

Using Edmodo in Language Learning: A Review of Research

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Abstract: Edmodo has a significant role and place in the language teaching and learning contexts. However, there is no conclusive evidence on how Edmodo affects the language learning process. This study aims to present a review of the studies to make recommendations for teachers and researchers for further research. The study concludes that learners and teachers mainly have positive perceptions of and attitudes towards the use of Edmodo in the language learning process. It is also concluded that the use of Edmodo is efficient for fostering basic language skills, overall language proficiency, and communication skills. On the other hand, there are several drawbacks encountered during the utilization of Edmodo in language classes.

Keywords: Language teaching and learning; Edmodo; systematic review

Introduction

There has been an increasing interest in using Edmodo as a social media platform in the language learning process for several reasons. As Wichadee (2017) points out, traditional classroom activities and practices may not be adequate in the language learning context because of large classroom sizes and problems concerning time management. Second, for effective language learning, Edmodo presents better opportunities within the language learning context. For instance, it allows teachers and students to study with more capable peers and combine the traditional classroom atmosphere with online learning opportunities (Garcia Botero et al., 2019). Third and last, Edmodo as a language learning environment seems more appealing for the digital natives familiar with the information and educational technologies (Ekmekci, 2016). However, as Nami (2020) emphasizes, few studies have focused on Edmodo as a language learning platform, while most studies focused on writing practice. Thus, how Edmodo affects the language learning process remains an unanswered question. More importantly, since the effects of Edmodo on the language learning process is a relatively new issue, the current studies should be reviewed to guide researchers. Below, the rationale behind this study is clarified. However, before presenting the reasons that guide this study, a theoretical framework is presented.

Edmodo is a social networking platform and a learning management system that allows users to create profiles, display communities, ad groups, and posts. Members can add profile pictures, share documents, links, pictures, videos, and access resources shared by others (Li et al., 2015). In other words, Edmodo is an educational website that combines social networking and classroom utilization. Using Edmodo, students, teachers, and even parents can meet by sharing their problems, ideas, and helpful tips. Teachers can assign, give feedback, and grade on Edmodo, whereas learners can help each other, give and receive feedback. Unlike other social networking sites, no inappropriate content can be shared since teachers can see all posts in this safe environment. In subject communities such as Math, Language Arts, Computer Technology, and Creative Arts, users can interact and communicate, share resources and ideas. Teachers can also create groups for their classes, post notes and alerts, give assignments, distribute polls, and prepare examinations and quizzes, and grade papers (Trust, 2012). Since its

launching in 2008, Edmodo has had over 100 million users and over 700 million resources shared by teachers, students, and parents (<https://new.edmodo.com>).

From a theoretical perspective, Edmodo can be grounded on the Connected Learning Theory (Ito et al., 2013) and Constructivism (Crotty, 1998). This is because it is an environment that allows users to share their interests, interact and communicate, provide peer support, solve problems, and construct knowledge based on experiences in the learning community. As interactive and social environments facilitate learning (Vygotsky, 1978), knowledge can be constructed efficiently (Nami, 2020). In other words, as a social networking site and micro-blogging service (Paliktzoglou & Suhonen, 2018; Priego & Liaw, 2017), Edmodo is a learning management system regarding educational orientation that promotes self-regulated learning (Manowong, 2016) creativity, production, communication, and independent learning according to learners' pace (del Rosal et al., 2017). The use of Edmodo in the language learning process also relates to blended learning and flipped language classroom, one form of the blended learning approach. Blended Learning combines traditional classes and online sessions to keep the language learning process on a continuum by using online tasks and activities shared via Edmodo (McKim, 2016). On the other hand, the concept of a flipped classroom, with a communicative focus, allows language learners to prepare the core parts of projects and activities. To conclude, Edmodo is a platform for sharing ideas for communicative purposes in addition to face-to-face communication with peers and teachers (McKim, 2016).

In today's world, it is evident that the use of Edmodo has a significant role and place in the language teaching and learning contexts due to several reasons. First, Edmodo constitutes a flexible and powerful language learning environment in a variety of ways. Second, it allows learners to improve communication skills, basic language skills and develop positive attitudes towards language learning outside of the classroom. On the other hand, since there is no conclusive evidence on how Edmodo affects the language learning process, it is necessary to review the current studies to understand its influences better to make practical recommendations for language teachers and students. Furthermore, as the current literature lacks findings on specific issues regarding language learning in an Edmodo-based environment, there is a need to review current studies to make recommendations for further research. Finally, it is necessary to reach conclusions regarding stakeholders such as parents, school administrators, and policymakers. With these concerns in mind, the current study aims to present a systematic review of research on the use of Edmodo in the language teaching process and asks one research question:

- Does the use of Edmodo contribute to the language learning process?

Method

Research design

In the study, a systematic review was preferred for several reasons. In the broadest perspective, the systematic review includes a specific methodology that selects the relevant studies, evaluates the contributions of the prior research, analyses, synthesizes the data gathered, and reports the conclusions reached (Denyer & Tranfield, 2009). The rationale behind this approach is that it explores specific research questions stemming from realistic settings and problems. In this sense, it cannot be seen as a literature review from a traditional perspective. In addition, the systematic review is different from other review methods due to its principles and procedure (Harris et al., 2014). Regarding the current study, it focuses on the use of Edmodo in the language learning process; thus, a comprehensive and reproducible strategy seems necessary. Furthermore, all of the relevant studies needed to be identified. Last, the review results are needed to be assessed for quality in a balanced summary. To answer the

research question above, a methodological, systematic, and comprehensive synthesis of research seemed necessary for drawing conclusions, providing recommendations for target groups, and making recommendations for further research (Denyer & Tranfield, 2009).

Searching

Before the literature search, a pilot search was performed to gain insight into the outputs of the database systems and develop appropriate inclusion and exclusion process. For this purpose, the keywords “Edmodo” and “language” in the database systems of Web of Science (WOS), Scopus, and Education Resources Information Center (ERIC) were used. The mentioned databases allowed finding publications including research articles. The search process resulted in 95 articles that were considered as a pool for the review. This process was conducted in May 2020 and updated in June 2020.

Inclusion and exclusion criteria

As seen in Table 2, two inclusion and exclusion criteria were established to identify relevant studies to the research question. Included studies had to be designed as qualitative, experimental, correlational, descriptive, or mixed-method. In addition, studies designed as thematic review, systematic review, meta-analysis were excluded.

Table 1. Inclusion and exclusion criteria

Category	Inclusion criteria	Exclusion criteria
Research design	Qualitative, experimental, correlational, descriptive, mixed-method	Thematic review, systematic review, meta-analysis
Publication types	Research articles	Working paper, dissertations, thesis

Analysis

The study included five basic steps. First, a specified research question is formulated and framed. Then, all relevant studies were identified before appraising the quality of the included studies. After the evidence was summarized, the results were interpreted (Tawfik et al., 2019). Finally, the summary of the studies reviewed was presented in accordance with the outcomes measured. As indicated in Figure 1, the article selection process included the steps of *identification*, *screening*, *eligibility*, and *inclusion* according to the PRISMA model. For this purpose, three databases, Web of Science (WOS), Scopus, and Education Resources Information Center (ERIC), were used to obtain research papers to review. The rationale behind the preference of the mentioned indexes was to access papers published in high-quality journals. In addition, the papers were considered to have data accuracy, validity, and reliability. After a basic search including the keywords “Edmodo” and “language” regarding titles of the articles, abstracts, and keywords listed, 95 papers were accessed. The second step included the exclusion process. It was screened that 24 papers were duplicated, whereas 17 articles were off-topic. Namely, the studies that do not focus on the relationship between the use of Edmodo and language learning were excluded. The full texts of eight articles could not be reached, whereas, after a reading process, seven review articles were excluded. At the final step, 40 research papers focused on the use of Edmodo and language learning were included in the study.

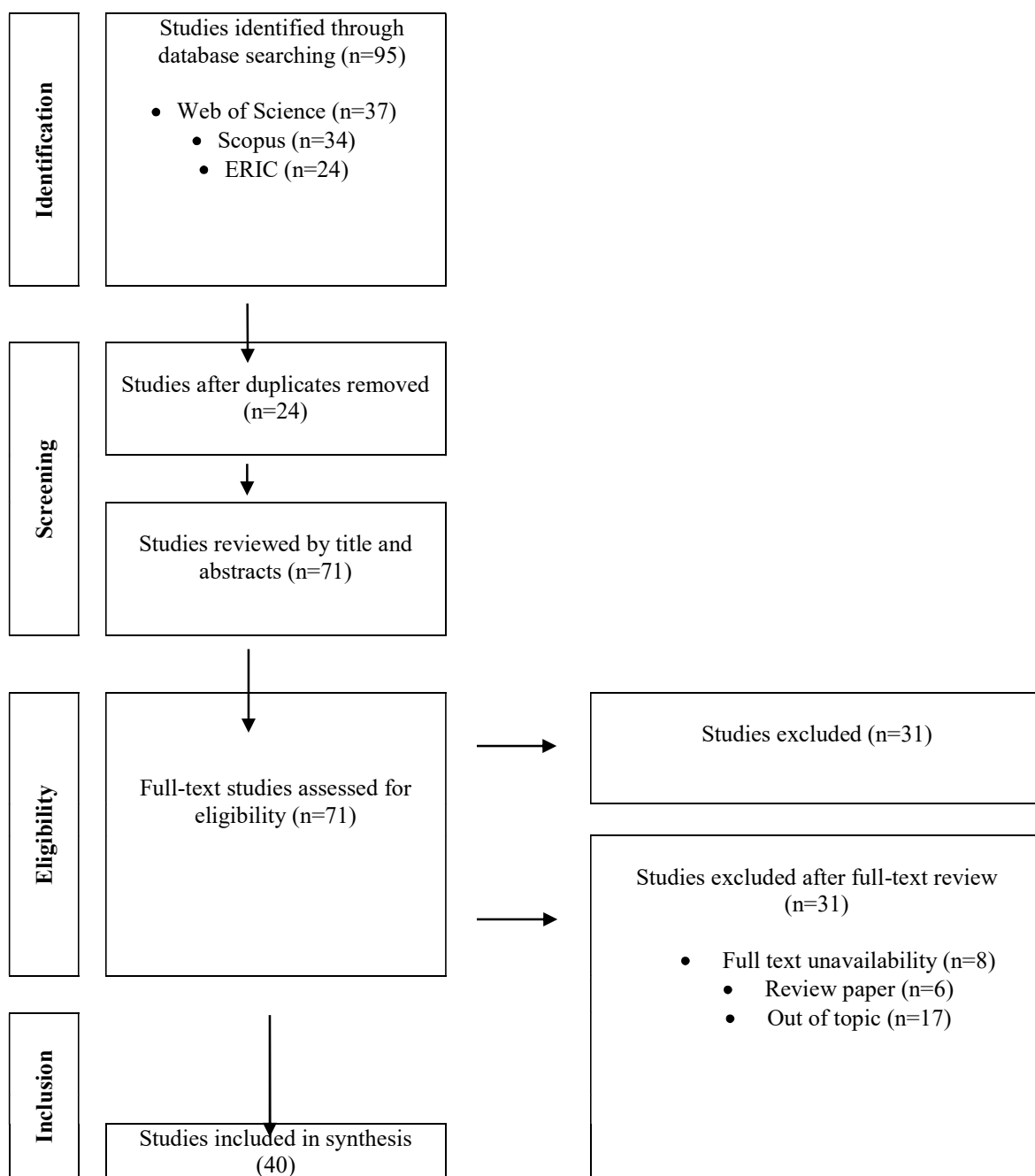


Figure 1. PRISMA flowchart for the inclusion process

After formulating the research question, a research protocol was developed before retrieving the literature. Then, before the literature searching, screening, and analysis procedure, the papers were saved, listed, screened, and determined the inclusion and exclusion criteria. For this purpose, authors' names, publication years, types of publications, research designs used in the studies, participants' grades, preferred research tools, outcomes measured, distributions of the studies according to countries, and language contexts were noted. The storing and analysis processes were performed via SPSS 22. Finally, the studies were presented in accordance with the problem statements, aims, methods, findings, and recommendations.

Analysis of publications

The values given in Table 2 show that the papers reviewed in the study were published within the years 2012 and 2020. When the number of the studies according to the publication years is considered, it was observed that the use of Edmodo in the language learning process has become popular since 2015, while only two studies appeared within the years of 2012 (2.5%) and 2014 (2.5%). The values also show that six papers were published in 2015 (7.5%) and 2016 (7.5%), whereas nine publications appeared in 2017 (22.5%). However, a considerable decrease was noticed as only three papers appeared in 2018, while 20 studies were published in 2019 (30.0%) and 2020 (20.0%). From these values, it can be inferred that research on the Edmodo effect on language learning has been receiving more attention among researchers

Table 2. Publication years

Years	Frequency	Percent
2012	1	2.5
2014	1	2.5
2015	3	7.5
2016	3	7.5
2017	9	22.5
2018	3	7.5
2019	12	30.0
2020	8	20.0
Total	40	100.0

As seen in Table 3, the research activities were reported as journal articles, conference presentations, and book chapters. Among these studies, 33 (82.5%) papers were published in journals, while six papers (15.0%) were presented in scientific meetings. In addition, only one research (2.5%) was reported as a book chapter. To end, it is evident that the studies reviewed mainly consisted of journal articles.

Table 3. Types of publications

Types of publications	Frequency	Percent
Journal article	33	82.5
Conference presentation	6	15.0
Book chapter	1	2.5
Total	40	100.0

Researchers preferred various research designs in the studies, as indicated in Table 4. For instance, in nine studies (22.5%), the qualitative research design was preferred. In addition, they used the quasi-experimental research design in nine papers (22.5%). The experimental research design was used in eight studies (20.0%), whereas seven (17.5%) preferred the mixed-method research design. Last, the descriptive research design was used in seven studies (17.5%).

Table 4. Research designs

Research designs	Frequency	Percent
Qualitative	9	22.5
Quasi-experimental	9	22.5
Experimental	8	20.0

Mixed-method	7	17.5
Descriptive	7	17.5
Total	40	100.0

Regarding demographic variables, the number of participants was within the range of four and 286, whereas most of the studies focused on college students, as seen in Table 5. In other words, the participants were college students in 31 studies (77.5%). On the other hand, the participants in four studies (10%) consisted of high school students. Secondary school students were used as participants in three studies (7.5%). Finally, only two studies (5%) used students as participants at the elementary level.

Table 5. Participants' grades

Grade	Frequency	Percent
College	31	77.5
High school	4	10.0
Secondary school	3	7.5
Elementary school	2	5.0
Total	40	100.0

A wide variety of research tools were preferred in the studies. Of the tools, questionnaires were used in 17 studies (27.9%). Interviews (14.8%) and semi-structured interviews (6.8%) were also preferred in 12 studies in total. Writing assignments were also used in three studies (4.9%). The tools used to collect data three times were documents analysis (4.9%), proficiency tests (4.9%), and surveys that consisted of close-ended questions with few open-ended questions (4.9%). Grammar tests (4.5%), observations (4.5%), open-ended questions (4.5%), writing tests (4.5%), and placement tests (4.5%) were used twice. Finally, academic writing evaluation rubric (1.6%), analytic scoring rubric (1.6%), content analysis (1.6%), face-to-face meetings (1.6%), online discussions (1.6%), online mini-polling (1.6%), oral assignment (1.6%), reading comprehension test (1.6%), scales that aim at measuring in according with specific rules (1.6%), and writing task (1.6%) were used once in the studies.

The studies focused on various outcomes, as given in Table 6. Among them, motivation was the most frequently measured outcome (n=6, 9.5%). Then, studies mainly concentrated on specific issues related to writing skills. For example, collaborative writing (n=3, 4.8%), academic writing (n=2, 3.2%), and paragraph development (n=1, 1.6%) were some of the topics, while several studies aimed at measuring writing competence (n=1, 1.6%), writing performance (n=1, 1.6%), and writing skills in a general perspective (n=1, 1.6%). Within the scope of writing skills, peer assessment (n=2, 3.2%) and teacher feedback (n=1, 1.6%), self-editing (n=1, 1.6%), self evaluation (n=1, 1.6%), self-reflection (n=1, 1.6%), and self-monitoring (n=1, 1.6%) were measured. Studies also focused on attitudes towards language learning (n=1, 1.6%) and Edmodo (n=2, 3.2%), perceptions of language learning (n=1, 1.6%), the use of social media (n=1, 1.6%), Edmodo (n=1, 1.6%), and flipped learning (n=1, 1.6%). Furthermore, several studies measured overall outcomes such as communication skills (n=4, 6.3%), interaction (n=2, 3.2%), basic language skills (n=2, 3.2%), overall language proficiency (n=3, 4.8%), and oral proficiency (n=1, 1.6%). Moreover, isolated aspects of basic language skills and knowledge areas such as reading skills (n=1, 1.6%), reading comprehension (n=1, 1.6%), grammar (n=2, 3.2%), vocabulary (n=1, 1.6%), fluency (n=1, 1.6%), and phonology (n=1, 1.6%) attracted researchers. Some other outcomes measured were autonomous (n=2, 3.2%) and self-directed learning (n=1, 1.6%), critical (n=2, 3.2%) and creative thinking (n=2, 3.2%), intercultural understanding (n=1, 1.6%), and knowledge construction (n=1, 1.6%). Finally, researchers focused on language investment (n=2, 3.2%),

engagement (n=1, 1.6%), achievement (n=1, 1.6%), identity (n=1, 1.6%), and experience (n=1, 1.6%). As a note, it should be stated that the outcomes measured in the studies were grouped in accordance with the contents of the studies reviewed. Within this scope, it can be inferred that the studies mainly focused on basic language skills, knowledge areas, affective states, thinking skills, thinking skills, feedback strategies, learning styles, and individual skills.

Table 6. Outcomes measured

Areas	Outcomes measured	Frequency	Percent	
Basic language skills	Reading comprehension	1	1.6	
	Writing skills	Writing as an isolated skill	1	1.6
		Writing competence	1	1.6
		Writing performance	1	1.6
		Academic writing	2	3.2
		Paragraph development	1	1.6
		Self-editing	1	1.6
	Integrated basic language skills	2	3.2	
	Overall proficiency	3	4.8	
	Speaking	Communication skills	4	6.3
		Oral proficiency	1	1.6
		Interaction	2	3.2
		Fluency	1	1.6
		Intercultural understanding	1	1.6
Knowledge areas	Vocabulary	1	1.6	
	Grammar	2	3.2	
	Phonology	1	1.6	
Affective states	Motivation	6	9.5	
	Self-efficacy	1	1.6	
	Engagement	1	1.6	
	Attitudes and perceptions	Attitudes towards Edmodo	2	3.2
		Attitudes towards language learning	1	1.6
		Perceptions and attitudes towards language learning	1	1.6
		Perceptions of Edmodo	1	1.6
		Perceptions of flipped learning	1	1.6
		Perceptions of social media	1	1.6
Thinking skills	Creative thinking	2	3.2	
	Critical thinking	2	3.2	
Feedback	Teacher feedback	1	1.6	
	Peer assessment	2	3.2	
Learning styles	Autonomous learning	2	3.2	
	Self-directed learning	1	1.6	
	Knowledge construction	1	1.6	

Individual skills	Self-evaluation	1	1.6
	Self-monitoring	1	1.6
	Self-reflection	1	1.6
Other issues	Language investment	2	3.2
	Language achievement	1	1.6
	Language identity	1	1.6

Regarding the distribution of the studies in accordance with countries, it is observed that research activities were performed in countries where English is commonly taught as a foreign language. As shown in Table 7, nine studies (22.5%) were performed in Indonesia, whereas seven (17.5%) appeared in Turkey. Some other studies were carried out in Saudi Arabia (7.5%), two in Australia (5.0%), two in Iran (5.0%), and two in Thailand (5.0%). Last, the countries where only one research carried out were Kuwait, Philippines, Russia, Spain, USA, Hong Kong, Oman, Ecuador, Malaysia, Brazil, Japan, Belarus, Romania, Greece, and Iraq. It can be concluded that the studies were mainly performed in the countries where English is taught as a foreign language.

Table 7. Distributions of the studies by countries

Countries	Frequency	Percent
Indonesia	9	22.5
Turkey	7	17.5
Saudi Arabia	3	7.5
Australia	2	5.0
Iran	2	5.0
Thailand	2	5.0
Kuwait	1	2.5
Philippines	1	2.5
Russia	1	2.5
Spain	1	2.5
USA	1	2.5
Hong Kong	1	2.5
Oman	1	2.5
Ecuador	1	2.5
Malaysia	1	2.5
Brazil	1	2.5
Japan	1	2.5
Belarus	1	2.5
Romania	1	2.5
Greece	1	2.5
Iraq	1	2.5
Total	40	100.0

The values in Table 8 indicate that studies mainly focused on English as a foreign language context. In other words, 34 (85.0%) of 40 papers reported on the English as a foreign language teaching and learning contexts, while only four studies (10.0%) focused on English as a second language context. Last, one study (2.5%) on Turkish as a native language and one article (2.5%) on Spanish as a second language appeared.

Table 8s. Language contexts

Language context	Frequency	Percent
English as a foreign language	34	85.0

English as a second language	4	10.0
Turkish as a native language	1	2.5
Spanish as a second language	1	2.5
Total	40	100.0

Research Synthesis

In this section, a brief synthesis of research results from the studies reviewed is presented. For this purpose, first, the studies focusing on basic language skills and knowledge areas, namely, grammar and vocabulary are reviewed. Then, research on blended learning, perceptions and attitudes, self-reflection, self-monitoring and self-evaluation, critical thinking skills, creativity, autonomous learning, and engagement are synthesized. Finally, research regarding problematic areas was reviewed.

Basic language skills The results of the two studies show that the use of Edmodo can improve overall language proficiency. First, Alsmari (2019) pointed out that the use of Edmodo in writing classes helped to improve overall language proficiency. Second, Dewi et al. (2020) researched EFL learners' strategies while using formula expressions in the curriculum through e-book instructions via Edmodo and explored whether there existed a correlation between its utilization and fluency and proficiency scores. After the content analysis of the e-book instructions via Edmodo and proficiency tests, they concluded that students increased their overall proficiency. Research results also demonstrate that Edmodo as a learning environment effectively develops communication skills in the target language. In an earlier study, Bicen (2015) examined the effects of Edmodo as a social learning environment on achievement and communication skills in the EFL context from the learners' perspective. In this one-group design experimental study, he concluded that the use of Edmodo increased achievement and improved communication skills among language learners. Similarly, Barnes (2017) explored the use of social media platforms, namely Edmodo and Glogster, with Japanese high school exchange students among ESL learners by using activities and tasks through student and teacher feedback. The study concluded that the use of the mentioned environments promoted communication in the target language. In addition, Piniuta (2019) used YouTube, Google Forms / Slides / Docs, Meeting Words, Coogole, Kahoot, Padlet, Video Notes, Vizia, and Edmodo as learning platforms. The study concluded that oral and written speech activities conducted through the mentioned environments effectively developed communication skills. On the other hand, it should be noted that Edmodo was not the focus of the study but one of the environments evaluated. Last, Siahaan (2020), who investigated EFL learners' perceptions of Edmodo as a language learning environment, found that they improved basic language skills, interaction, and communication in the target language. As a final note, it should be clarified that speaking skills require the oral exchange of words in a meaningful way during the communication process, while communication involves the transformation of thoughts.

The findings of a limited number of studies demonstrate that the use of Edmodo improves speaking skills among language learners. First, Wichadee (2017) concluded that blended learning was more effective than traditional learning and that the ones who used Edmodo improved their oral proficiency. Tokmak et al. (2019) examined prospective teachers' digital storytelling experiences through the flipped-classroom approach in the EFL learning context. In this qualitative study, Edmodo was used for sharing videos. It was concluded that the participants found digital storytelling through the flipped-classroom approach instructive, challenging, and entertaining. In a qualitative study, Nurhayati (2019) focused on EFL learners' perspectives on using Edmodo in teaching phonology

and concluded that the use of Edmodo increased learners' readiness to take part in the course and fluency in learning phonology. Finally, Dewi et al. (2020), after obtaining data from a content analysis of the e-book instructions via Edmodo, noted better performance in fluency among learners.

The results of a relatively limited number of studies show that Edmodo is beneficial in terms of reading skills. For example, Yagci (2015) examined how EFL learners' reading skills could be enhanced through Edmodo and found that students in both face-to-face and Edmodo classes improved their reading comprehension skills. Next, Tezer and Koprulu (2017) explored how social learning environments affected reading comprehension among college students at the elementary level of the target language. In this descriptive study, Edmodo was used for administering questionnaires and reading comprehension tests. The study concluded that EFL learners were successful in reading tests and eager to use Edmodo as a social learning environment. Finally, given that technological developments might provide alternative environments within the scope of reading skills, Arwansyah et al. (2019) explored the effects of Edmodo on the mentioned skills through the Whole Language Approach. They found that the Edmodo-based Whole Language Approach considerably improved reading skills among language learners.

In the broadest sense, the studies show that the use of Edmodo is beneficial for writing skills within the scope of writing competence, learners' perceptions, integrating Edmodo into writing classes, and teacher feedback. In an earlier study, Kwok (2014) explored the potential of social learning platforms for supporting ESL learners at the elementary school level. In this two-group design experimental study, Google Drive was used for self-editing, whereas Edmodo was used for peer-assessment of compositions. The study concluded that the platforms used were beneficial in writing competence, self-editing, and peer assessment. Similarly, Ma'azi and Janfeshan (2018) examined the effects of Edmodo on writing skills among EFL learners. In this two-group experimental study, it was observed that the use of Edmodo improved overall writing skills and EFL learners' attitudes toward the use of Edmodo. Similarly, Maryem and Iman (2018), who measured the effectiveness of Edmodo on writing performance among EFL learners and perceptions of the use of Edmodo, also found that students significantly improved their writing skills, in general, wrote better-structured sentences, and had positive attitudes towards Edmodo. Given that blended learning was a combination of technology-enhanced and traditional learning and that Edmodo could facilitate the development of basic language skills, Hosseinpour et al. (2019) investigated the effects of blended learning through Edmodo on academic writing and learners' perceptions. This quasi-experimental research concluded that it was possible to integrate Edmodo into essay writing classes based on blended learning since the experimental group participants had a better performance than those in the control group. In another study, Wihastyanang et al. (2020) aimed to identify the effectiveness of teacher feedback on EFL learners' writing performance within the scope of Vygotsky's Zone of Proximal Development. In this two-group quasi-experimental study, it was found that the ones in the Edmodo group did not perform better in writing when compared to the ones who received teacher feedback in the traditional group. Finally, Oria (2020), who described a pilot study regarding the use of Edmodo at the college level within the task-based approach, found that its utilization improved writing skills and promoted self-reflection about the writing processes used in the task-based approach, and developed critical thinking skills.

Several studies on specific aspects of writing show that the utilization of Edmodo improves paragraph development, academic writing, and collaborative writing. First, considering that Edmodo could be used as a supportive environment regarding paragraph development among EFL learners, Alsmari (2019) performed an

experimental study through which standard tests were used as data collection tools. He concluded that the integration of Edmodo into writing classes was beneficial for paragraph development among college students. Second, Altunkaya and Ayranci (2020), in their mixed-method study, which consisted of qualitative and quasi-experimental design, examined the effects of Edmodo on academic writing and found that the participants in the Edmodo group showed a higher writing achievement compared to the traditional writing environment. However, it should be noted that the study was limited to Turkish as a native language writing. Third, given that research on the use of social media mainly focused on learners' perceptions, Alghasab (2019), in a qualitative study, explored the nature of EFL learners' interactions within the scope of collaborative writing activities via Edmodo. The study concluded that Edmodo was a functional supplementary environment for collaborative writing in the EFL writing process. In addition, Piniuta (2019) also concluded that oral and written activities effectively developed collaboration. Last, Vavaitis and Sofianopoulou (2019), who examined the effects of the use of Edmodo and video conferencing on EFL writing skills among distance learners, found the mentioned platforms as beneficial in terms of cooperation.

Grammar and vocabulary

The results of a limited number of studies show that learners improve their grammar and vocabulary knowledge when they use Edmodo. Considering that new technologies stimulated an explosion for the teaching and learning processes, Mokhtar (2016), in a qualitative study, focused on prospective teachers' perceptions of digital designs and the implementation of Edmodo and found that Edmodo was helpful for learning grammar within an interactive, innovative and creative experience. Moraes (2016) examined how Brazilian students learned subjunctive in Spanish as a second language. In this one-group experimental study, Edmodo and Team Speak were used for collecting oral and writing assignments. The study concluded that the form-focused approach was beneficial for learning the present subjunctive in Spanish. However, it should be pointed out that this study focused on the form-focused approach rather than the effectiveness of Edmodo. Kayacan and Razi (2017) found that the improvements in peer feedback on writing assignments via Edmodo were related to organization, content, grammar, and format. The participants also showed positive attitudes towards digital feedback. Last, Meléndez and Iza (2017) performed a study that focused on flipped learning on grammar knowledge among college students at the intermediate level. In the study, Edmodo was preferred to design and present videos. After the evaluation process, it was observed that flipped learning through Edmodo considerably improved students' grammar knowledge and academic performance. Finally, Mokhtar (2016) noted that Edmodo was helpful in vocabulary improvement and self-efficacy.

Blended learning

Research indicates that Edmodo-based blended learning increases motivation, defined as an internal or external drive that pushes the learner to learn a new language (Harmer, 2001) among language learners. In one of the earlier studies, considering that students lacked motivation to study a foreign language in traditional learning environments, Turkmen (2012) used Edmodo as a language learning environment and found that Edmodo could provide motivational benefits among college students at the pre-intermediate level. Pop and Pascan (2017) also concluded that Edmodo-blended self-access learning increased motivation. In addition, considering that the lack of motivation could debilitate basic language skills, Tanduklangi and Lio (2019) performed several activities using

Edmodo in the blended learning model. They noted that blended learning increased motivation and presented solutions to EFL learners' problems. In another study, Wichadee (2017), who used Edmodo to explore the effectiveness of the model implemented within the scope of oral proficiency, motivation, and attitudes, concluded that it increased the level of motivation. Last, Alsmari (2019) noted that the integration of Edmodo into writing classes increased writing motivation among EFL learners.

Perceptions and attitudes

Research results indicate that language learners have mainly positive perceptions and attitudes towards the use of Edmodo from the students' perspective. For instance, Al-Kathiri (2015) examined the effects of the integration of Edmodo into a secondary school English as a foreign language (EFL) teaching program on learners' perceptions and attitudes towards Edmodo use. After comparing the traditional and Edmodo-oriented interactions among learners, he found that their perceptions of the use of Edmodo were positive. In a descriptive study, Bermudez et al. (2016) investigated learners' perceptions of social media use in the EFL learning process. The platforms examined in the research were listed as Edmodo, Google Plus, Google docs, and YouTube. They found that learners perceived the mentioned environments as an essential part of the learning process regardless of studying at public or private schools. Nevertheless, it should be noted that Edmodo was the focus, while it was one of the environments examined. Similarly, Kim and Taylor (2017) investigated how English as a second language (ESL) learners perceived the use of Edmodo in terms of its ease and usefulness in the second language acquisition context. The results of the study showed that the participants found Edmodo easy and useful. Moreover, Pop and Pascan (2017) focused on Edmodo-enhanced self-access learning among medical English students. They found that students had positive attitudes towards the use of Edmodo during the medical English learning process. Given that Edmodo could promote the development of English language learning, Purnawarman et al. (2017) examined how high school EFL learners perceived the application of Edmodo in the learning process. This mixed-method study found that the participants had positive perceptions of Edmodo, saving time and effort regarding knowledge gaining. Ma'azi and Janfeshan (2018) also noted that learners had positive attitudes towards the use of Edmodo. Maryem and Iman (2018), who measured the effectiveness of Edmodo on writing performance among EFL learners, also found that students showed positive perceptions of Edmodo. In another descriptive study, Santikarn and Wichadee (2018) assessed how a modified flipped classroom might impact EFL learners' perceptions and performance. In the study, Edmodo was used for sharing lecture videos. They concluded that students were satisfied with lecture videos on Edmodo and showed positive perceptions of flipped learning. It should be underlined that the study focused on the perceptions of flipped learning rather than Edmodo. Given that the applications of smart technologies might be connected to challenges for educators and students, Elsakova et al. (2019) aimed to examine the use of smart technologies, including Edmodo, in the foreign language teaching process. The results showed that educators had positive perceptions of the use of the mentioned technologies for professional education. However, the focus of the study was not only Edmodo. Moreover, considering that Edmodo was useful in the educational community through which participants communicated, Vavaitis and Sofianopoulou (2019) examined the effects of the use of Edmodo and video conferencing on EFL writing skills among distance learners. In the two-group experimental study, the participants had positive attitudes towards the use of Edmodo and video conferencing. Hosseinpour et al. (2019) also found that learners had positive perceptions of the use of Edmodo as a writing platform in the EFL learning context. Oznacar et al. (2019) focused on the effects of flipped

learning via Edmodo on attitudes towards foreign language learning. They found that flipped learning was more beneficial when compared to non-flipped learning. Finally, since Edmodo was a popular online learning platform widely used as a learning management system in blended learning, Siahaan (2020) investigated EFL learners' perceptions of Edmodo as a language learning environment. The results indicated that learners showed positive perceptions. Last, Wichadee (2017), in a blended learning model, used Edmodo as a language learning platform to explore the effectiveness of the model implemented within the scope of oral proficiency, motivation, and attitudes. In the two-group quasi-experimental study, students in the experimental group expressed positive attitudes towards Edmodo as new technology.

Self-reflection, self-monitoring, and self-evaluation

Within the scope of self-reflection, self-monitoring, and self-evaluation, several studies show positive results. For instance, Kwok (2014) found that Edmodo was beneficial for enhancing self-editing, and peer-assessing of compositions, whereas Mokhtar (2016) noted that Edmodo increased self-efficacy among prospective EFL teachers. In a one-group quasi-experimental study, Khodary (2017) explored the effects of Edmodo on developing EFL learners' self-directed learning process and found that its utilization helped learners develop their self-directed learning. Pop and Pascan (2017) also pointed out that Edmodo-blended self-access learning fostered independent learning. Considering that writing was challenging among EFL learners, Kayacan and Razi (2017) suggested that self-monitoring and self-evaluation within the scope of the Zone of Proximal Development could be integrated into digital platforms. For this purpose, they investigated the effects of exchanging self and anonymous peer feedback on writing assignments through Edmodo. They concluded that self- and peer feedback had positive effects on the revisions of papers. Last, Oria (2020) observed that using Edmodo as an EFL learning platform at the college level within the task-based approach improved self-reflection.

Critical thinking skills, creativity, autonomous learning, and engagement

Research also shows that the use of Edmodo has considerable effects on critical thinking skills, creativity, autonomous learning, engagement, and intercultural understanding. First, Piniuta (2019) explored how to develop communication, collaboration, critical thinking, and creativity among foreign language learners. For this purpose, the study proposed oral and written speech activities at pre-intermediate, intermediate and advanced levels. The study used YouTube, Google Forms / Slides / Docs, Meeting Words, Coogole, Kahoot, Padlet, Video Notes, Vizia, and Edmodo as learning platforms and concluded that suggested exercises effectively developed critical thinking skills. Oria (2020) also found that the use of Edmodo at the college level within the task-based approach improved critical thinking skills. Second, Piniuta (2019), in the study mentioned above, noted that oral and written activities were effective for the development of creativity. Widyaningrum et al. (2020) also aimed to investigate the influence of Edmodo within flipped classroom learning on creative thinking among EFL learners and concluded that the participants in the Edmodo group considerably improved creative thinking skills than the ones who received direct instruction. Third, Santikarn and Wichadee (2018) assessed how a modified flipped classroom might impact EFL learners' perceptions and performance and found that students had positive perceptions of autonomous learning. Fourth, Sumardi and Muamaroh (2020), who explored how Edmodo was used to mediate ELF learners' engagement during their classes, found that learners' engagement was better when compared to the face-to-face classroom. Last, Okumura (2020) reported on the implementation of a telecollaborative project that

aimed to integrate the content of social studies and foreign language education between Australian and Japanese elementary school students in the case of Edmodo. The study concluded that the exchange of cultural information via Edmodo was meaningful for communication in the foreign language context.

Problematic areas

According to the research results, several problems are noted in terms of the use of Edmodo in the language learning process. For instance, Al-Kathiri (2015) observed challenges to the integration process of Edmodo within the scope of interactions among language learners. Purnawarman et al. (2017), who examined how high school EFL learners perceived the application of Edmodo during the learning process, found that it included drawbacks in terms of technical problems such as difficulties in opening links while using the mobile application, submitting tests, and unstable data. In addition, Barnes (2019) found that the participants disliked and resisted using Edmodo as they felt restricted by the mentioned platform. Last, Elsakova et al. (2019) found that educators were not familiar with the types of smart technologies such as Edmodo, TEDed, VKontakte, and Facebook.

Conclusions and Discussion

When the analysis of the publications reviewed in the study is considered, several conclusions can be noted. First, the use of Edmodo has been one of the trending research topics among researchers. The second conclusion is that researchers mainly prefer experimental, quasi-experimental, and qualitative studies as research designs, whereas mixed-method and descriptive studies are also carried out. On the other hand, no correlational studies are performed. The third conclusion obtained from the study is that the sample groups of the studies mainly consist of college students. At the same time, language learners who attended high, secondary, and elementary schools are rarely preferred as participants in the studies. Fourth, various research tools are selected in the studies reviewed. Of the tools, questionnaires and interviews are mainly used to collect data, while assignments, document analysis, tests, and observations are the tools preferred. In addition, in several studies, rubrics, content analysis, online and face-to-face meetings, scales, and surveys are rarely used tools to collect data. Fifth, motivation and writing skills are the most frequently measured outcomes. Some of the outcomes measured are collaborative and academic writing, overall writing performance, and competence in writing skills. Peer assessment, teacher feedback, self-editing, self-evaluation, self-reflection, and self-monitoring are measured within this scope of writing skills. Other outcomes are attitudes towards language learning and Edmodo, perceptions of language learning, social media use, and flipped learning. Several studies focused on communication and interaction and overall basic language skills, while specific aspects such as reading, speaking, grammar, and vocabulary were examined. In addition, some other outcomes measured were autonomous and self-directed learning, critical and creative thinking skills, intercultural understanding, knowledge construction, language investment, engagement, achievement, identity, and experience. The sixth conclusion was that the studies on the use of Edmodo in the language learning context are mainly performed in developing countries such as Indonesia, Turkey, Saudi Arabia, Iran, Thailand, Kuwait, Philippines, Oman, Ecuador, Malaysia, Brazil, Belarus, Romania, Greece, and Iraq. In contrast, a relatively limited number of studies in developed countries such as the USA, Japan, and Australia were carried out. The last conclusion is that the studies focus on the English as a foreign language teaching and learning contexts, while a limited number of studies reported on English as a second language context.

From the findings of the studies reviewed, the following conclusions are drawn. First, in the broadest perspective, learners and teachers have mainly positive perceptions and attitudes towards the use of Edmodo in the contexts of

foreign language learning and second language acquisition. Learners find Edmodo easy to use and useful, time and effort saving to develop writing skills and enhance flipped learning. The second conclusion is that Edmodo as a language learning platform increases motivation among language learners. It can be stated that the use of Edmodo makes language learning meaningful and enjoyable, as it motivates students in terms of engagement and participation. Third, the use of Edmodo is efficient for fostering basic language skills, overall language proficiency, and communication skills. Learners improve their grammar and vocabulary knowledge, pronunciation skills, speaking skills, reading skills, and writing skills within the scope of knowledge areas and language skills. In terms of writing skills, the use of Edmodo has positive influences on developing writing competence, proficiency and achievement, academic writing, paragraph development, and collaborative writing. The fourth conclusion is that the use of Edmodo in the language learning process develops critical thinking skills, creativity, autonomous learning, engagement, and intercultural understanding. Fifth, using Edmodo is efficient in facilitating self-reflection, self-monitoring, and self-evaluation. The last conclusion is that there are several drawbacks encountered during the utilization of Edmodo in language classes. The problems can be listed as technical issues, unfamiliarity with its utilization, and teachers' and students' negative perceptions.

Practical recommendations

Within the framework of the conclusions reached in the study, several recommendations for the target groups should be considered. First, in the broadest perspective, considering that Edmodo effectively increases learning motivation and that learners mainly have positive attitudes and perceptions, teachers can prefer Edmodo as a language teaching and learning environment in their language classes. Moreover, teachers can use Edmodo to develop learners' communication skills, target language proficiency, basic language skills, and knowledge areas. Teachers should also use Edmodo as a writing development environment as it is evident that its utilization considerably fosters writing competence, proficiency, achievement, creativity, engagement, autonomy, and thinking skills. Within this perspective, they should use Edmodo to enhance learners' self-evaluation, self-monitoring, and self-reflection. To achieve these goals, teachers can use the pool feature for assessment, design role-playing activities, place students in groups for peer and teacher feedback, share writing projects, create practice sessions, organize reading clubs, and develop workshops. Moreover, they can connect their classrooms with others around the country and globe, use the classroom for communication interaction with students, lead and promote discussions, integrate the Edmodo classrooms with other mobile applications, play educational games, and share resources within the scope of language learning. It should also be kept in mind that Edmodo can be used as a supportive environment in addition to face-face classroom settings. Second, considering that the use of Edmodo involves potential problems, pre-service and in-service teacher education programs should be implemented in terms of both technical and pedagogical issues. In this way, it will be possible to develop interactions, raise awareness of and familiarity with smart technologies, and prevent resistance among students and learners. Another recommendation is that school administrators should provide technical support to teachers and students. The software developers responsible for improving the Edmodo platform should focus on eliminating technical deficiencies. As a final point, considering that English is an instruction medium on a global scale (Macaro et al., 2018), it should be highlighted that Edmodo brings a new paradigm in a language learning context. Thus, it can be recommended that Edmodo be used in language learning as it constitutes an intercultural learning

environment, develops connections among learners who have various educational backgrounds, and increases the involvement of the global community in the language learning process (Okumura, S. 2017).

Limitations and recommendations for further research

Some limitations of the current study include that the studies reviewed were restricted to 40 papers published between 2012 and 2020. Moreover, the study was confined to the studies that mainly focused on the language learning process at college levels and the questionnaires that were mainly preferred to collect data. Another limitation was that the studies were mostly performed in developing countries. Moreover, it should be noted that writing skills were more attractive research issue among researchers, whereas studies mainly focused on English as a foreign language learning process.

Some recommendations for further research in terms of the conclusions of the study can be made. In the broadest sense, when a limited number of studies is considered, it can be recommended that more research is necessary to draw conclusions regarding the effects of the use of Edmodo on the language learning process. Within this perspective, basic research seems necessary to provide a robust theoretical background regarding the use of Edmodo in the mentioned process. In addition, applied research is warranted to compare the findings in language learning to those in various areas related to language teaching and learning. Practical research is also necessary to evaluate the conclusions obtained within the practical aspects of language teaching and learning. More qualitative research should be performed to understand better the variables that may affect its utilization for achieving these goals. In addition to experimental and descriptive studies, correlational research should be conducted to see the relationship between the use of Edmodo and the variables that may influence the language learning process. As a note, in these correlational studies, larger sample groups consisting of elementary, secondary, and high school students who learn second and foreign languages should be preferred. Considering that studies mainly focus on overall performance and proficiency, writing skills, and affective states such as attitudes and motivation and that there is a serious lack of research on specific topics within the scope of listening, speaking and reading skills, grammar and vocabulary learning, more studies should be carried out. Furthermore, autonomous learning, intercultural competence, and higher-order thinking skills are some other areas that should be focused on. Research should also concentrate on the acquisition of first and second language contexts in addition to the foreign language learning context. As a final point, more research is necessary for obtaining conclusions regarding the Edmodo use in developing countries where English is taught as a foreign language and in developed and underdeveloped countries that include native, second, and foreign language education contexts.

Within the scope of research results, some more recommendations for further research can be added, as serious problems arise regarding research methodologies. One of these problems is that the studies which used the experimental research design mainly include a one-group design. In other words, in many experimental studies reviewed, it is not clear whether the use of Edmodo or practice, instruction, and experience directly affect the outcome measured. Thus, it is strongly recommended that experimental studies should use at least two groups to see the practice, instruction, and experience effects on the outputs. Another problem is that, in some of the studies, the impact of several tools is measured; thus, it is difficult to infer the role of Edmodo. For this reason, research only uses Edmodo as a language learning platform should be warranted for a better understanding of its effects on the language learning process. The third problem, whether the role of Edmodo or the approaches such as flipped

and blended learning on the outputs measured, is not clarified. Thus, researchers should pay attention to separately measure the effects of approaches and the use of Edmodo in their further studies.

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Appendix 1: Summary of the studies

Number	Author(s)	Publication Year	Type of Publication	Publication Title	Research Design	Number of the Participants	Grade	Tools	Outcomes Measured	Country	Context
1	Alghasab (2019)	2019	Journal	The International Journal of Technologies in Learning	Qualitative	4	College	Online discussion	Peer assessment, collaborative writing, teacher feedback	Kuwait	English as a foreign language
2	Al-Kathiri (2015)	2015	Journal	English Language Teaching	Quasi-experimental	42	Secondary school	Questionnaire	Perceptions and attitudes towards language learning	Saudi Arabia	English as a foreign language
3	Alsmari (2019)	2019	Journal	English Language Teaching	Experimental	80	College	Placement test, writing test	Paragraph development, motivation, proficiency	Saudi Arabia	English as a foreign language
4	Altunkaya & Ayranci (2020)	2020	Journal	Journal of Language and Linguistic Studies	Mixed-method	108	College	Academic writing evaluation rubric, semi-structured interview	Academic writing	Turkey	Turkish as a native language
5	Arwansyah et al. (2019)	2019	Journal	Journal of Physics	Qualitative	25	College	Observation, document analysis, interview	Reading comprehension	Indonesia	English as a foreign language
6	Barnes (2017)	2017	Book chapter	Multiculturalism and Technology-enhanced Language Learning	Quasi-experimental	30	High school	Questionnaire	Communication skills	Australia	English as a second language
7	Barnes (2019)	2019	Journal	Australian Journal of Applied Linguistics	Quasi-experimental	30	High school	Questionnaire	Language investment, language identity	Australia	English as a second language
8	Bermudez et al. (2016)	2016	Conference book	IEEE Global Engineering Education Conference	Descriptive	164	Secondary school	Questionnaire	Perceptions of social media	Philippines	English as a foreign language
9	Bicen (2015)	2015	Journal	Journal of Universal Computer Science	Experimental	37	College	Questionnaire	Achievement and communication skills	Turkey	English as a foreign language
10	Dewi et al. (2020)	2020	Journal	International Journal of Psychosocial Rehabilitation	Descriptive	190	College	Proficiency test	Fluency, overall proficiency	Indonesia	English as a foreign language
11	Elsakova et al. (2019)	2019	Journal	Journal of Emerging Technologies in Learning	Mixed-method	50	College	Questionnaire, interview	Basic language skills, motivation	Russia	English as a foreign language
12	Hosseinpour et al. (2019)	2019	Journal	Turkish Online Journal of Distance Education	Quasi-experimental	60	College	Placement test	Collaborative essay writing, academic writing, perceptions	Iran	English as a foreign language
13	Kayacan & Razi (2017)	2017	Journal	Journal of Language and Linguistic Studies	Quasi-experimental	46	College	Writing assignments, analytic scoring rubric, open-ended questions	Writing skills, self-monitoring, self-evaluation	Turkey	English as a foreign language
14	Khodary (2017)	2017	Journal	English Language Teaching	Quasi-experimental	45	College	Scale	Self-directed learning	Saudi Arabia	English as a foreign language

15	Kim & Taylor (2017)	2017	Journal	International Journal of Multidisciplinary Perspectives in Higher Education	Mixed-method	13	College	Face-to-face meetings	Perceptions and attitudes towards language learning	USA	English as a second language
16	Kwok (2014)	2014	Conference book	22nd International Conference on Computers in Education	Experimental	30	Elementary	Grammar test, content analysis, questionnaire	Writing competence, self-editing, peer-assessing	Hong Kong	English as a second language
17	Ma'azi & Janfeshan (2018)	2018	Journal	Cogent Education	Experimental	40	College	Proficiency test	Writing skills, attitudes towards Edmodo	Iran	English as a foreign language
18	Maryem & Iman (2018)	2018	Journal	The Turkish Online Journal of Educational Technology	Experimental	25	College	Writing tasks, questionnaire	Writing skills, perceptions of Edmodo	Oman	English as a foreign language
19	Meléndez & Iza (2017)	2017	Journal	Revista Publicando	Experimental	30	College	Grammar test	Grammar knowledge	Ecuador	English as a foreign language
20	Mokhtar (2016)	2016	Journal	Malaysian Online Journal of Educational Technology	Qualitative	4	College	Interview	Grammar, vocabulary, self-efficacy	Malaysia	English as a foreign language
21	Moraes (2016)	2016	Journal	Revista Brasileira de Linguística Aplicada	Experimental	12	College	Oral and written assignments	Grammar knowledge	Brazil	Spanish as a second language
22	Nurhayati (2019)	2019	Journal	Dinamika Ilmu	Qualitative	46	College	Interview	Phonology	Indonesia	English as a foreign language
23	Okumura (2020)	2020	Journal	Intercultural Education	Qualitative	32	Elementary	Questionnaire	Intercultural understanding, motivation	Japan	English as a foreign language
24	Oria (2020)	2020	Journal	Encuentro: revista de investigación e innovación en la clase de idiomas	Descriptive	37	College	Questionnaire	Writing skills, critical thinking skills, self-reflection	Spain	English as a foreign language
25	Oznacar et al. (2019)	2019	Journal	Broad Research in Artificial Intelligence and Neuroscience	Qualitative	17	College	Semi-structured interview	Overall proficiency, attitudes towards language learning	Turkey	English as a foreign language
26	Piniuta (2019)	2019	Conference book	8th International Conference on Educational and Information Technology	Mixed-method	90	College	Survey	Communication, collaboration, critical thinking, and creativity	Belarus	English as a foreign language
27	Pop & Pascan (2017)	2017	Journal	Acta Universitatis Sapientiae, Philologica	Mixed-method	Not available	College	Survey	Motivation, attitudes towards Edmodo	Romania	English as a foreign language
28	Santikarn & Wichadee (2018)	2018	Journal	International Journal of Emerging Technologies in Learning	Descriptive	40	College	Assignments, questionnaire	Perceptions of flipped learning, autonomous learning	Thailand	English as a foreign language
29	Siahaan (2020)	2020	Journal	Journal of English Teaching	Mixed-method	47	College	Questionnaire, interview	Language skills, interaction, communication	Indonesia	English as a foreign language
30	Sumardi & Muamaroh (2020)	2020	Journal	Cakrawala Pendidikan	Qualitative	286	Secondary school	Interview, online mini-polling, document analysis	Interaction, engagement	Indonesia	English as a foreign language

31	Purnawarman et al. (2017)	2017	Conference book	Ideas for 21st Century Education	Mixed-method	112	High school	Questionnaire, interview	Perceptions and attitudes towards language learning	Indonesia	English as a foreign language
32	Tanduklangi & Lio (2019)	2019	Journal	Journal of e-Learning and Knowledge Society	Qualitative	36	High school	Classroom observation, interview	Motivation	Indonesia	English as a foreign language
33	Tezer & Koprulu (2017)	2017	Journal	Ponte	Descriptive	208	College	Questionnaire, reading comprehension test	Reading comprehension	Turkey	English as a foreign language
34	Tokmak et al. (2019)	2019	Journal	International Journal of Distance Education Technologies	Qualitative	36	College	Open-ended questionnaires, semi-structured interview	Learning experience	Turkey	English as a foreign language
35	Turkmen (2012)	2012	Conference book	Conference of eLearning and Software for Education	Descriptive	34	College	Survey	Knowledge construction, autonomy	Turkey	English as a foreign language
36	Vavaitis & Sofianopoulou (2019)	2019	Conference book	11th International Conference on Education and New Learning Technologies	Experimental	15	College	Written assignments	Writing skills, attitudes towards Edmodo	Greece	English as a foreign language
37	Wichadee (2017)	2017	Journal	International Journal of Emerging Technologies in Learning	Quasi-experimental	42	College	Proficiency test, questionnaire	Oral proficiency, motivation, attitude	Thailand	English as a foreign language
38	Widyaningrum et al. (2020)	2020	Journal	Ingénierie des Systèmes d'Information	Quasi-experimental	Not available	College	Observation, document analysis, interview	Creative thinking	Indonesia	English as a foreign language
39	Wihastyanang et al. (2020)	2020	Journal	Turkish Online Journal of Distance Education	Quasi-experimental	55	College	Writing test, questionnaire	Writing performance	Indonesia	English as a foreign language
40	Yagci (2015)	2015	Journal	Advances in Language and Literary Studies	Descriptive	177	College	Questionnaire	Reading comprehension	Iraq	English as a foreign language