marcell Cárdenas, 2018). As a result, it reduced error-correction problems and increasing error-correction performance, also to assist users in spotting errors, immediately identifying the source of the error, and then allowing them to rapidly go back and correct the text without slowing down the text entering speed (Alharbi et al., 2019). Consequently, this research supported that error-correction performance will be higher in the error-correction-aid settings throughout the treatment period (8 weeks) in experimental group than in the absence of a correction function for control group (red-underline).

Method

This research employed a quantitative approach to answer three hypotheses. First of all, pre- and post-questionnaire were conducted and distributed to research participants using Google Form to explore their perceptions and satisfaction regarding mobile spelling checker and conventional tool.

The sampling technique of this study is a simple sampling technique. Simple sampling is a sampling technique in which a researcher uses an existing and preferred sample in a study (Fraenkel et al., 2012). In this research, random sampling was utilized (probability) to avoid biasness. The college selected in this study recruited 212 pre-university students. However, the research concentrated on 126 Upper Form Six pre-university students. Hence, a total of 99 (46 males and 53 females) pre-university students of the college chosen was taken as the research participants through random sampling. In addition, they fulfilled the criteria for representing the population described. The population aimed for this research was every pre-university student (Upper Form Six) who were 19 years old in Malaysia. In addition, they will sit for the examination of Malaysian University English Test (MUET) in 2022. Next, the sample selected was pre-university students (Upper Form Six) studied in a college located in Ipoh, Malaysia.

Due to Covid-19 and the government's lockdown policy, 99 research participants often utilised their electronic gadgets for studying through Google Meet (Al-Marouf et al., 2021). They used their mobile phones, tabs, laptops or computers to attend courses, communicate with teachers,

download online or offline educational materials, and complete tests (Matzavela & Alepis, 2021). A control and treatment group were formed in this research. The control group (47 research participants) was instructed to write academically using conventional manual detection of spelling. Likewise, the treatment group (52 research participants) was instructed to utilise Telegram's spelling checker for spelling in writing. The results of trial examinations of 2021 were compared to verify that both groups had comparable language competence. It was believed that the research would be invalid if they did not possess the similar level of language proficiency in spelling aspect before the conduct of research (Vögelin et al., 2018). From the trial results, it indicated that both groups had similar language competence with mixed-abilities (low, intermediate, advanced) students. Hence, these two groups were comparable for this research.

Next, a pre- and post-MLQ was given to 52 research participants in experimental group with the aim to explore their perceptions regarding mobile spelling checker through Google Forms. In this research, the data collected from research participants' essays and transcribed interviews were analysed using various data analysis methods. For Null Hypothesis 1, Null Hypothesis 2 and Null Hypothesis 3 the pre- and post-MLQ were collected and analysed. Then, they were analysed through Statistical Package for Social Science (SPSS) version 23. In addition, the t-test (dependent and independent) was used to analyse the pre- and post-MLQ. The t-test was performed to determine a statistically significant difference in pre- and post-MLQ for the control and treatment groups (Delacre et al., 2017). This will also decide whether the intervention was more successful for the research participants to spell correctly in academic writing.

Then, the research questions were addressed in this study via the use of a quantitative approach. Additionally, the role of pre-test was to verify that both groups encountered spelling mistakes prior to performing the intervention since the intervention would be invalid if both classes were diagnosed with a different linguistic issue (Teng & Zhang, 2020). They were assigned a topic regarding face-to-face learning to write about. The structure was completely consistent with the most recent MUET standard, which asked the research participants to produce an essay with at least 250 words in length. Due to the research's primary focus on spelling, the grading rubrics were unique in comparison to a standard version. Following that, both experimental and control groups received a post-test after the completion of the 8-week intervention. A comparable topic of online learning was assigned to research participants to see whether or not they had improved their spelling acquisition. The same formula was used for grading. Later, a pre- and post-MLQ was distributed to research participants in experimental group since the survey asked about the subject matter of mobile spelling checker. Hence, control group could be excluded. In order to protect the data. The survey questionnaire was adopted from other researchers' contents. Furthermore, it was validated by three experts in the related field.

Results

Null Hypothesis 1: There is no significant difference in academic writing skills by conventional tools between pre-MLQ and post-MLQ of satisfaction and perception components in the control group. As shown in Table 1, the mean values of the satisfaction components of the pre-MLQ ($M=2.83$, $SD=0.97$) were greater than those of the post-MLQ ($M=2.72$, $SP=1.07$). The mean difference in values was 0.11. Following that, the mean value of the pre-MLQ perception component ($M=2.94$, $SP=.95$) was more significant than the mean value of the post-MLQ perception component ($M=2.73$, $SP=1.05$) by a mean value difference of 0.21. In the control

group, there was no significant improvement in the satisfaction and perception component between pre-and post-MLQ. Meanwhile, the pair sample t-Test in Table 2 indicates significant differences between pre-and post-MLQ for the two components, namely satisfaction component $t(46)=2.21, p=.032 < .05$, and perception component $t(46)=3.53, p=.001 < .05$. This indicates a difference in academic writing abilities measured using traditional procedures between pre-and post-MLQ satisfaction and perception components in the control group, and null hypothesis 1 is rejected.

Table 1

The Mean Values of the Satisfaction and Perception Components of the Pre-MLQ and Post-MLQ of Control Group

Components	Control Group (n=47)			
	pre-MLQ		post-MLQ	
	M	SD	M	SD
Satisfaction	2.83	.97	2.72	1.07
Perception	2.94	.95	2.73	1.05

Figure 2

Mean Differences of Satisfaction and Perception of Control Group

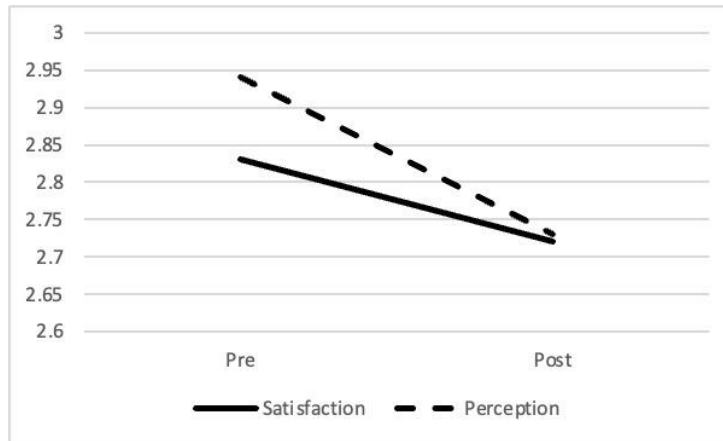


Table 2

Inferential Statistics of the Satisfaction and Perception Components of the Pre-MLQ and Post-MLQ of Control Group

Pair	Paired Differences			t	df	Sig. (2-tailed)
	M	SD	Std. Error Mean			
Pre-Post Satisfaction	.10	.32	.05	2.21	46	.032
Pre-Post Perception	.20	.40	.06	3.53	46	.001

Null Hypothesis 2: There is no significant difference in academic writing skills by spelling checker tools between pre-MLQ and post-MLQ in the treatment group. As shown in Table 3, the mean values for the satisfaction components of the post-MLQ (M=3.98, SD=0.68) were significantly higher than those for the pre-MLQ (M=3.73, SP=0.48) in the treatment group. The mean difference in values was 0.25. Following that, the mean value of the perception component of the post-MLQ (M=3.95, SD=0.73) was 0.23 higher than the mean value of the pre-MLQ (M=3.72, SP=0.63) in the treatment group. The satisfaction and perception component scores in the treatment group showed a significant difference between pre- and post-MLQ.

Meanwhile, the pair sample t-Test in Table 4 indicates significant changes between pre- and post-MLQ for two components, namely satisfaction component $t(51)=-3.8$, $p=.000 < .05$, and perception component $t(51)=-4.3$, $p=.000 < .05$. This indicates a difference in academic writing abilities measured by treatment tools between pre- and post-MLQ satisfaction and perception components in the treatment group, and null hypothesis 2 is rejected.

Table 3

The Mean Values of the Satisfaction and Perception Components of the Pre-MLQ and Post-MLQ of Treatment Group

Components	Treatment Group (n=52)			
	pre-MLQ		post-MLQ	
	M	SD	M	SD
Satisfaction	3.73	.48	3.98	.68
Perception	3.72	.63	3.95	.73

Figure 3

Mean Differences of Satisfaction and Perception of Treatment Group

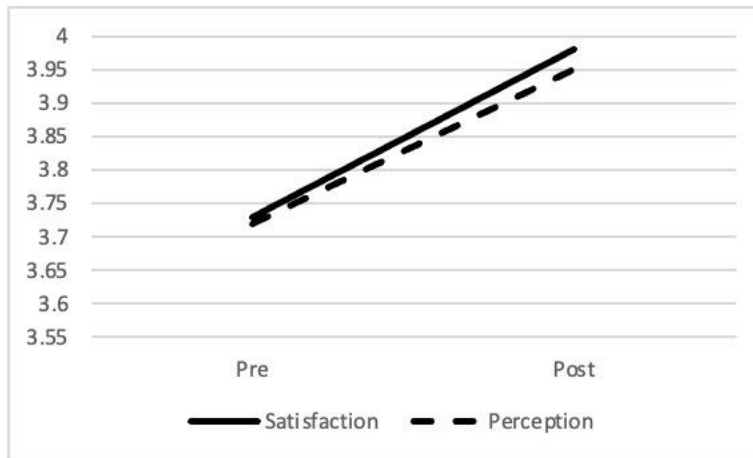


Table 4

Inferential Statistics of the Satisfaction and Perception Components of the Pre-MLQ and Post-MLQ of Treatment Group

Pair	Paired Differences			t	df	Sig. (2-tailed)
	M	SD	Std. Error Mean			
Pre-Post Satisfaction	-.26	.49	.07	-3.8	51	.000
Pre-Post Perception	-.23	.40	.06	-4.3	51	.000

Null Hypothesis 3: There was no significant difference in academic writing skills between pre-MLQ and post-MLQ of the components of satisfaction and perception of experimental group and the control group. The analysis revealed that the treatment group's mean value satisfaction component (M=3.86, SP=.53) was more significant than the control group's mean value satisfaction component (M=2.77, SP=1.01). Similarly, the treatment group's mean value perception component (M=3.83, SP=.65) was more significant than the control group's mean value (M=2.83, SP=.98), resulting in a mean value difference of 1.00. The independent sample t-test analysis, as shown in Table 6, revealed statistically significant differences between the treatment and control groups for both satisfaction and perception, with $t(97) = -7.062$, $p = .00 < .05$ for satisfaction and $t(97) = -6.743$, $p = .00 < .05$. This suggests that the treatment group attained statistically higher mean values in all two components of writing skills than the control group. As a result, the third null hypothesis is ruled out.

Table 5

Mean Value Satisfaction Components for both Control and Treatment Groups

Components	Control Group (n=47)		Treatment Group (n=52)	
	M	SD	M	SD
Satisfaction	2.77	1.01	3.86	.53
Perception	2.83	.98	3.83	.65

Table 6

Independent Sample T-Test Analysis

Components		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Satisfaction	Equal variances assumed	16.167	.000	-7.062	97	.000
	Equal variances not assumed			-6.909	76.304	.000
Perception	Equal variances assumed	16.078	.000	-6.743	97	.000
	Equal variances not assumed			-6.624	80.872	.000

Discussion and Conclusion

According to Table 1, the control group (conventional manual detection) had surprise results, as the research participants reported higher levels of satisfaction (2.83) and perception (2.93) for the pre-MLQ, compared to the data analysed for the post-MLQ (2.72; 2.73). In post-MLQ and Figure 1, there was a significant reduction in satisfaction and impression. Perhaps the research participants were bored and demotivated by the task of manually detecting spelling problems (Cooper, 2018). The statistics in Table 2 substantiated the validity by displaying significant values (.032; .001).

On the other hand, treatment group participants reported high levels of satisfaction and perceptions for the spelling checker even prior to the intervention, since the mean scores (3.73; 3.72) for both elements were relatively high compared to the control group. Following the intervention, post-MLQ was conducted. The mean ratings (3.98; 3.95) in Figure 2 demonstrated an increase in satisfaction and perception of the mobile spelling checker among the treatment group's research participants. They were said to be fond of the functions of a mobile spelling

checker, which automatically and instantly detects spelling faults in academic writing (Andina et al., 2019). The significance values (.000;.000) obtained from Table 4 were used to validate the results.

Finally, data triangulation was performed by comparing the control and experimental groups (Ling, 2019). As shown in Table 5, the treatment group has significantly higher mean scores for both satisfaction and perception regarding the tool used to check spelling problems. Meanwhile, the control group's lower mean scores suggest that the research participants are uninterested in using conventional manual spelling detection for their academic writing. Another fascinating point is that by comparing and contrasting the values from both groups, it is possible to deduce that the control group scored higher on perception (2.83) than on satisfaction (2.73), while the treatment group scored higher on satisfaction (3.86) than on perception (3.83). While it may be argued that research participants had favourable attitudes toward manual spelling detection, the treatment group expressed satisfaction with the performance of the mobile spelling checker.

The findings of this study corroborated those of Kiros and Aray (2021); El Atawy and Ahmed (2021); Zukarnain et al (2019); Andina et al (2019); Wibowo et al (2019); Nam et al (2018), whom all concluded that mobile or online spelling checkers had a beneficial effect on languages, mainly English as a second language and writing. It corroborated the study's conclusions that mobile spelling checkers improved students' spelling in academic writing.

Two drawbacks were observed in this study. To begin, the study's sample size (47:52) was not equal (van de Schoot, 2020). Since the study used two groups for the experiment, it was not feasible to transfer the pre-university students to another group to balance the sample. Following that, the study concentrated on mobile spelling checkers, with Telegram serving as the primary platform. Regrettably, some research participants did not own a smartphone, preferring to use a desktop or laptop computer for online learning. As a result, they were not forced to switch to a new electronic device while still utilising Telegram's spelling checker for academic work.

In conclusion, three hypotheses were tested in this study: i) There is no significant difference of academic writing skills using conventional manual detection between pre-MLQ and post-MLQ of satisfaction and perception components in the control group, ii) There is no significant difference of academic writing skills using spelling checker between pre-MLQ and post-MLQ in the treatment group and iii) There is no significant difference of academic writing skills between pre-MLQ and post-MLQ of the components of satisfaction and perception of the treatment group and the control group. However, based on the data analysis, all of these were denied because there was a significant difference in academic writing skills between pre and post-MLQ satisfaction and perception features in both groups while using a traditional or mobile spelling checker. Nonetheless, it demonstrated that the mobile spelling checker had the most significant mean scores and values in pre- and post-MLQ.

This study discovered that using a mobile spelling checker in Telegram had a favourable effect on academic writing in terms of motivation. After the intervention, pre-university students in the treatment group had improved their academic writing. They significantly improved their spelling. According to the questionnaires, the mobile spelling checker received a better level of satisfaction and more favourable perceptions. It bolstered motivation by saying that it may better engage pre-university students in academic writing by emphasising proper spelling.

Likewise, the findings of this study aided education by establishing a technology-based teaching method for correcting spelling errors. Teachers, administrators, and policymakers may wish to

explore adopting a mobile spelling checker as one of the teaching and learning instruments for English learning, given the indispensability and relevance of technology in this era of globalisation and COVID-19.

Although the study's shortcomings were noted, they did not significantly impact the study's conclusions. However, it would be ideal if further researchers took an interest in these concerns in the future. Overall, the study was significant, particularly for practitioners, educators, and instructors of English as a second language in Malaysia and possibly other countries, as a reference for using mobile spelling checkers for academic writing, as Covid-19 continues to obstruct face-to-face learning. It had critical ramifications for schooling. Without a doubt, policymakers might evaluate the responsibilities of mobile spelling checkers and incorporate them into online learning.

Finally, other researchers could duplicate this study using a diverse sample of primary, secondary, and tertiary school students for future directions. Additionally, multiple languages and language skills should be emphasised instead of just writing in English as a second language. Following that, alternative technologies could be investigated for spelling acquisition in future research.

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