

## Texting as a language tool in academic writing: A study of EFL learners' output at Qassim University, KSA

Bandar Saleh Aljafen

Department of English and Translation, College of Arabic Language and  
Social Studies in Buraydah, Qassim University, Saudi Arabia, jfn@qu.edu.sa

### *Abstract*

Learners in the EFL paradigm struggle to achieve communicative proficiency with writing being the skill most challenging to them. However, in the technologically driven generation of learners, the specialized register seen in their texting language affords them language flexibility with lack of proficiency being compensated with its features. This study verifies how far the academic writing of 48 Saudi EFL male learners across three years of undergraduate studies is affected by the text messaging (textese) register. A deep analysis of randomly selected class notes, assignments, and exam papers was undertaken. Results showed that the Saudi learners' textese is characterized by vowel dropping (48%) and phonetic replacement (32%) amongst other features. Textese was apparent higher with second year participants which occurred 580 times, followed by third year corpus which appeared 552 times. Their occurrence was least in the first year amongst the three groups. Their non-standard English occurred 549 times. Finally, the maximum occurrence of this deformed language is in the modified (and abbreviated) spelling, heightened use of phonetic spelling, abbreviated and acronymical forms amounting to free moving syntax. The absence of this in the exam papers establishes the fact that use of this truncated form of language does not adversely affect the learners' exam performance, rather it is used much like the earlier generation used shorthand with the difference that in the former the user need not take any training. Thus, Textese is a language affiliate more than a language substitute for the Saudi EFL learners and may have beneficial learning outcomes in the long run.

Keywords: Academic writing performance, communicative proficiency, language affiliate, register, texting.

## Introduction

The term Social Media (henceforth, SM) was first coined by Matisse, Tokyo online media environment in 1994 (Aichner et al., 2021). These were the initial days of commercial internet when social media platforms were established and launched. Gradually, with time, users for SM and the range of its platforms increased significantly. Over the period SM became one of the most significant platforms in the internet world (Jung & Shim, 2014). So much so that a pressing need to compile in one place all definitions pertaining to it along with a historical review was fulfilled by (Aichner, 2019). Broadly, websites, blogs, chats, computer programs, i.e. any content-based form of e-communication that enables users to share information and expose ideas are the area of operation of social media (Muftah, 2022). The use of technology in education has been a subject of hot debate given its recentness as compared to other tools as well as the hitherto limited research corpus on its massively varied aspects. Not only this, external forces are also in a state of constant interplay with educational tools and the balance of pros and cons remains a precarious one (Bin-Hady & Al-Tamimi, 2021). This was recently proved by the facelift that the education sector underwent owing to the ineluctable needs created by the Covid19 pandemic, creating new areas of inquiry in educational research. ICT made its biggest jump to become one with the identity and experience of young people with electronic gizmos such as smartphones and tablets becoming synonymous with their very existence (Kember, 2016). The shift of education to the virtual world afforded a certain legitimacy to the hitherto doubtful role of these devices in education. Basically, this came about more as a matter of necessity than choice, with the unique features of these SM tools making them so usefully endearing (Hazaea et al., 2021). Instant Messaging (IM), for instance, is one such online chat service which delivers electronic messages in real time via the internet and is, therefore, immediately available for display on the receiver's screen (So, 2016). This is unlike email, a messaging system of the previous internet era, where messages get delivered to offline users while the former needs simultaneous online availability of the sender and receiver of the message on the same online application. Popular IM apps are Google talk, Hangouts, Skype etc. for computer versions, or other mobile based apps such as WhatsApp, Telegram etc. These apps have the unique feature of storing unlimited data, usability on multiple platforms, having more than two interlocutors, multimedia sharing, and audio-video calling (Zala et al., 2022). Compared to a standard, conventional classroom or a reasonably technologically enabled one (with an electronic board, for instance), these apps are accessible 24/7 and are synonymous with the communication age (Stevenson et al., 2015).

The pressing necessity in today's world is the need to stay connected with others and the entire world. Blogging, shortened for Weblog, is another gift of technology that has given internet users this kind of connectivity. Talking of the mobile device paradigm, Twitter offers micro-blogging (limited number of characters at a time), helping users to maintain a kind of tech-diary where they can write freely. Blog, helps like-minded people to reach out to others across the globe and share their thoughts on topics that ignite their minds.

So far so good. Teachers' concern arise from a corollary to this: Certain social media apps like Twitter make it contingent upon the users to use language in a novel way for instance, to keep the message limited to 280 characters, indulging in neologisms, acronyms, and abbreviations. Being users of multiple messaging services, this specialized register trickles into use on other platforms, until eventually, users begin to perceive it as their standard language supported by the fact that the receivers of their messages easily understand the message and also reply in the same register.

As language teachers, our area of concern lies in the un-demarcated territory of language use stretching into our learners' academic writing which exhibits features of their textese or text messaging language. In other words, language patterns from messaging tend to transfer into their writing with the non-standard language form showing heavy presence in their exam papers, assignments, and notes. At the same time, as teachers, we cannot outrightly reject this deformed language for the simple fact that, especially in the EFL paradigm, we cry ourselves hoarse stressing the centrality of communication as being the primary function of language, and this is achieved even by this specialized register whether with their peers or with teachers.

However, the large number of studies in the context focused mainly on the students' perceptions of the use of social media in education (Fithriani et al, 2019; Husnawadi & Sugianto, 2018; Saddhono et al., 2019; Sakkir & Dollah, 2019; Al-Ahdal & Alqasham, 2020) or on their efficacy as knowledge sharing platforms (Ahmed et al., 2019). Yet, all these studies did not address the nature and extent of its effects on academic writing output as language is one continuum and language use change in one context is likely to affect the same in other context(s). Hence this study was conducted as it aims to address this research gap. This study will help and guide language teachers and curriculum experts to identify how far it is suitable to integrate social media platforms into formal education and in what form this can be done.

### **Research questions**

This study is guided to answer the following questions:

1. What type of textese/ non-standard language use is discernible in the academic writing of EFL learners?
2. How does the frequency of occurrence of non-standard English in writing performance correlate with learners' level of enrolment in the degree program?
3. What is the correlation if any, of textese in academic writing to learners' language proficiency as derived from comparison with exam performance?

### **Literature review**

#### Social media and language development

In a study on cyberpsychology, behaviour, and social networking, researchers worked on an a well-defined review of the literature on SM definitions. They also focussed on most quoted and leading definitions of SM and alternative nomenclatures which were applied in between 1994-2019 to find out the main applications of SM in the educational world (Farooq et al., 2022; Muftah, 2022; Zala et al., 2022). In order to provide guidance to researchers and managers a comparative study was done to find out the similarity and differences and the definitions which further helped them in finding studies carried out in the past and for further research on SM or to find real-world applications (Aichner et al., 2021; Kember, 2016). In other words, it is worthy to understand how scholars defined SM in past studies and how findings from their articles can be compared.

In a recent study, Tarihoran and Alhourani (2022) studied Facebook as language support learning tool in enhancing the EFL learners' online writing performance. The main objective of this study was to assess and compare the effectiveness of Facebook as a learning support tool in improving writing performance of scholars studying English as a foreign language (EFL). Data proved that there is a one to one relationship between CALL attitude and using Facebook as social media tool by scholars. It has a significantly direct and positive impact as learning support media by scholars while learning EFL. As we all are aware that in social media era scholars are using and applying technology significantly to improve their learning in different areas including English language skills (Magulod, 2018a, 2018b; Magulod, 2019). It has been observed that Facebook and CALL helps scholars to enhance their writing skills explicitly. Use of word processors in CALL is widely applied nowadays.

Al Ahdal (2020) also studied EFL learning via social media by Saudi students in the Covid-19 period and concluded that the affordances were too significant to be ignored. Bukhari et al. (2020) carried out a

research on the use of Facebook by international students for information-seeking in Malaysia and observed that it is beneficial for scholars to use social media platforms in Malaysia. Orioque (2021) investigated learners' use of Facebook groups as a support for academic learning and their results showed that social media platforms like Facebook help students in the learning process specifically if they study through Facebook groups. Furthermore, Rahman et al. (2019) explored the role of Facebook groups as a medium in learning of writing in the ESP paradigm using the case study method at Hasanuddin University and found that learning output of students was enhanced when social media was used as a learning tool.

Social networking sites (SNSs) such as Facebook play an important role in the learning experience of contemporary learners mainly by encouraging them to be active members of the electronic learning community. Studies have shown that the interest and enthusiasm of scholars in L2 settings significantly improves with the use of SNSs (Al-Ahdal1 & Aljafen, 2023; Wang& Jiang, 2021). Additionally, scholars are more comfortable in expressing themselves in writing on social media platforms like Facebook as compared to writing projects that require narrative, descriptive or technical writing skills.

Interestingly, non-native language learners' English language use was found to be more accurate and up to the mark as compare to compositions done in class (John et al., 2017). The main reason behind this could be the absence of time constraints while posting. During Facebook writing scholars had a chance to select their syntactic complexity, lexical diversity etc. as well as revisit the posts to improve them. Use of multimedia like photos, videos etc. that is possible on SNS also acts as a language tool for foreign language learners (Mutum & Wang, 2011).

The Covid19 pandemic led to drastic changes that impacted the teaching-learning scenario as much as any other (Hazaea et al., 2021). This was also the case in Saudi Arabia where precautionary measures and governmental sanctions impacted learners' social and educational life directly and significantly too (Alghamdi, 2021). These changes, however, have not been on the surface alone but much deeper and enduring making it imperative to investigate their impact on learning in the current scenario (Pikhart & Botezat, 2021). Given that social media platforms are omnipresent, the research into their use in foreign language learning has also been immense (Artyushina & Sheypak, 2018; Ayers, 2020). One reason for their immense popularity is that SNSs have become the main source of communication helping to balance and maintain users' social life (Li & Croucher, 2020).

While writing on social media platforms scholars exhibit more confidence and better concentration in addition to being comfortable

to express themselves in the virtual space (Kabilan et al., 2010). A considerable quantity of linguistic data available on the web enables students to participate in exploratory learning (Bin-Hady et al., 2023; Martins et al., 2022). It has been observed through various research that social media usage helps improve writing skills among teenagers because social media platforms like Facebook and Twitter allowed them to express themselves freely without having to obey the norms of academic composition (Jensen et al., 2021; Al-Ahdal, 2020). Facebook and other social media stimulate students to write for communicating purpose which further helps in composition in EFL writing as the young generation is much prone to internet and social media platforms and highly comfortable in working on these platforms being born in the midst of these technologies (Namaziandost & Nasri, 2019). Technology and social media are an integral part of their lives from very young age making it easy for them to handle writing and learning digitally. Therefore it is no surprise that scholars use technology to improve their learning experience in different ways and one of the best examples of this is their immense use in learning the English language skills (Magulod, 2018a, 2018b, 2019).

Slim and Hafedh (2019) revealed that there is enhancement of scholars' overall language learning while using Facebook and Twitter as communication platforms. Various studies and research in the past found the usefulness of social media in learning particular language skills, such as learners' grammatical and vocabulary acquisition and learning. However, this change is mainly attributed to the Covid19 pandemic and the new situation it created as the social networking sites like Facebook and Twitter became the sole modes of communication.

## **Methods**

### **Research design**

This study followed a corpus-based quantitative approach using a writing samples data totalling 144 unique outputs (word count=10,800) from three kinds of academic writing. This study used pre-existing data in the form of learners' writing output of three kinds with the aim to evaluate the extent and nature of text message language (textese) on academic writing and whether this was affected by the level of enrolment of the learners in the degree course at Qassim University (QU), KSA for the academic year (1444AH).

## Participants

All participants in this study were enrolled across three years in the EFL degree program at Qassim University, a large, reputed, public university in Saudi Arabia with a 50000+ student body under 38 colleges. Though the University has an equitable female student population, due to cultural norms, only male learners were included in this study. Of the 48 convenience sample, 15 each were from the first, 15 from second years and 18 were from the third or final year of the program. It may be mentioned here that it is mandatory for all EFL program applicants at QU to score a minimum of 3.2 GPA in the English Proficiency Test at the time of entry and, in addition, undergo a six-month long Bridge Course in English for Academic Purposes. Suffice it to say that EFL learners at the University fall in the intermediate to upper intermediate proficiency band. Learners' consent was obtained at the beginning of the study in the first semester (1444 AH).

## Data building

All samples were computer fed to use the electronic function of word search once the non-standard lexis were manually identified and isolated. Further, class notes are not necessarily in the nature of notes as they include materials mandated by the teacher to be taken down during the lectures but can be written in any form and format that the learners prefer. At times, though not often, they are allotted writing tasks to be accomplished during the class time and these are mandatorily to be shared on the class WhatsApp group. Class notes, thus, provided data on notes and class assignments. The third type of data comprised exam papers which offered a more dense and bulky data i.e., a larger body of language use. Once randomly isolated, all samples were fed into the researcher's computer on MS Word and simultaneously parsed manually to identify instances of non-standard language use or Textese. The following sections summarize and analyze the data in detail.

## Data analysis

The corpus created from students' textese use in academic writing were analysed. Themes and frequencies were extracted to display the findings. Biber and Conrad's (2009) qualitative approach was applied in this study as it is widely used to analyse register, genre, and style of texting.

## Results and discussion

RQ1: What type of textese/ non-standard language use features is discernible in the academic writing of EFL learners?

The first research question in this study pertained to the nature of textese used in formal/ academic writing of the sample. As summarized in Figure 1, the features that characterize the sample's academic writing are incongruous use of phonetic substitutes for lexis, abbreviation or truncation of words with a-typical dropping of vowel sounds and reduction of words to consonant clusters. This is an explicable language behavior as it is typical of Textese to take a speech-like form with simplification of speech to the extent that it gives adequate expression to the thought without compromising mutual intelligibility. At the same time, when transposed to writing, this pattern appears unnatural because the dropping of sounds in speech is compensated with stress shift, a factor that is absent in standard English orthography.

The other category of non-standard language use is in the phonetic replacement of words. This feature also mirrors speech behavior with typical replacements being k for ch, u for you and so on. Other replacements are standard replacements such as # for number, & for and, numeric values for all number words, and so on. What is apparent from this kind of replacement, however, is a happy finding for teachers in particular: Learners are well aware of the correct sound corresponding to phonemes and that is why they are able to replace them with simpler, phonemes that can be expressed with fewer characters. Overall, then, the truncations producing non-standard language are intentional and not a product of ignorance of the 'correct', standard form. If, however, the consonants were to be removed, for instance g, r, t in great, the result will be an unintelligible product, corresponding to the phoneme, ate. Seen from this angle, the language processing undertaken by these users is a rather complex phenomenon which behaves of an almost expert-like language use.

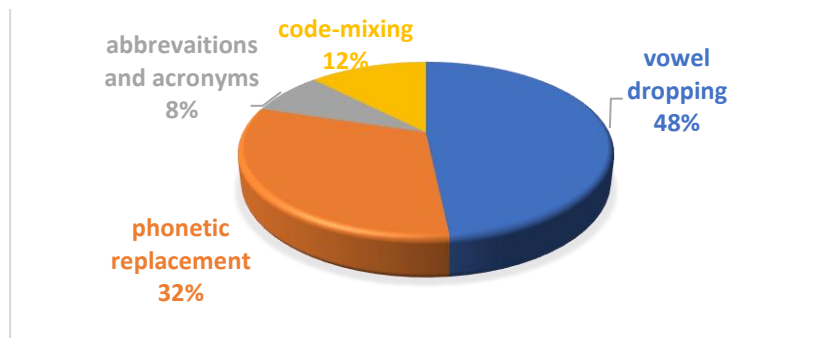
Then, abbreviations and acronyms dominate the samples of academic writing under study. Typically, uni goes for university, pp goes for price please, gm goes for good morning, prof. goes for professor, hol goes for holiday. It is notable though that these are abbreviations or acronyms that have been doing the rounds of informal communication in the earlier generation too and the users are apparently, well aware that their peers as much as their teachers will grasp their intended meaning easily.

Lastly, and in an interesting development, Arabic replaced words in the academic writing samples, most frequently in the class notes and never in the exam papers. Without qualitative data to triangulate the reasons for this kind of code-switching, it is difficult to arrive at the reasons for this characteristic behaviour. Figure 1 below depicts the share of the non-standard language use characteristics in the sample.



Previous research reported that language of code-mixed texting is characterized by using non-standard words, ambiguity, code-mixing and lexical borrowing (Hidayatullah et al., 2022). Lee and Singh (2021) found phonological and orthographic errors in default borrowers.

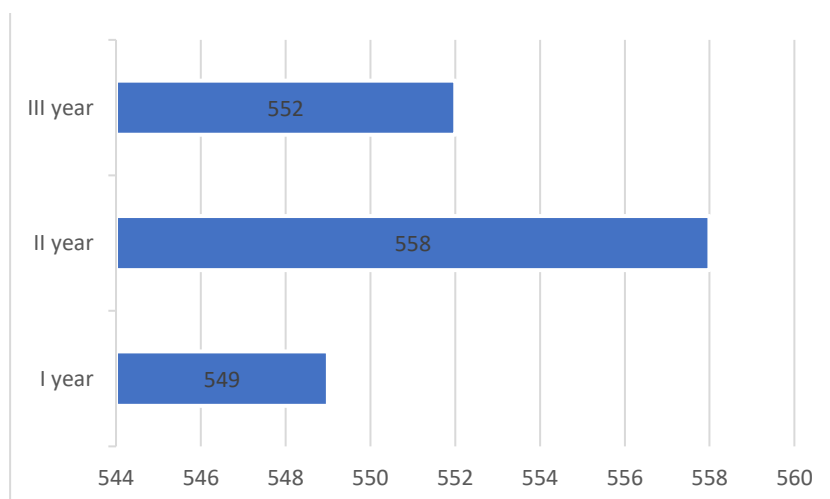
Figure 1: Type of textese language use discernible in the academic writing



RQ2: How does the frequency of occurrence of non-standard English in writing performance correlate with learners' level of enrolment in the degree program?

When the data were analyzed according to the frequency of occurrence of non-standard language use in the academic writing samples, the highest frequency was observed in the second year learners' base and least in the third or final year learners' samples. However, the drop in frequency was only marginal and hence, did not qualify for statistical analysis for significance. Figure 2 below summarizes the total number of non-standard language use occurrences across the three years.

Figure 2: Frequency of occurrence of non-standard English in writing performance according to level of enrolment



As is evident in the data, there appears to be no correlation between the year of enrolment at the university and frequency of use of non-standard English in the sample of academic writing. This finding indicates that attainment of proficiency (associated with number of years spent at the university) is not correlated with the use of non-standard English by EFL learners in Saudi Arabia.

RQ3: What is the correlation if any, of textese in academic writing to learners' language proficiency as derived from comparison with exam performance?

Data above have already established that year of enrolment in a three year degree program at QU does not correlate with frequency of non-standard language use in academic writing. Therefore, the third research question sought to see if there was a correlation between each group's exam performance and non-standard language use in the three kinds of data. It may be noted that the frequency of non-standard language use is the highest (though marginally) in the sophomore year at  $m=558$ , but only marginally lower in the final year ( $m= 549$ ) than the first year ( $m=552$ ). In other words, there are no grounds to verify the data for statistical significance. However, group mean in the exam performance clearly establishes the superior performance of the sample in the third year ( $m_3=83.21\%$ ) than the other two groups, the first year being  $m_1=61.94\%$  and second year being  $m_2= 77.93\%$ . This pattern clearly establishes the consistently improved exam performance of the sample, not correlated with their non-standard language use pattern. Hence, the conclusion that use of textese in academic writing has no verifiable effect on the exam performance of the users.

### **Conclusion**

This study set out to verify if and how the use of non-standard English by EFL learners across three years in a degree program at QU affected their academic writing in three different areas. For this purpose, random academic writing samples of 48 Saudi EFL male learners across three years of undergraduate studies were analyzed to investigate the occurrence of the textese register using deep analysis. The samples comprised class notes, assignments, and exam papers. Results indicate that the phenomenon does not show any discernible pattern of use with spiked usage in the sophomore year at Qassim University, KSA. Moreover, the register is mostly used in class notes and assignments (in that order) and never in the exam papers which shows learners' awareness of the non-standard form of this register. Finally, the maximum occurrence of this deformed language is in the modified (and abbreviated) spelling, heightened

use of phonetic spelling, abbreviated and acronymical forms amounting to free moving syntax. The absence of this in the exam papers establishes the fact that use of this truncated form of language does not adversely affect the learners' exam performance, rather it is used much like the earlier generation used shorthand with the difference that in the former the user need not take any training. Thus, Textese is a language affiliate more than a language substitute for the Saudi EFL learners and may have beneficial learning outcomes in the long run.

### **Recommendations**

Taking the conclusion forward, it is recommended that teachers need not discourage EFL learners from using the truncated messaging language in their academic writing as it appears to be a tool rather than a handicap in their hands. In the technologically powered world of today, teachers will lose their relevance if they fail to keep up with learner preferences and learning trends. Rather, it may well serve the learning objectives if teachers and education planners incorporate learner favored tech and tools in their classrooms. Towards this end, teachers need to be even better adjusted to their role as facilitators of knowledge rather than fountainheads of it and use educational technology for the learners' benefit.

### **Limitations**

The results of this study would have been reinforced with qualitative data as, though the study fulfils its aims, it leaves many questions unanswered, for instance, why textese saw a tiny spike in the sophomore year. It is hoped that attitudinal studies in the future will not lack this. Further, the results herein may well be gendered it being an all-male study. This factor needs greater investigation in replications.

### **Bibliography**

- Ahmed, Y. A., Ahmad, M. N., Ahmad, N., & Zakaria, N. H. (2019). Social media for knowledge-sharing: A systematic literature review. *Telematics and informatics*, 37, 72-112.
- Aichner, T. (2019). Football clubs' social media use and user engagement. *Marketing Intelligence & Planning*, 37(3), 242-257.
- Aichner, T., Grünfelder, M., Maurer, O., & Jegeni, D. (2021). Twenty-five years of social media: a review of social media applications and definitions from 1994 to 2019. *Cyberpsychology, behavior, and social networking*, 24(4), 215-222.

- Al-Ahdal, A. A. M. H. (2020). EBook Interaction Logs as a Tool in Predicting Learner Performance in Reading. *Asiatic: IJUM Journal of English Language and Literature*, 14(1), 174-188
- Al-Ahdal, A. A. M. H., & Alqasham, F. H. (2020). Saudi EFL Learning and Assessment in Times of Covid-19: Crisis and beyond. *Asian EFL Journal*, 28(1.1), 356-383.
- Al-Ahdal, A. A. M. H. & Aljafen, B. S. (2023). social media platforms: perceptions and concerns of Saudi EFL learners. *World Journal of English Language*, 13(3), 68-76. <https://doi.org/10.5430/wjel.v13n3p68>
- Alazzawie, A. (2022). The linguistic and situational features of WhatsApp messages among high school and University Canadian students. *SAGE Open*, 12(1),. <https://doi.org/10.1177/21582440221082124>
- Alghamdi, A. A. (2021). Impact of the COVID-19 pandemic on the social and educational aspects of Saudi university students' lives. *PLoS One*, 16(4), e0250026. <https://doi.org/10.1371/journal.pone.0250026>
- Artyushina, G. and Sheypak, O.A. (2018). Mobile phones help develop listening skills. *Informatics*, 5(3), 32; <https://doi.org/10.3390/informatics5030032>
- Attila, B. (2017). "The effects of social media on the language: do social networks have damaging or
- Ayers, J. (2020). Competence literate but context lacking? Investigating the potential of study abroad programs to promote sustainability competence acquisition in students. *Sustainability*, 12(13), 5389. <https://doi.org/10.3390/su12135389>
- Biber, D., & Conrad, S. (2009). *Register, genre, and style*. Cambridge University Press
- Bin-Hady, W. R. A. , Al-kadi, A., Hazaea, A. N., & Ali, J. M. (2023). Exploring the dimensions of ChatGPT in English language learning: A global perspective. *Research Gate*. <https://doi.org/10.13140/RG.2.2.30549.50406>
- Bin-Hady, W. R. A., & Al-Tamimi, N. O. M. (2021). The use of technology in informal English language learning: evidence from Yemeni undergraduate students. *Learning and Teaching in Higher Education: Gulf Perspectives*, 17(2), 107-120.
- Bukhari, S., Hamid, S., Ravana, S. D., Kurnia, S., Chang, S., Norman, A. A., & Ghani, N. A. (2020). The use of Facebook by international students for information-seeking in Malaysia: A social network analysis. *Libri*, 70(3), 251-268.
- Farooq, A., Dahabiyeh, L., & Maier, C. (2022). Social media discontinuation: A systematic literature review on drivers and inhibitors. *Telematics and Informatics*, 101924. <https://doi.org/10.1016/j.tele.2022.101924>
- Fithriani, R., Dewi, U., Daulay, S. H., Salmiah, M., & Fransiska, W. (2019). Using Facebook in EFL writing class: Its effectiveness from students' perspective. *KnE Social Sciences*, 634-645. <https://knepublishing.com/index.php/Kne-Social/article/view/4892>
- Hazaea, A. N., Bin-Hady, W. R. A., & Toujani, M. M. (2021). Emergency remote English language teaching in the Arab league countries:

- Challenges and remedies. *Computer-Assisted Language Learning Electronic Journal*, 22(1), 201-222.
- Hidayatullah, A. F., Qazi, A., Lai, D. T. C., & Apong, R. A. (2022). A systematic review on language identification of code-mixed text: techniques, data availability, challenges, and framework development. *IEEE access*, 10, 122812-122831. <https://doi.org/10.1109/ACCESS.2022.3223703>
- Husnawadi, H., & Sugianto, N. (2018). Facebook: An effective WEB 2.0 technology for blended EFL classrooms in Indonesia. *EduLangue*, 1(1), 67-86.
- Jensen, L. X., Bearman, M., & Boud, D. (2021). Understanding feedback in online learning—A critical review and metaphor analysis. *Computers & Education*, 104271.
- John, P., Brooks, B., & Schriever, U. (2017). Profiling maritime communication by non-native speakers: A quantitative comparison between the baseline and standard marine communication phraseology. *English for Specific Purposes*, 47, 1-14.
- Jung, S., & Shim, D. (2014). Social distribution: K-pop fan practices in Indonesia and the 'Gangnam Style' phenomenon. *International Journal of Cultural Studies*, 17(5), 485-501.
- Kabilan, M. K., Ahmad, N., & Abidin, M. J. Z. (2010). Facebook: An online environment for learning of English in institutions of higher education?. *The Internet and higher education*, 13(4), 179-187.
- Kember, S. (2016). *iMedia: The gendering of objects, environments and smart materials*. Springer.
- Lee, M. S. A., & Singh, J. (2021, May). Spelling errors and non-standard language in peer-to-peer loan applications and the borrower's probability of default. In Lee, Michelle Seng Ah and Jatinder Singh. *Spelling Errors and Non-Standard Language in Peer-to-Peer Loan Applications and the Borrower's Probability of Default.* In *Proceedings of Credit Scoring and Credit Control Conference XVII*. <http://dx.doi.org/10.2139/ssrn.3609834>
- Li, M., & Croucher, S. (2020). Effects of social media use on cultural adaptation. In, *The Cambridge Handbook of Intercultural Communication: Cambridge Handbooks in Language and Linguistics*, (pp. 504-520). Cambridge University Press.
- Magulod Jr, G. (2018). Cognitive and attitudinal effects of movie poster making method in college classroom. *Journal of Educational and Human Resource Development (JEHRD)*, 6, 42-58.
- Magulod Jr, G. C. (2018). Innovative learning tasks in enhancing the literary appreciation skills of students. *Sage Open*, 8(4), 2158244018820382.
- Martins, R. M., & Gresse Von Wangenheim, C. (2022). Findings on Teaching Machine Learning in High School: A Ten-Year Systematic Literature Review. *Informatics in Education*. <https://doi.org/10.15388/infedu.2023.18>
- Muftah, M. (2022). Impact of social media on learning English language during the COVID-19 pandemic. *PSU Research Review*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/PRR-10-2021-006>
- Mutum, D., & Wang, Q. (2011). Consumer generated advertising in blogs. In *Handbook of research on digital media and advertising: User generated content consumption* (pp. 248-261). IGI Global.

- Namaziandost, E., & Nasri, M. (2019). The impact of social media on EFL learners' speaking skill: a survey study involving EFL teachers and students. *Journal of Applied Linguistics and Language Research*, 6(3), 199-215.
- Orioque, J. A. (2021). Student use of Facebook groups as a support for academic learning. *International Journal of Applied Science and Engineering*, 18(4), 1-8.
- Pikhart, M., & Botezat, O. (2021). The impact of the use of social media on second language acquisition. *Procedia Computer Science*, 192, 1621-1628. <https://doi.org/10.1016/j.procs.2021.08.166>
- Rahman, F., Abbas, A., Hasyim, M., Rahman, F., Abbas, A., & Hasyim, M. (2019). Facebook group as media of learning writing in ESP Context: A case study at Hasanuddin University. *Asian EFL Journal Research Articles*, 26(6.1), 153-167.
- Saddhono, K., Hasibuan, A., & Bakhtiar, M. I. (2019, November). Facebook as a learning media in TISOL (Teaching Indonesian to Speakers of Other Languages) learning to support the independency of foreign students in Indonesia. In *Journal of Physics: Conference Series* (Vol. 1254, No. 1, p. 012061). IOP Publishing.
- Sakkir, G., & Dollah, S. (2019). Measuring students' writing skills using Facebook group application in EFL context. *International Journal of Humanities and Innovation (IJHI)*, 2(3), 69-74. <https://doi.org/10.1371/journal.pone.0250026>
- Slim, H., & Hafedh, M. (2019). Social media impact on language learning for specific purposes: A study in English for business administration. *Teaching English with technology*, 19(1), 56-71. <http://www.tewtjournal.org>
- So, S. (2016). Mobile instant messaging support for teaching and learning in higher education. *The Internet and Higher Education*, 31, 32-42.
- Stevenson, M., Hedberg, J., Highfield, K., & Diao, M. (2015). Visualizing solutions: Apps as cognitive stepping-stones in the learning process. *Electronic Journal of E-Learning*, 13(5), 366-379.
- Tarihoran, N., Alhourani, A. Q., Ocaña-Fernandez, Y., Alanya-Beltran, J., & Hernández, R. M. (2022). CALLing the process of writing: Facebook as language support learning tool in enhancing the EFL learners' online writing performance. *Journal of Language and Linguistic Studies*, 18(S1), 496-510.
- Wang, W., & Jiang, L. (2021). Writing on WeChat moments: impact on writing performance and learner autonomy. *Computer Assisted Language Learning*, 1-29. <https://doi.org/10.1080/09588221.2021.1976799>
- Zala, N., Fiaidhi, J., & Agrawal, V. (2022). ChatterBox-A Real Time Chat Application. [https://www.techrxiv.org/articles/preprint/ChatterBox-A\\_Real\\_Time\\_Chat\\_Application/21699692](https://www.techrxiv.org/articles/preprint/ChatterBox-A_Real_Time_Chat_Application/21699692)