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Exploring traditional vs. online language education: A literature review and future research directions

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Abstract

Concerns grow as technological growth shifts education, especially language learning, from traditional face-to-face to online platforms. While many admire the flexibility of online learning, they are unaware of its limitations and disadvantages for learners and education in general. To discern the challenges and benefits of online vs. traditional face-to-face learning, this paper, through a thematic analysis of over 60 studies and based on Moore's (1989) three types of interaction, addresses three key questions: (1) Among Moore's (1989) three types of interaction— learner-content, learner-instructor, and learner-learner, which type has the most and least impact on online language learning? (2) What are the advantages and disadvantages of each mode of learning with respect to learner-content, learner-instructor, and learner-learner interaction? (3) How does online language education influence learning and language skills? The results reveal that among some main challenges such as internet connectivity and technological problems, lack of interaction stands out as a major drawback. As Moore (1989) argues, learner-content interaction is found to be the most influential type in online education followed by learner-instructor and learner-learner. Although not all existing literature supports this argument, the majority conform to Moore's (1989) claim. At the end, the review offers pedagogical and technological recommendations for improving the quality and effect of each type of interaction.

Keywords: Moore's (1989) interaction theory, learner-content interaction, learner-instructor interaction, learner-learner interaction, online language learning, online vs. Traditional face-to-face learning



1. Introduction

The transformative power of technology in reshaping our world is inevitable. It encompasses every aspect of an individual's daily life, from social, political, health issues to education, communication and global connectivity. As technology expands its reach, education, which is a cornerstone of society, has undergone transformation distancing itself from the traditional models of a few decades ago. The impact of Covid-19 in 2020 cannot be overlooked since it accelerated the shift from traditional mode to online learning.

Traditional learning refers to an instructional mode that typically takes place in a confined formal setting, such as a classroom, where learners and instructors engage in real-time interaction. This type of learning involves face-to-face interactions influenced by body language, facial expressions, eye contact, and proxemics. Online learning, whether held synchronously or asynchronously, utilizes digital platforms and tools to deliver course content, enabling learners to access materials anytime and anywhere. Usually, the content is posted online, such as video presentations and books in electronic format.

The language learning field has been doing its best to keep up with the movement towards online classes. In recent years, the number of online language learners has increased with many acquiring languages from different regions and countries across the world. According to Forbes forecasts (2018), the online education market which was \$107 Billion in 2015 may reach \$350

Billion by 2025. Despite several positive aspects of online learning, such as freedom of location to attend classes, privacy of keeping video cameras off, convenience of not needing to drive to a specific location, online education has drawbacks that negatively influence learning not only in acquiring a language but also in all fields of education. Some disadvantages of online learning are limited face-to-face interaction (Klimova, 2021; Zboun & Farrah, 2021; Al-Nofaie, 2020), potential feelings of isolation among students (Kaisar and Chowdhury, 2020), and the necessity for self-discipline to do the assignments and readings.

Research on online learning has also substantially increased. Although online learning first began in 1960 and is becoming more popular with the growth of technology (Dung, 2020), some scholars suggest that the pandemic substantially accelerated this shift (Ceesay, 2021; Agustina et al, 2020; Mahyoob, 2020; Hazaymeh, 2021). With the pandemic and switching to distance learning, the quality of online learning is affected due to educational inequality and differences in resources (Ceesay, 2021). This shift to online learning has taken place regardless of teachers' and learners' readiness for online education or knowledge and capability in using technology (Agustina et al., 2020). However, in some universities, blended learning (a combination of online and face to face learning) was common before the pandemic. Thus, some educators and learners were familiar with how to use online platforms. More experienced educators had training sessions for their colleagues (Mahyoob, 2020).

Moore (1989) identifies three types of interaction in distance education: learner-content interaction, learner-instructor interaction, and learner-learner interaction. The first type, learner-content interaction, takes place between the learner and the content or subject of study. In this type of interaction, learning is largely self-directed and one-way. Learner-instructor interaction takes place between the learner and the instructor who prepared the content and curriculum and attempts to motivate the learner. The last type, learner-learner interaction, is between one learner and other learners, with or without the presence of an instructor.

By analyzing the extant literature and scholarship on online versus traditional face-to-face language education, and given that education depends on interaction (Hermanto and Srimulyani, 2021; Aboagyeh et al., 2020), the focus of this review is on the three types of interaction outlined by Moore (1989) (learner-content interaction, learner-instructor interaction, and learner-learner interaction) and explores common benefits and challenges associated with each learning mode. The three guiding questions for this literature review are:

1. Among Moore's (1989) three types of interaction—learner-content, learner-instructor, and learner-learner, which type has the most and least impact on online learning?
2. What are the advantages and disadvantages of each mode of learning with respect to learner-content, learner-instructor, and learner-learner interaction?
3. How does online language education influence learning and language skills?

After the traditional discussion of the findings and conclusion, I provide an implication section which addresses potential improvements for online learning to enhance its effectiveness.

2. Methodology

3.1 Data Collection and Analysis

Although my initial purpose was to review the literature regarding online vs. traditional face-to-face language education and learning, after reading over 60 articles and texts, I have decided to focus only on Moore's (1989) three types of interaction: learner-content, learner-instructor, and learner-learner. Once this decision was made, my goal evolved into understanding the impact of these interactions on language learning—as well as ascertain which type has the highest and least effect on language acquisition. The main search engines for this research were Google Scholar, Academia, and EBSCOhost. Also, the search terms were as follows: *Learner-content interaction*, *Learner-instructor interaction*, *Learner-learner interaction*, *Moore's (1989) three types of interaction*, *Online vs. Traditional face-to-face language learning*, and *Online language education*. At first, only articles from 2020 were intended to be analyzed. However, later, I expanded the research back to 2014 to have more data. The pdf forms of the articles were downloaded and saved in the same folder. After reading the "Abstract" of each article, I decided which ones were relevant to this study and had to be kept. After reading the articles, the main points were highlighted. Then, the main ideas of each article were grouped into a separate sheet based on their similarity. These similarities were in terms of the effectiveness of each type of interaction and the challenges and benefits of online language education.

Three types of Interaction (overview)

The first type of interaction is *learner-content interaction*. "Interaction with content is the process in which learners master the materials embedded in the online course" (Pham, 2021, p. 122). It is a method by which learners obtain information from course content such as texts, videos, or online communication (Arifani, 2020; Muzammil et al., 2020; Belawati et al. 2020; Bolliger, 2018). According to Moore (1989), learner-content interaction is the process of intellectually interacting with content which causes changes in the learners' understanding, perspective, and the mind's cognitive structures. The content varies from printed texts, radio broadcasts, and TV programs to electronic recordings and book formats. In this type of interaction, the learners by themselves develop self-autonomy and self-motivation. The second type of interaction, *learner-instructor*, is between the learner and an expert who prepares the content and materials to be taught and plans a curriculum. In this type of interaction, the instructor motivates the learners and delivers information and course content, provides feedback, and answers the learners' questions (Arifani, 2020; Alqurashi, 2019; Aphoto et al., 2022). As Moore (1989) suggested, when learner-content and learner-instructor combine, the learning outcomes reach a higher level. When the learners interact with the instructor and at the same time, draw on the experiences of the interaction with the content, it becomes most effective for the learners.

The last type, which is *learner-learner interaction*, occurs between a learner and a learner or a group of learners with or without the presence of an instructor. This type of interaction is more useful for group presentations and discussions (Moore, 1989). The learners exchange information and ideas, have group discussions, or online chat forums. The learners gain knowledge through a social process (Arifani, 2020; Powell, 2020).

3. Survey of the Fields

3.1 Learner-content interaction

“Without learner-content interaction, there cannot be education” (Moore, 1989, P.2). “A major part of all educational ventures are interactions directly associated with the instructional content of the course” (Mehall, 2020, p.187). According to some scholars (Pham, 2021; Arifani et al., 2020; Lin et al., 2017; Kuo et al., 2014; Abulibdeh and Hassan, 2011; Wilson and Albion, 2009), among the three types of interactions—learner-content, learner-instructor, and learner-learner-- learnercontent has the highest effect in online learning. It is the determining factor in learners’ success, satisfaction, and the main source of learning (Costley et al., 2022; Alqurashi, 2019). Moore (1989) emphasizes the importance of the learner-content interaction by claiming that the absence of either learner-learner interaction or learner-instructor interaction or both will definitely affect learning. However, the absence of or minimizing the learner-content interaction has a devastating impact on learning outcomes.

As most scholars agree, content plays an important role in education making learnercontent interaction crucial in online learning. The course content has a positive influence on learners’ satisfaction. And the quality of online learning relies on the online content. The higher the content quality, the higher the learners’ satisfaction as the result of the good learning experience. Thus, instructors should structure their courses and develop high-quality content in a way that engages the learners and increases their satisfaction (Kumar et al, 2021). In order to increase satisfaction, the course content should be clear, the interaction be continuous, and the time to go through the content be adequate (Mbwesa, 2014). “Engaging learners with full attention is an essential feature of learning. Content of the learning material should therefore be designed to arouse curiosity” (Çakir & Akyazi, 2021, p. 28). Further, relevance is important to increase learners’ motivation. Thus, the course content must be relevant to their context and meet the learning objectives. One scholar’s review of literature concluded that the content of the course should be highly interactive and engaging to improve learning outcomes (Joksimovic et al., 2015).

What matters more in learner-content interaction is the usefulness or quality of the content, not the quantity of time spent on interaction. High quality of learner-content interaction means the content should be updated and interesting, and the interaction with the content should not be compulsory. The learners find the high-quality content more useful because they feel more confident in using it (Thach, 2018). Specifically speaking about language acquisition, one study showed that learners found listening and grammar practices to be the most useful, 45.4% and 28% respectively. On the other hand, reading and speaking practices were found to be the least useful, 10.1% and 9.7% respectively (Thach, 2018). Equally, practicing writing skill was found to be the least effective in another study (Hazaymeh, 2021; Klimova, 2021). However, in some other studies, practicing reading skills online was considered the most effective (Hazaymeh, 2021).

Students in a study expressed desire for practice in grammar and vocabulary because they need to make structurally correct sentences and use vocabulary accurately (Nartiningrum & Nugroho, 2020; Istifci, 2017). All in all, the quality of the content is more important than quantity. “The quality of course content must meet learner expectations to promote learning-content interaction” (Thach, 2018, p.130). Studies showed that students’ language skills improved significantly through engagement with content, though the perceived usefulness of content varied between receptive skills (listening and reading) and productive skills (speaking and writing) (Pham, 2021).

Assignments have a key role in education, especially in online learning and learner-content interaction. Students believe that whenever the given assignment has a connection to their real life, it makes them think critically about material learned in class. Thus, the assignments should be designed relative to the course content and be authentic (Cummings, 2009). Some scholars suggest that students should do more assignments in online learning compared to traditional face-to-face learning to make sure they practice effectively (Almahasees et al., 2021). Also, teachers should have specific online

environment management competencies to be able to design simple language lessons and materials that are suitable for the online setting and build rapport between the learners in different locations. For instance, the lesson content must be simple, and the instructions and explanation be explicit (Moorhouse et al., 2023).

Other issues that are dominant in the literature directly affecting the learner-content interaction are internet connectivity (Almahasees et al., 2021), computer skills and technological competencies (Moorhouse et al., 2023). Computer skills are a challenge for some students, with many struggling to use applications such as Zoom (Hijazi & AlNatour, 2021). One study showed that approximately 53% of respondents reported technical difficulties and weak internet connectivity, particularly in accessing platforms and downloading large files (Erlangga, 2022).

Such issues can negatively affect learner-content interaction. Slow internet connectivity caused some learners not to spend enough time with the course content (Belawati et al., 2020). Technical difficulties are another issue that caused learners not to interact properly with readings and video presentations (Padmo et al. 2022).

3.2 Learner-instructor interaction

“Learning must be two-way or interactive” (Hermanto and Srimulyani 2021). In order to achieve the best learning outcomes, learners and teachers need to communicate and interact with each other. Interaction is an essential part of students’ engagement in an online course. Further, learner-instructor interaction is a determining factor in successful teaching and learning (Gironzetti et al., 2020). Many studies agree that learner-instructor interaction has the highest effect on both learning and students’ satisfaction (Lin et al., 2023; Park and Kim 2020; Karataş et al, 2017; Kyei-Blankson et al., 2016; Kang and Im, 2013). Yet, some scholars argue that learner-instructor interaction has the least influence on learning in online classes (Pham, 2021; Arifani et al., 2020; Xiao, 2017; Abulibde and Hassan, 2011) mainly because learners are required to study by themselves and learn independently. Thus, they consider the role of the instructor insignificant (Muzammil et al., 2020). Despite the fact that teacher’s role is crucial, and the teacher provides feedback and conveys information, excessive individualization of learning leads to the denial of the teacher’s role (Dina & Ciornei, 2013; Istifci, 2017).

Studies show that learners prefer face-to-face to online classes because they can interact with the instructor (Klimova, 2021; Huh et al. 2022). But unfortunately, online learning limits this kind of interaction. Social challenges are a main issue affecting the learner-instructor interaction (Hijazi & AlNatour, 2021). In one study, more than 70% of the students agreed that online learning lacked a personal connection with the instructor (Zboun & Farrah, 2021). The lack of social interactions may cause learners not to develop appropriate social skills. In another study of the perceptions of Chinese learners, Gao and Shi (2023) found that 54% of students believed they had more opportunities to interact with the teacher in face-to-face classrooms than in online learning. However, 31% perceived that their opportunities were the same in both modes, and 14% of the students agreed that they had more chances to interact with the instructor in online learning. In addition, they found that 60% of the online learners showed a preference for face-to-face interactions and 36% of them preferred to have online interactions (Gao and Shi, 2023). The dissatisfaction with interaction in online learning was also observed in some other studies (Suharsih and Wijayanti, 2021; Mahyoob, 2020) with students reporting that they could not effectively communicate with their teacher in online classes, which rendered online learning less beneficial. Learner-instructor interaction allows learners to obtain guidance, support, motivation, and encouragement from the instructor (Karataş et al, 2017). Learners can get feedback from their instructor to ensure their understanding of the content (Elyakim et al., 2019). Some studies proved that learner-instructor interaction was the most frequent type of interaction in blended learning classrooms (Taghizadeh and Hajhosseini, 2021) because the instructor frequently contacts the learners regarding the course content to answer questions and give feedback. Such strategies such as discussions

and feedback in learner-instructor interaction were most valued compared to the strategies of other types (Martin and Bolliger, 2018).

Creating a warm and friendly environment is necessary in a learning environment, especially in online settings where participants are isolated (Hazaymeh, 2021). It is the responsibility of the instructor to create such an environment. Teachers should have online interactional competencies to create an engaging environment for online learners. For instance, the teachers can discuss online classroom etiquette such as turning on cameras when speaking (Moorhouse et al., 2023). Turning the cameras on has a key role in creating a friendly and interactive atmosphere. The reluctance to turn on the camera makes communication between students and teachers difficult (Dung, 2020). Students agree that when cameras are off, interactions become slower and create a hostile environment for both teachers and peers (Klimova, 2021). Shy students who keep their cameras off negatively impact both learner-instructor and learner-learner interactions, particularly in speaking classes, where teachers are unable to fully assess student performance (Zhao et al., 2020). It is not possible to create a positive atmosphere, monitor learners' engagement and behavior by turning the camera off (Moorehouse et al. 2023).

Miscommunication and low quality of interaction are also caused by several factors such as internet connectivity and lack of suitable equipment. Students from some countries have weak internet connectivity. For instance, some learners from China may not have access to VPN (Virtual Private Networks). So, they lose connectivity during the lessons (Moorhouse et al., 2023). A participant in one of the studies (Suharsih and Wijayanti, 2021) noted that internet challenges lead to "miscommunication between what the lecturer says and what the students understand" (p. 252). Weak internet connectivity impacts learner-instructor interaction negatively because some students cannot attend the online class or hear the teacher clearly. So, they have misinformation regarding the assignments and lectures (Erlangga, 2022). This could also lead to other negative consequences in bilingual education. In one study about Chinese language acquisition, it was found that teachers are more lenient toward mistakes in speaking. However, in the long term, it can deteriorate speaking skills (Zhao et al., 2020). Along with internet challenges, the lack of suitable equipment is one of the main challenges in online learning. For instance, in one of the cases, (Al-Nofaie, 2020) students did not have headphones during the first weeks of online learning, which made communication difficult for them. Further, students had more technological issues when they were in different countries from the teacher. Some issues such as internet stability, video lag, delays in muting, and speakers talking over each other made online learning challenging for both teachers and learners (Moorhouse et al., 2023).

3.3 Learner- learner interaction

Learner-learner interaction is an essential and valuable resource for learning (Moore, 1989). The findings by some scholars (Lin et al., 2017; Lin et al., 2023; Costley et al., 2022; Taghizadeh and Hajhosseini, 2021; Alqurashi, 2019; Kyei-Blankson et al., 2016) are in line with Moore's (1989) claim that learner-learner interaction's effect on learning is less than the other types in online learning. Nevertheless, some research indicates that learner-learner interaction positively affects learner satisfaction. According to some studies (Gameel, 2017; Mbwesa, 2014; Joksimovic et al., 2015), learner-learner interaction is an important factor in learners' success and satisfaction. Also, it benefits learners with lower autonomy (Treesattayanmune and Baharudin, 2024). Studies show that the more interaction students have with their peers, the more they learn (Bouhnik and Marcus, 2006). Specifically speaking, learner-learner interaction is effective for the development of speaking skills (Saeed et al., 2016). Since comfort levels are high in peer interaction, students are not worried about making mistakes. So, their language production increases and thus they practice speaking more (Loewen & Sato, 2018).

Other studies suggest that learner-learner interaction does not have any significant effect on online learning and the learners' satisfaction (Ahoto et al., 2022). Learners generally are not satisfied with the limited interaction in online classes. For instance, one of the learners quoted that "learning via

Blackboard or online classes for them wasn't a good choice. Because in traditional classes sitting on a chair next to a classmate listening and interacting with their teacher is a way much better than being alone holding their phone and distracted between the book or taking notes, not to mention the slow internet connection or mic problems" (Gao & Shi, 2023, p. 13). Thus, increasing amounts of a learner-learner interaction has a positive effect on student satisfaction, leading to more effective online learning (Jung et al. 2002). One of the reasons students prefer face-to-face learning is that it allows them to observe their peers' facial expressions and body language. Therefore, in virtual settings, they express a preference for peers to keep their cameras on to improve their learning experience (Gao and Shi, 2023). In another study, the researchers found that learner-learner interaction strategies were valued more than other types (Martin and Bolliger, 2018). One of the strategies to foster peer interaction is to create abundant opportunities for discussions from diverse perspectives, the teacher can pose a series of thought-provoking questions designed to elicit comments and reflections (Ng et al., 2007). Interactions such as group work, looking at the facial gestures of students and instructors are fundamental to learning (Aboagyeh et al., 2020). Also, the absence of negotiation of meaning, and lack of pair/group work between learners in online education discourages learning (Bayonas, 2022). "In essence, the designers and teachers of online courses should make every attempt to enhance a sense of competence in the learners" (Ng et al. 2007, p. 229). The implementation of project-based learning technique has proved to be effective in learning English as it creates motivation in learners (Yuliansyah & ayu, 2021).

3.4 Effect of on-line Learning

Although many learners appreciate the flexibility of online learning, they admit that its challenges are more than its benefits. Thus, they prefer traditional face-to-face to online learning (Al-Nofaie, 2020; Klimova, 2021; Zboun & Farrah, 2021). One of the reasons for their preference is both the lack of interaction or reduced levels of communication and weak internet connectivity in online learning (Gao and Shi, 2023; Almahasees et al. 2021; Suharsih and Wijayanti, 2021). Learning becomes difficult with interaction problems and internet connectivity issues. As many as 66.7% of students in a study indicated that they had difficulty in understanding material in online learning (Erlangga, 2022). Similarly, in another study, some participants did not favor online learning because they could not understand the material well in online classes (Zboun & Farrah, 2021). Without receiving feedback from the teacher, students believe their learning decrease (Nartiningrum & Nugroho, 2020). In another study, connectivity issues and lack of stable internet access were found to be major challenges for 83% of students, and not all students could consistently access high-speed internet (Hijazi & AlNatour, 2021). This could cause online learning not to fully support new forms of engagement and creativity. Equally, other studies found that technical and internet connectivity problems prevent students from attending online classes which affects learning negatively (Hazaymeh, 2021).

Online learning affects less self-disciplined students the most. Students who lack selfdiscipline find it difficult to study independently (Erlangga, 2022; Agustina et al., 2020). Without the teacher's assistance, they cannot focus and understand lessons. Courses that include more interaction, such as many dialogues and discussions, benefit the less autonomous learners (Mbwesa, 2014). Therefore, students prefer to work collaboratively in groups (Arifani et al., 2020). Whereas in traditional face-to-face learning, students have more sense of self-discipline (Huh et al., 2022).

Online learning has an impact on learners' motivation, as well. E-learning is considered a motivational method of fostering self-learning and language pedagogy in the present digital era (Hazaymeh, 2021). However, the lack of physical interaction in online settings leads to social isolation and demotivation in learners (Hazaymeh, 2021; Mbwesa, 2014). The lack of motivation and enthusiasm for online learning among students may be attributed to limited opportunities for interaction and engagement with teachers and peers (Al-Nofaie, 2020; Esra and Sevilen, 2021; Erlangga, 2022; Sinaga and Pustika, 2021). Although motivation and willingness were found to be a moderate challenge in the study done by Hijazi & Al-Natour (2021), 78% of the students stated that they did not enjoy online

classes because of the teaching methods. “In addition, 67% of the students thought they would have better education if they were in a physical classroom” (p.389).

3.5 Speaking Skills

Improving speaking skills requires interacting and communicating with others. Thus, more than learner-content interaction, learner-learner and learner-instructor interactions are required. With the decrease in these kinds of interactions in online learning, it becomes difficult to practice speaking skills. Yet, some researchers say that online learning has no positive or negative effect on speaking skills. Motivation and low levels of anxiety, however, are the main reasons to be confident in speaking which will lead to success (Wahyudi, et al. 2021). Although the majority of the learners do not feel ready for online learning and it causes anxiety about using computers in them, they find practicing speaking online fun. Overall, they found online learning to be effective (Megat-Abdul-Rahim et al. 2021) On the other hand, some other scholars have found that some students perceive they lose interest and motivation in online classes. This is due to the lack of feedback from the teacher and the boring side of online learning. Therefore, students are reluctant to speak, and they had rather be listeners. They prefer face-to-face learning because they can talk to others in person, see their facial expressions and be more motivated (Fitriani & Kadri, 2020). Preferences for online and face-to-face learning, though, depend on students’ characteristics. Some students perceive they can overcome shyness while speaking online by just looking at the small size of profiles. However, some other students perceive they do not feel comfortable speaking online due to the lack of eye-to-eye interaction and unclear voices because of poor internet connection. Therefore, it is concluded that the online learning environment should be more interactive, and teachers should practice more communication activities in class. Students also suggest that they admire project-based learning (Nguyen, 2021). There is a relation between interaction and good speaking skills. The more interaction takes place between students, the more improvement in speaking skills (Shafipour, et al. 2018; Fidalgo-Blanco et al., 2015; Davidson and Major, 2014).

Like some other studies which suggest that students feel less anxious, the study by Alkan and Bãžmen (2020) showed that Asynchronous Online English-Speaking Group helped students decrease their anxiety and hereby improve their speaking performance. However, according to some scholars, acquiring language skills decreases in online learning. Online learning does not improve students’ speaking skills. Rather, there is a loss in speaking skills because students cannot easily use speaking strategies as interaction and collaboration are limited (Zaim et al. 2023).

3.6 Listening Skills

According to some studies, students experience more listening anxiety in face-to-face learning compared to online learning. Since they feel less anxious and more confident in online learning, they find practicing it more productive (Almalki, 2023; Russel, 2020; Hazaymeh, 2021; Hijazi, 2021). Although students found listening skills more challenging than reading, speaking, and writing, they felt less anxious in listening classes in online learning. However, the research showed that traditional learning was more effective in improving listening skills because, in face-to-face learning, students who lose their concentration can recover it more easily than in online learning (Hassan et al., 2014).

Listening and comprehension skills are difficult for language learners, because “they should discriminate speech sounds quickly, retain them while hearing a word, a phrase, or a sentence” (p. 37). Being conscious of the linguistic forms makes students misunderstand some of what they hear. This makes listening to a challenge for language learners. Listening to podcasts on YouGlish and News webpages is a good way to develop listening and communication skills (Kamalitdinovna, 2021). Even though students have difficulty in joining online classes due to technical and internet access issues, they perceived that their listening skills improved, especially that they benefited from listening to the materials more than once (Nurani & Widiati, 2021).

3.7 Reading Skills

Like other language skills, studies about reading skills demonstrate contradictory results. Some studies have found that with online learning, there is a loss in the reading skills of the learners. The duration of concentration is important in online reading since students get easily distracted. Many students say that they prefer reading text on paper rather than on digital screen because they can concentrate more. However, if the papers are colored and the layout and font size are suitable, it can improve motivation and reading skills (Tseng, 2007).

Several studies have found Microsoft Team Application to be more effective than any other online platform in teaching language skills. They recommend that teachers “develop an onlinebased flipped classroom learning method by using Microsoft Teams to improve students’ English reading comprehension skills better than ever” (p. 1621). This is because students can interact more on this platform and be more motivated to learn (Setyosari, et al. 2021). In addition, online vocabulary games are found to be effective in improving vocabulary knowledge which consequently improves reading skills (Zarei & Amani, 2018).

One study which did research on the effectiveness of web-assisted learning found that students in online learning did better than students in traditional one. This study was particularly about reading comprehension that proved learners’ reading skills improved in online learning (Tanyeli, 2019). Similarly, some other studies have found that e-learning is an effective way to enhance learners’ performance in reading comprehension. (Villesseche. Et al., 2019; Shang & Chen, 2018).

4. Discussion

This review of literature draws on previous studies to find out what is more helpful and beneficial in online language education for learners and what is limiting their learning. As it is observed, interaction is a main issue in online education. Along with the benefits it offers such as flexibility and recording the sessions (Zaki, 2022; Klimova, 2021; AL-Nofaie, 2020), it has limitations such as lack of interaction, internet issues, costs of attending, and motivation that significantly affect learning outcomes (Agung et al. 2020.; Al-Nofaie, 2020; Sinaga and Pustika, 2021).

With the lack of proxemics and observing others’ facial expressions and body language, intimacy and interaction levels drop off. What Moore (1989) argued was that content of the course becomes the main object to interact with in online learning. Many scholars, as well, argue that learner-content interaction is not only the most frequent type in online learning but the determining factor in learners’ success and satisfaction. Following this finding, some scholars emphasize the importance of the quality and design of the content. Instructors should post high-quality content such as clear instructions, unambiguous video presentations, and easy-to-use format of e-books. Considering challenges such as internet connectivity, technical skills, and technological issues, instructors should be aware of the importance of providing learners with clear, updated usage instructions and a back-up plan if something goes wrong. Educators can use cartoon-based, gamebased, or project-based contents that will motivate the students and help them understand the material with ease.

While learner-instructor interaction is a main source of feedback and motivation for students, some scholars (Pham, 2021; Arifani et al., 2020; Xiao, 2017; Abulibde and Hassan, 2011) have found that this type has the least effect in online education. In addition, it has the least frequency. A significant number of students report that they feel isolated or disconnected in online classes due to reduced instructor presence (Zboun & Farrah, 2021; Hijazi & AlNatour, 2021). Regarding this issue, scholars suggest that teachers possess some competencies to increase the levels of interaction. This could be achieved by encouraging the learners to turn their camera on and participate in discussions as well as the instructor taking more of an engaged presence in the online context. Teachers can make themselves more available for the students. For instance, they can increase their office hours or set up online meetings with them.

While learner-learner is generally viewed as the least influential type of interaction in some studies, some studies suggest that it has an important role in developing language skills, especially speaking skills. This is because comfort levels are high among peers. As the result of peer/group conversation, they develop speaking skills. Besides, this type of interaction benefits less autonomous learners. Thus, it is suggested that instructors give assignments that include group projects or discussions to help the learners communicate with each other and engage in learning activities. Although some learners believed that delivering speaking assignments online improved their speaking skills (Alzamil, 2021), some studies found that the lower quality of network connection influenced the accuracy and speed of oral communication which impacts speaking classes (Zhao, 2020).

Regarding the language skills, practicing listening and speaking skills may be dependent on learner-instructor and learner-learner interaction. However, reading and writing skills are mostly related to learner-content interaction. Reading the content and interacting with the content requires self-discipline. Students without self-discipline and responsibility cannot improve their reading and writing skills.

5. Conclusions

In the lines of this study, the following has been observed, and a major gap has been identified. Learner-content interaction is found to be the most frequent type of interaction followed by learner-instructor and then learner-learner. In online language learning, learners spend most of their time interacting with the course content such as books and videos. The amount of the time spent communicating with the teacher falls between learner-content and learner-learner interaction. This type of interaction, however, is in the form of e-mail. Unfortunately, learner-learner interaction, which is an important aspect of learning, is the least frequent type of interaction.

Although most of the reviewed papers were on language acquisition, they did not provide adequate insights into how each type of interaction influences language acquisition. Another gap should be filled through a study on the impacts of each type of interaction on various language skills (reading, writing, listening, and speaking) and all other aspects of language acquisition in general such as vocabulary and grammar knowledge.

6. Implications

Moore (1989) argued that in online learning, learner-content interaction occurs most frequently and has the greatest effect, followed by learner-instructor interaction, and then learner-learner interaction. Following his framework, many scholars discovered that their findings are in line with this idea, except for a few who reported different results.

The similarity between studies conducted over a decade ago and recent findings suggest that despite the advances in technology, instructors and educators have not been able to increase the frequency and effectiveness of learner-instructor and learner-learner interaction in online education. This highlights the need for improvements in both pedagogical and technological design. “With today’s technological advances, the development of interactive learning material with various learning activities is becoming more popular in online learning’s environment” (Padmo, 2022, p. 9435). Since learner-content is found to be the most effective interaction in online learning, and students engage more with content than with their instructors or peers, educators should pay special attention to the designing of the course content. However, the important role of learner-instructor and learner-learner interactions should not be overlooked. Educators must come up with strategies and ideas to ensure that students benefit from these interaction types alongside learner-content interaction.

If the main source of learning is video presentations, they should have a high quality of sound and graphics and be short. Learners find long online lectures and video presentations boring and easily become distracted (Dung, 2020; Klimova, 2021). Instructors may even incorporate comic strip design

techniques when presenting a complex topic. Cartoon-based and game-based learning may motivate learners to study and learn independently. Teachers should also make sure that the format of the content such as e-books and word/excel documents are readable and compatible with any digital device. Also, educational institutions should provide high-speed internet access and up-to-date digital devices to enable instructors to have a high-quality class.

o increase the learner-instructor effect, teachers should dedicate more time to personalized feedback and set up synchronous video meetings if the classes are asynchronous. Also, they should encourage students to turn their cameras on and feel free to use their microphones whenever they have a question or a comment. Regarding learner-learner interaction, group projects and assignments that involve pair/group work can be a good way of engaging learners with each other. Besides, discussion forums may come in handy to set up an interactive environment.

Although a significant proportion of the reviewed articles focus on language learners, few have examined the specific impacts of each type of interaction on language skills and proficiency. In addition, scholars should investigate how each type of interaction influences language acquisition and explore the impact of emerging technologies, such as virtual reality (VR) and artificial intelligence (AI), in shaping language learning in the digital era. Examining the integration of these technologies could provide insights into how they increase the quality of learner-content, learner-instructor, and learner-learner interactions.

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