Blended learning in English for specific purposes instruction: A systematic review

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ABSTRACT

Due to Covid-19 pandemic, using ICT for teaching purposes has been the subject of a growing field of study in educational research. Thus, this systematic review aims to provide ESP practitioners with a current synthesis of the impact of blended learning on English for specific purposes (ESP) instruction. The current study systematically reviews and synthesizes studies related to blended learning and ESP with the aim of providing a comprehensive analysis of 28 research articles published across 2012-2022 and meeting selection criteria. Findings show that blended learning can foster university ESP students' language skills. The majority of studies stress that blended learning brings considerable benefits to their ESP learning, namely flexibility, autonomy, and collaboration. The findings also revealed that few students faced some challenges such as demotivation, procrastination, and technical issues. In light of these results, the review ends up with implications for ESP teachers and researchers.

KEYWORDS: Blended learning (BL), English for specific purposes (ESP), Systematic review.

1 INTRODUCTION

In recent years, an intense interest grew in the study of the effectiveness of ICT implementation for teaching purposes. More specifically, many researchers have become more interested in investigating the impact of educational technology on ESP (English for specific purposes) instruction. The reason lies in the considerable potential of ICT integration to boost students' learning gains. An important body of research provides ample empirical evidence highlighting the tremendous importance of educational technology in the further refinement of the teaching-learning outcomes (see for example, Al-Jarf, 2004; Driscoll et al., 2012; Erguig, 2009; Guangying, 2014; Kazua & Demirkol, 2014; Korkofingas & Macri, 2013; Yang, 2011; Yapici & Akbayin, 2012; Yeou, 2016; Zyad, 2017).

ICT implementation has always been considered as a sound investment to improve the quality of education, in general, and language teaching and learning, in particular (Chouthaiwale & Alkamel, 2018; Ghasemi & Hashemi, 2011; Mullamaa, 2010). Due to the Covid-19 lockdown, schools and universities all around the world were obliged to shift to online instruction. The spread of Corona virus urged distance learning to become a dire necessity rather than a mere choice. In the school year 2020/2021, however, great efforts have been exerted to adopt blended learning which has now become a popular approach to teaching and learning (Graham, 2013). It is defined as "a combination of traditional face-to-face and online instruction" (Graham, 2006, p.4). Simply put, blended learning is a learning environment in which face-to-face communication is mixed with online learning.

Special emphasis has been laid on blended learning because of its considerable potential to enhance students' performance outcomes (Albiladi & Alshareef, 2019; El Messaoudi, 2021; Li, 2018; Momchilova, 2021; Sari et al., 2018). Unlike purely online learning, whose major drawback is the deprivation of students of social and face-to-face interaction with teachers and peers, blended learning offers learners the benefits and opportunities of both face-to-face contact and educational technology (Thorne, 2003; Yilmaz & Orhan, 2010). Another major goal of using blended learning is to make a fundamental shift from traditional teaching methods.

These instructional models have been severely criticized and even empirically proven to be ineffective since they regard teachers as the only source of knowledge whereas students are mere passive recipients (Pritchard & Woollard, 2010; Richardson, 2003). Thus, there is an urgent need to cater for a learner-centered teaching methodology. Such an environment is more likely to make students part and parcel of the entire learning process, and develop their critical thinking skills. Given these reasons, it is generally assumed that the implementation of blended learning favors a learner-centered approach and consequently improves learning outcomes (Graham & Robinson, 2007).

In addition to the pivotal role of the implementation of educational technology, another issue in this review is teaching English for specific purposes (henceforth, ESP). As a matter of fact, English stands out as the lingua France of the globe. Most scientific books, journals, and encyclopedias are now in English. It has also become an essential requirement for doctoral students, regardless of their field of study, to write and publish scientific research articles in English. Thus, students who do not master English usually go

through hard times especially when it comes to learning technical terms and jargons.

In this respect, Grosu-Rădulescu and David (2015) argue that students no longer learn English in order to communicate with native speakers, but rather because it will be required of them in work related activities, many of which will not impose contact with native speakers. For these reasons, it is necessary to refine the quality of ESP instruction, not only to help students in their higher education but also to enhance their real-world communication skills (Widodo, 2017).

English for specific purposes (ESP) is regarded as one of the most established teaching approaches in English language teaching (ELT). According to Hutchinson and Waters (1987), it is defined as an approach to language teaching and learning in which all decisions as to content and method are based on the learners' needs and reasons for learning. ESP aims at offering language support to learners so that they can successfully address their academic or occupational needs. Academic needs refer to the needs of learners in a school or a university, while occupational needs refer to the needs of learners in a workplace setting, such as a factory, restaurant, or hospital (Anthony, 2018, p. 11).

So, given the growing need for effective ESP instruction and the considerable potential of blended learning in enhancing students' performance, the main concern of this systematic review is to provide answers to the following research questions:

(1) What is the impact of blended learning on students' achievement and motivation in comparison to purely online learning or face-to-face instruction?

(2) What benefits do students associate with blended learning in ESP courses?

(3) What obstacles do students encounter in blended ESP courses?

The present systematic review begins by a general introduction on blended learning and ESP instruction. Subsequently, a detailed description of the methodology used is offered. After presenting the results, findings will be discussed. Finally, the review ends with major conclusions, potential limitations, and future implications.

2   BLENDED LEARNING AND ESP INSTRUCTION

Blended learning has been implemented in different educational contexts and ESP instruction is no exception. Johns and Dudley-Evans (1991) argue that ESP instructors are often referred to as 'practitioners' in a way to reflect the wide range of duties and responsibilities they are engaged in, including examining students' needs, identifying their learning objectives, designing relevant courses and materials, instructing learners, and evaluating performance. However, over the last few years, ESP instructors do not only need to fulfill these tasks, but also to be aware of the nature of blended learning environments for a successful integration of this approach in the ESP teaching-learning process.

Basic requirements in designing blended ESP courses are flexibility and learner-centeredness. That is to say, a blended ESP course needs to be adaptable to emerging changes and developments in subject areas. Besides, for an effective implementation of blended learning, an ESP course needs to focus on the individual learner and his/her needs by making them involved in the teaching process, motivating them to reflect on what and how they are

learning, encouraging teacher-student and student-student collaboration, to mention but a few. According to Momchilova (2021, p. 4), designing an effective blended ESP course is a three-stage process that starts with engagement, followed by immersion, and then the evaluation stage comes at the end.

As its name suggests, the first stage requires both ESP teachers and learners to be engaged in the process of designing a blended ESP course. Students need to be clear about their learning objectives, while ESP instructors need to design a syllabus that meets learners' needs using learning technologies and face-to-face teaching. In this regard, Momchilova (2021) maintains that a mere combination of face-to-face and online activities does not allow for an optimum use of blended learning. The blending of the two delivery modes is an approach to reinforce and optimize learning outcomes. Thus, ESP instructors need to develop a clear vision about students' needs to determine precisely what content and activities that can be best delivered either in person or online. In this way, ESP teachers can create a learning environment whereby blended learning and traditional teaching are mutually complementary and supplementary.

The second stage in designing a blended ESP course is immersion. ESP students need to be immersed and involved in the course through delivering individual presentations and doing group projects. ESP instructors can also engage students in real-life situations and problem-solving activities in attempt to improve their ESP communication skills. Finally, the third stage is evaluation. At the end of the blended course, ESP teachers need to evaluate students' performance and assess whether learners have attained the predetermined teaching objectives. Put differently, ESP instructors should ensure that the blended ESP course has actually catered for students' predefined ESP needs.

The implementation of blended learning in ESP instruction in particular aims to develop certain ESP competencies in students. Momchilova (2021, p. 3) highlights some of the major purposes of a blended ESP course as the following: (1) reading and understanding technical publications, handbooks, and journals, (2) writing technical reports and publications, (3) giving presentations, (4) communicating with multinationals as partners, co-workers or employers, and (5) discussing as well as analyzing a range of technical issues pertaining to the learner's area of study (business, agriculture, medicine, and so on).

3   METHODOLOGY

3.1   Research design

A systematic review is carried out in order to provide a minute analysis, a comprehensive synthesis, and an in-depth discussion of the aforementioned research questions. The main purpose of a systematic review is to bring together the findings of primary research to answer a particular research question (Pollock & Berge, 2018). Therefore, Gough et al. (2012) define systematic reviews as "a review of existing research using explicit, accountable, rigorous research methods" (p.5). Another definition is that a systematic review refers to the process of searching for, selecting and synthesizing primary research studies to provide a detailed scrutiny of a focused research question (Oakly, 2011).

In this way, a systematic review is different from a literature review in the sense that a review of the literature aims to find what is already known from pre-existing research about a phenomenon,

subject, or topic and highlight some of the gaps that remain unanswered in the literature. A systematic review, however, is a comprehensive summary of research pertinent to a set of pre-defined criteria that attempts to identify, select, synthesize, and appraise evidence related to a specific research question. Most systematic reviews follow a set of distinct but interconnected stages as illustrated in Figure 1, below.

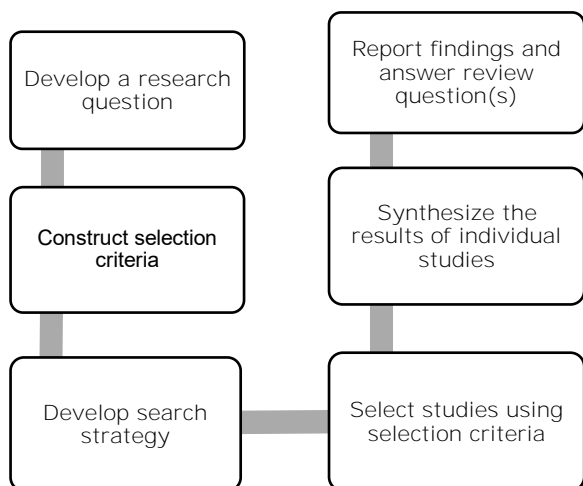| Inclusion criteria	Exclusion criteria
Published between 2012-2022	Published before 2012
Conducted at a tertiary institution	Conducted in other educational contexts
Explore ESP instruction	Explore EFL/ESL teaching and learning
Focus only on the impact of blended learning in comparison to distance learning and/or face-to-face teaching	Center exclusively on one mode of instruction (either purely online learning or traditional lecture-based teaching)
Written in English	Written in other languages
Peer-reviewed articles	Non-peer-reviewed articles
Available as full text	Not available as full text

Table 1: Exclusion and inclusion criteria

Figure. 1. The systematic review process

Source: Adapted from Zawacki-Richter et al., 2019, p. 6

As the figure above shows, first and foremost, systematic reviews need to specify a research question that will be investigated. Then, reviewers have to make decisions about which research studies to include in their review. More specifically, they need to establish a set of selection criteria, also called inclusion and exclusion criteria, which limit the studies that are considered by the review. The next step is to develop a search strategy which refers to "the plan for how relevant research studies will be identified (Zawacki-Richter et al., 2019, p. 8). The reviewers need to offer a detailed account of how the sources will be searched.

Subsequently, studies identified by the search are subject to a process of screening, i.e., ensuring they meet the predefined selection criteria. Once relevant studies are selected, reviewers need to systematically synthesize the information from the included studies. A synthesis is not a mere list of findings from the selected research, but rather "an attempt to integrate the information from individual studies to produce a 'better' answer to the review question" (Zawacki-Richter et al., 2019, p. 14). Finally, the last step is reporting the main findings and providing comprehensive answers to the research question(s) underlying the systematic review.

3.2   Inclusion and exclusion criteria

As befits the objectives of the present systematic review, a set of inclusion and exclusion criteria are predefined. This means that a variety of quantitative, qualitative, and mixed-methods studies have been filtered out. Then, only studies that meet the selection criteria are reviewed.

As shown in Table 1 above, the present systematic review considers studies that are conducted at the level of tertiary education. Other educational contexts are entirely excluded. Besides, the search is limited to the years 2012-2022 in order to come up with an up-to-date discussion of the topic underlying this review. The selected studies should also target ESP instruction solely. Simply put, the current systematic review includes literature focusing only on the impact of blended learning on ESP university students' achievement throughout the last ten years.

3.3   Search strategy

The studies included in this review are selected using two main approaches: searching online database literature and selecting references from the articles included for review (backward searching). The initial search was conducted using Springer, Scopus, Web of science, Science Direct, and Taylor & Francis Online. As stated previously, the search is limited to years 2012-2022 since this issue has recently triggered the attention of different researchers worldwide. Thus, reviewing the studies published during this time frame allows for a rich, up-to-date, and comprehensive discussion on the topic under investigation.

In addition to this, the search terms in the aforementioned databases comprise the following key words: blended learning or hybrid learning or mixed-mode instruction and ESP teaching. The search was conducted from April 2022 to July 2022. The studies selected for review were included only if they meet the inclusion and exclusion criteria reported in the previous section. Two reviewers did the review independently and disagreements were resolved through discussion. The initial search resulted in 537 references. Yet, the number of studies that fit all the selection criteria totalled in 28. The literature search procedure and the number of articles determined at each stage are presented in Figure 2, below.
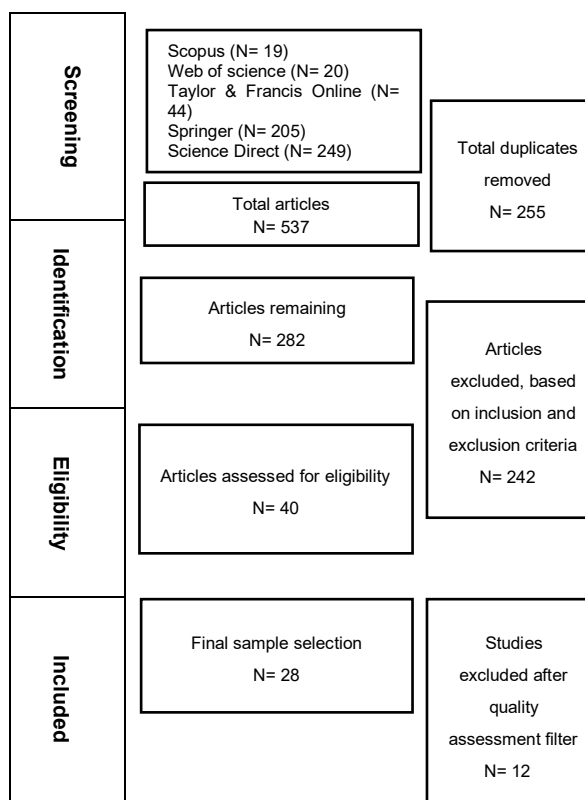
Figure. 2. A diagrammatic representation of the systematic review process

3.4 Quality assessment

Assessing the quality of the selected articles is another procedure that was adopted along with the inclusion and exclusion criteria illustrated in Table 1 above. A quality assessment checklist with eight criteria was used as a tool to evaluate the quality of the final sample (N=30). The checklist was adopted from Kitchenham and Charters (2007), and is not meant to be a criticism of any of the selected studies (see Table 2, below). Each question was scored using a three-point scale (Yes= 1 point, No= 0 point, Partially= 0.5 point). In this way, each study can score between 0 and 8 points. A high total score indicates that the study is qualified for further analysis.

	Questions
1	Are the research objectives clearly stated?
2	Are the target variables clearly specified?
3	Is the study context clearly specified?
4	Are the data collection techniques adequately detailed?
5	Does the study consider the reliability and validity of the measures?
6	Does the study fully describe the data analysis tools and procedures?
7	Do the results contribute to the existing body of literature?
8	Does the study eventually offer recommendations and implications?

Table 2: Quality assessment checklist

3.5 Data coding and analysis

The characteristics related to the collected data were coded to include students' achievement (BL enhances performance, BL is equivalent to traditional face-to-face teaching, and BL does not enhance performance), benefits of blended learning (for example, flexibility, autonomy, team work, support), and challenges of blended learning, such as poor communication, technological issues, inadequate training or decreased motivation. During the data analysis procedure, the articles that did not explain the BL implementation practices targeted in the study were excluded.

4 RESULTS

Results of the literature search, described in Figure 2, yielded a final sample of 28 studies that explored the impact of blended learning on university ESP students' achievement and/or motivation. The main concern of this section is to present the findings of the systematic review of the selected 28 research articles. The results include analysis of the impact of blended learning on university students' ESP achievement and motivation, the benefits that ESP students associate with blended learning, and finally the obstacles that learners encountered during ESP blended courses.

4.1 Research question one: The impact of BL on students' ESP achievement

As can be seen in Figure 3 below, most of the studies offer empirical evidence of the effectiveness of blended learning in improving ESP students' performance, increasing their interest, and boosting their motivation. Blended learning is proved an efficient approach not only to supplement learning but also to enhance ESP students' learning achievement. By taking the regular online classes, students enriched their understanding of the ESP content that they have already covered during face-to-face meetings (Aleb & Labed, 2021; Ali, 2021; Idris et al., 2019; Simonova, 2019).

Blended learning as a new paradigm in modern education offers an alternative model of learning where technology is incorporated into the educators' courses along with classroom face-to-face activities. Although blended learning dates back to years before the Covid-19, it has become more common in the pandemic period. According to Mulyadi, Hersulastuti, and Purnama (2019), the online component of blended learning gets students to ask questions about what they have learned and share the hindrances they may have faced. This, in turn, increases their interest and helps them better understand the lesson and overcome possible problems. In this way, blended learning allows learners to review, reinforce, and reflect on their own learning which can only yield to the optimization of their performance.
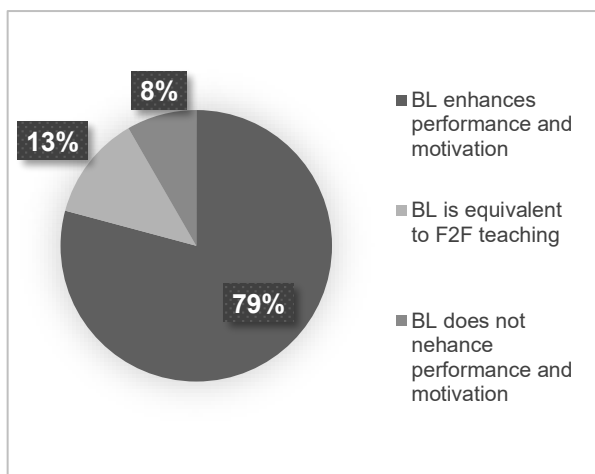
Figure. 3. The impact of BL on ESP students' performance and motivation

The findings of the present systematic review also reveal that blended learning is more effective in teaching certain ESP skills but not others. More specifically, it is reported that blended learning enhances ESP writing and vocabulary rather than reading and speaking. (Abbas, 2015; Agustina et al., 2020; Aleb & Labed, 2021; Banditvilai, 2016; Han, 2019; Kučírková et al., 2014; Kurucova et al., 2018; Lesiak-Bielawska, 2012; Shalatska et al., 2020; Shih, 2013). Blended learning offers students ample opportunities to practise ESP writing and consequently expand their ESP vocabulary as well.

Due to the shift that happened at the level of educational approaches and methods due to Covid-19, teachers, all over the world, resorted to LMS-supported educational platforms where learners can share their ESP pieces of writing (an email, a report, a letter), reflect on one another's writing, and share their opinions and observations. They can also consider the teachers' remarks and recommendations for improvement. In this way, blended learning has been proved to be an effective educational approach help students improve their ESP performance.

As far as speaking and communication skills are concerned, findings are not conclusive. While Kučírková et al. (2014) and Kurucova et al. (2018) maintain that the use of blended learning is not effective to teach speaking online, Agustiani et al. (2021) and Banditvilai (2016) argue that this teaching approach enhances students' ESP communication skills. Using online discussions, blended learning allows students to practise ESP beyond class time and therefore improve their ESP speaking skills.

The first finding, however, can be largely attributed to the nature of ESP communicative functions which are: (1) persuading people, (2) discussing an issue, (3) making an answer to a request/ complaint, (4) clarifying a situation, (5) offering recommendations, to state but a few (Michael, 2009). To teach such ESP objectives effectively, Anthony (2018) maintains that "ESP instructors need to develop strong pedagogic activities that simulate real-world settings" (p. 17). Thus, most students find face-to-face instruction to be more effective since there is a room for real and direct interactive situations between students and teachers and among students as well.

Another finding is the usefulness of blended learning in increasing ESP students' motivation towards the course and the teaching approach itself (Boutahar, 2020; Kalugina et al., 2018; Kirovska-Simjanoska, 2020; Shih, 2013). Such positive attitudes towards the blended learning can only bear fruitful results in ESP instruction, in

particular, and language teaching, in general. To put it in Johnson and Marsh's (2014, p. 24) words: "satisfied, motivated, and engaged students learn a language with greater success".

Contrary to the previous studies, Asmali (2018) and Klimova (2017) found out that blended learning does not show much effectiveness in comparison to face-to-face instruction or to purely online learning. Asmali attributed these findings to the participants' low level of English proficiency. Students with a low language level find it very difficult to catch up with the instructor during face-to-face classes, let alone throughout the online part of blended learning. This, in turn, makes these students at a disadvantage to use the true potential of blended learning in improving their ESP skills.

4.2 Research question 2: Benefits associated with blended ESP courses

The findings of the present systematic review underscore four main benefits that students often associate with blended ESP courses. As it is shown in Figure 4 below, the first benefit that students associate with blended ESP courses is autonomy. Many researchers highlighted that blended learning improves autonomy (Abbas, 2015; Agustiani, 2021; Boutahar, 2020; Idris, 2019; Mulyadi et al., 2020). In fact, according to Momchilova (2021), one of the main objectives of blended learning is the promotion of active self-directed learning through effective combination of in-class teaching and online learning.

With the help of the wide range of materials shared by the teacher on LMS-supported platforms, blended learning encourages students to be more responsible and independent learners. The second benefit of blended ESP courses is that they allow for convenient self-paced learning (Banditvilai, 2016; Rudneva, 2020). Students can repeat lessons on their own without pressure. They can also complete online learning activities at times that best suit individual weekly schedules and learning preferences (Momchilova, 2021, p. 2).

Flexibility is another benefit of using blended learning not only in an ESP classroom but in any language teaching course. According to Aleb et al. (2021) and Chirimbu (2014), both ESP instructors and students agree that the online part of blended courses can be done anytime and anywhere as long as they have access to the Internet and to a device. To put it in Bralić and Divjak (2018, p. 10), blended learning offers students "the possibility to access content when they feel focused, motivated, and interested". Students can attend their online classes not only in the classroom, lecture hall or computer room but also at home, and in Internet cafes (Dudeney & Hockly, 2007).
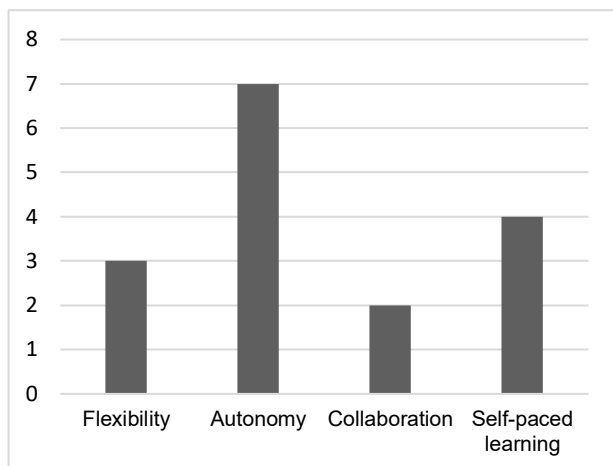
Figure. 4. The benefits of BL from ESP students' perspectives

Figure. 5. The obstacles of BL from ESP students' perspective

The last benefit that is often associated with blended learning is collaboration. Blended learning improves engagement, promotes collaboration, and fosters communal learning among students (El Messaoudi, 2021). Tools such as online forum discussions and chat give students opportunities for collaborative learning by sharing information with peers, doing a group-work project, and delivering joint presentations. In this way, the use of blended learning creates a less stressful educational environment whereby learners' self-esteem, self-confidence, and motivation are increased (Momchilova, 2021).

4.3   Research question 3: Obstacles encountered during blended ESP courses

Findings further showed the obstacles that most of the students encountered during their ESP blended courses. As can be seen in Figure 5 below, these obstacles are technical issues, followed by demotivation, and then procrastination. To begin with, technical issues are the most common obstacles that ESP students face during blended courses (Abbas, 2015; Lungu, 2013). Not all students may have access to the Internet, while others may not have laptops or other devices to attend the online component of blended learning.

In this regard, Bax (2002) clearly highlighted that the availability of appropriate and sufficient equipment is one of the first factors behind a successful integration of educational technology into language teaching and learning. This, however, should be accompanied with a technical support for both students and teachers so that they feel confident in using technology. Otherwise, some novice learners may find it difficult to engage in the educational platform, and thus feel demotivated to learn.
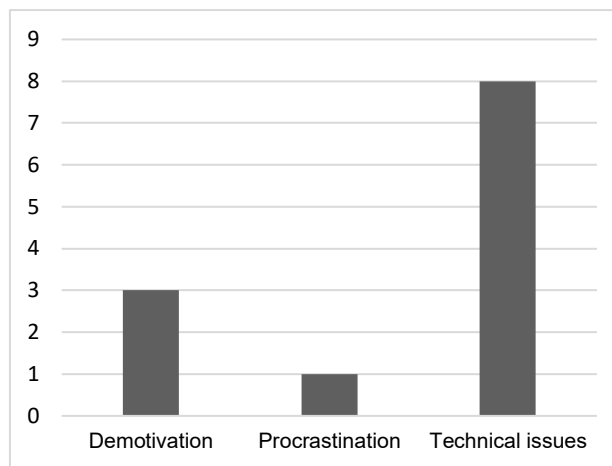
As stated earlier, students with a low level of language proficiency find it very difficult to make an effective use of blended learning. Abbas (2015) found out that blended learning is not suitable for students with a very poor language level or limited prior online learning experience, as it is hard for them to cope with the demands of this learning approach and do all the assignments on their own. While some students can learn individually, others are more likely to need teachers' guidance and directions. For such students, teacher's presence is mandatory for a direct and interactive form of communication (Bourzgui et al., 2020; Kucirkova, 2017). What makes things worse is that these students often feel demotivated to learn. In this way, using blended learning tends to hinder these students' progress instead of engaging them in the teaching-learning process.

The last obstacle associated with blended ESP courses is procrastination. To put it in simple terms, Abbas (2015) emphasizes that there is a big chance for students to procrastinate throughout a blended course as there is no strict control over the online part of it. Thus, students may not feel the urge for joining or attending their online classes on a regular basis and doing their assignment on time. In this respect, Agustina (2020) stresses that teachers need to guide and direct learners to get them accustomed to an online learning environment, such as blended learning, that demands independence.

All in all, blended learning can create positive and favorable learning environments for a solid achievement. It does not only support learning, but also ensures the effectiveness of education. However, it is always worth noting that a simple mixture of educational technology with face-to-face learning is not sufficient to exploit the considerable potential of blended learning as a teaching approach. The key is to find the most effective and efficient combination from the two instructional modes for the optimization of ESP learning outcomes, in particular, and language teaching, in general. The following table summarizes the main results illustrated in Figures 3, 4 and 5 above.

Author(s)	Year of publication	Country	Research design	Number of participants	Major outcomes
Abbas	2015	Palestine	Quasi-experimental research design	360	BL improves business communication outcomes.
Agustiani et al.	2021	Indonesia	Descriptive research design	44	BL increases ESP students' motivation. It poses some challenges as well.
Agustina et al.	2020	Indonesia	Quasi-experimental research design	30	BL improves students' achievement, particularly ESP reading and writing.
Ali	2021	India	Descriptive research design	105	BL offers real benefits for both students and teachers.
Asmali	2018	Turkey	Quasi-experimental research design	43	BL boosts students' ESP performance.
Banditvilai	2016	Thailand	Quasi-experimental research design	60	BL improves ESP students' performance in the four language skills. BL enhances autonomous learning.
Bourzgui et al.	2020	Morocco	Descriptive research design	141	BL can bear fruitful results only with careful planning, motivated students, and trained teachers.
Boutahar	2020	Morocco	Descriptive research design	142	BL enhances autonomous learning, increases students' interests and boosts their motivation.
Bralić & Divjak	2018	Croatia	Descriptive research design	278	BL brings considerable benefits to ESP teaching, but poses serious challenges as well.
Chirimbu & Tafazoli	2014	Iran	Descriptive research design	109	BL enhances ESP students' performance outcomes.
El Messaoudi	2021	Morocco	Quasi-experimental research design	31	BL is a useful teaching approach. It poses challenges that teachers need to consider.
Idris et al.	2019	Indonesia	Quasi-experimental research design	25	BL improves students' ESP understanding.
Jia-Jia	2019	China	Quasi-experimental research design	54	BL improves students' performance in the four language skills.
Kalugina et al.	2018	Russia	Descriptive research design	48	BL is useful and helpful for the improvement of ESP proficiency.
Kirovska-Simjanoska	2020	North Macedonia	Descriptive research design	16	An effective implementation of BL requires thoughtful planning, extensive training, and strong motivation.
Klimova	2017	Czech Republic	Case study	35	Although BL is effective in improving learning, it poses serious challenges.
Kučírková	2014	Prague	Quasi-experimental research design	107	BL improves students' ESP outcomes in writing and vocabulary rather than listening and speaking.
Kurucova	2018	Slovakia	Quasi-experimental research design	56	BL improves students' ESP outcomes in all language skills, especially speaking, listening, and vocabulary.
Lesiak-Bielawska	2012	Warsaw	Quasi-experimental research design	46	BL is equivalent to traditional face-to-face teaching.
Lungu	2013	Romania	Quasi-experimental research design	12	BL develops positive attitudes towards ESP courses.
Mulyadi et al.	2020	Indonesia	Survey research design	70	BL support ESP teaching but presents some challenges too.
Mulyadi et al.	2019	Indonesia	Descriptive research design	101	BL poses serious issues that both students and teachers need to consider.
Rudneva et al.	2020	Russia	Case study	48	BL has enormous benefits and real challenges as well.
Shalatska et al.	2020	Ukraine	Quasi-experimental research design	62	BL significantly enhances ESP students' performance.
Shih	2013	Taiwan	Quasi-experimental research design	111	BL significantly enhances students' motivation and interest.
Simonova	2019	Czech Republic	Quasi-experimental research design	123	BL is an effective alternative teaching approach.
Zhang	2018	China	Descriptive research design	88	BL implementation has both advantages and disadvantages in ESP instruction.

Table 3: Summary of the main results

5 . DISCUSSION

The results of the sample of studies concurred with each other that there is a dire need to move forward blended learning and make room for the integration of this learning trend in the classroom of the 21st century. The unprecedented COVID-19 situation was a starting point to increase the use of ICT, which has led to flexible ways of learning, particularly blended learning. The implementation of blended learning in ESP instruction triggers interaction, collaboration, and autonomy resulting in better learning outcomes. Since blended learning involves the idea of social communication given that there a technological support, it becomes more likely to fulfill the needs of language learners, a finding which is supported by previous literature.

In this regard, the present systematic review clearly stressed that one of the main advantages of blended learning is its emphasis on effectively involving students in the learning process and honing their ESP language skills. This learning model promotes student-centered learning. The teacher acts as a facilitator who guides and supports students' interactions, while the student is encouraged to take responsibility for his/her own learning, making it more engaging and motivating. The current review provided further evidence that integrating blended learning in ESP courses leads to autonomous learning, which is in line with previous findings.

In addition, the integration of blended learning in ESP instruction is a motivating factor for students. Findings revealed that blended learning can actively engage students and foster their willingness to participate and work towards achieving good ESP command. Finally, yet importantly, blended learning can facilitate language learning and content understanding since it provides visual and auditory types of aid as well as instant feedback. Blended learning enhances access to knowledge for every type of learner since it eases the possibilities of flexibility and self-paced learning. However, while blended ESP courses require teachers who are qualified in the subject content, the language of instruction, that is English, along with ICT skills, findings highlight that there is still a lack of teacher training and resources. Figure 6, below, presents a synthesis of these ideas.
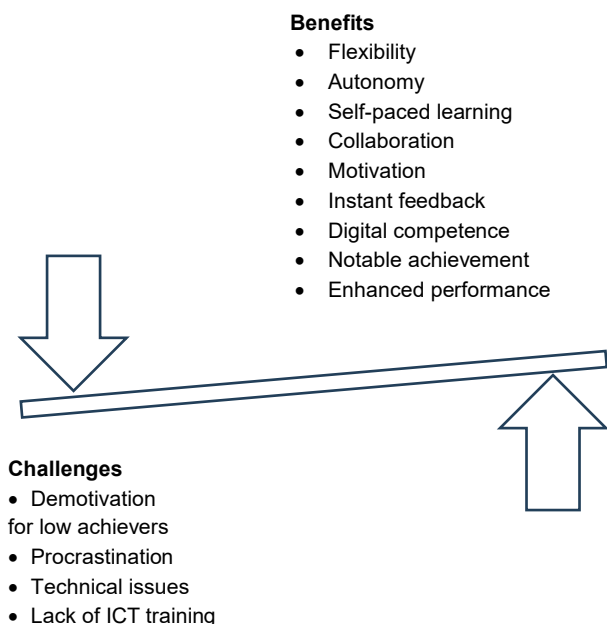
Benefits

- Flexibility
- Autonomy
- Self-paced learning
- Collaboration
- Motivation
- Instant feedback
- Digital competence
- Notable achievement
- Enhanced performance

Challenges

- Demotivation
for low achievers
- Procrastination
- Technical issues
- Lack of ICT training

Figure. 6. A synthesis of benefits and challenges of BL implementation in ESP courses

6 CONCLUSION

The main aim of the present systematic review has been to explore the impact of blended learning on university ESP students' achievement and motivation, highlight the benefits that ESP students associate with blended learning, and present some of the challenges that learners face during blended ESP classes. To meet this end, this paper reviewed 28 studies related to the impact of blended learning on ESP instruction. The findings of this review demand a change in traditional teaching approaches.

With regard to the first research question, findings are not conclusive. While some studies assert the effectiveness of blended learning in teaching English for specific purposes, others provide empirical evidence that it is not useful in teaching some language skills, namely ESP communication and speaking. However, most of the reviewed studies reveal that blended learning can enhance students' ESP performance, particularly ESP writing and vocabulary, and boost their motivation. On another note, very few studies prove the failure of blended learning in enhancing ESP performance due to some students' low level of English proficiency.

Concerning the second research question addressing the benefits of blended ESP courses, findings shed light on four main advantages, namely autonomy, self-paced learning, flexibility, and collaboration. Most of the students agree that the implementation of blended learning in their ESP courses helps them to be independent and autonomous learners, to learn at their own pace and convenience, to attend their online classes anywhere and at anytime, and to collaborate and interact with peers. Such positive attitudes towards blended learning need to be enhanced, encouraged, and reinforced, whereas negative attitudes should be taken into account for improvement (Abbas, 2015).

As for the third research question, the majority of ESP students highlight three main challenges that they often faced during their blended ESP classes. These challenges are related to technical issues, demotivation, and procrastination. Not all students have access to the Internet or to a laptop/smartphone to attend the online

part of blended learning. Besides, as previously noted, students with a poor level of language usually feel demotivated towards the teaching approach and towards the course itself. Demotivation, in turn, leads to serious problems such as learning anxiety, losing interest, and failure. Finally, some students stress that there is no control over the online part of blended learning. Thus, they feel reluctant to regularly attend their classes and do their assignments which can only yield to an unsatisfactory performance.

The findings of the present systematic review suggest several important implications for the refinement of the ESP teaching and learning process. First of all, since blended learning is reported to make a significant difference in the quality of ESP instruction, ESP practitioners are called upon to increase their use of different educational platforms to extend the learning experience outside class time and bring about positive changes. Second, it is of the uttermost importance that teachers develop digital competence and ICT practices so that students will be able to benefit from those skills and knowledge. To that end, educational policy makers need to design ICT training programs on the use of different online materials in ESP instruction.

Third, following the worldwide impact of the Covid-19 pandemic, the integration of ICT materials in classrooms has become an imperative. These technological tools encompass a wide range of digital resources, including computers, tablets, interactive white boards, educational software, and internet connectivity. These tools facilitate a blended, engaging, and immersive learning environment that fosters collaboration and interaction among students. Furthermore, ICT materials enable teachers to access up-to-date information, tailor their instructional approaches, and cater to individual students' needs and learning styles.

Last but not least, to avoid issues like demotivation and procrastination, teachers need to guide and direct learners to get used to the blended course (Agustina, 2020). Since blended courses allow for self-paced learning, teachers are encouraged to consider the following tips: (1) encourage students to take responsibility for their own learning by setting personal goals, (2) clearly communicate the learning objectives of the course, (3) relate to content and English skills they are learning to real-world scenarios and situations in their specific field of study or profession, (4) offer timely and constructive feedback on assignments and assessments, and (5) highlight their strengths and provide guidance on areas they need improvement. In this way, teachers are more likely to help their students understand their progress and motivate them to work towards improvement.

Finally, like in other studies, the present systematic review is not void of limitations. First, this review focused mainly on popular online databases for collecting studies (Scopus, Springer, Web of science, Taylor & Francis Online, and Science Direct). These databases may not provide all relevant studies published on blended learning and teaching English for specific purposes. Thus, further research can extend this review by including more studies on blended learning and ESP instruction from other online literature databases like Wiley or Sage. Another suggestion is to consider grey literature such as doctoral dissertations, master theses, conference proceedings, and symposium presentations.

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APRENENTATGE HÍBRID D'ANGLÈS AMB FINALITATS ESPECÍFIQUES: UNA REVISIÓ SISTEMÀTICA

A causa de la pandèmia de la Covid-19, l'ús de les TIC amb finalitats docents ha estat objecte d'un creixent camp d'estudi en recerca educativa. Per tant, aquesta revisió sistemàtica pretén oferir als professionals de l'ESP una síntesi actual de l'impacte de l'aprenentatge híbrid en l'ensenyament de l'anglès amb finalitats específiques (ESP). L'estudi actual revisa i sintetitza sistemàticament estudis relacionats amb l'aprenentatge mixt i l'ESP amb l'objectiu de proporcionar una anàlisi exhaustiva de 28 articles de recerca publicats durant el 2012-2022 i complir els criteris de selecció. Els resultats mostren que l'aprenentatge híbrid pot fomentar les habilitats lingüístiques dels estudiants universitaris d'ESP. La majoria dels estudis subratllen que l'aprenentatge híbrid aporta beneficis considerables al seu aprenentatge ESP, és a dir, flexibilitat, autonomia i col·laboració. Les troballes també mostren que pocs estudiants s'enfronten a alguns reptes com la desmotivació, la procrastinació i problemes tècnics. Amb aquests resultats, la revisió acaba amb implicacions per als professors i investigadors d'ESP.

PARAULES CLAU: aprenetatge híbrid; anglès amb finalitats específiques; revisió sistemàtica

APRENDIZAJE HÍBRIDO DE INGLÉS CON FINALIDADES ESPECÍFICAS: UNA REVISIÓN SISTEMÁTICA

Debido a la pandemia de la Covid-19, el uso de las TIC con fines docentes ha sido objeto de un creciente campo de estudio en investigación educativa. Por tanto, esta revisión sistemática pretende ofrecer a los profesionales del ESP una síntesis actual del impacto del aprendizaje híbrido en la enseñanza del inglés con fines específicos (ESP). El estudio actual revisa y sintetiza sistemáticamente estudios relacionados con el aprendizaje mixto y el ESP con el objetivo de proporcionar un análisis exhaustivo de 28 artículos de investigación publicados durante 2012-2022 y cumplir los criterios de selección. Los resultados muestran que el aprendizaje híbrido puede fomentar las habilidades lingüísticas de los estudiantes universitarios de ESP. La mayoría de los estudios subrayan que el aprendizaje híbrido aporta beneficios considerables a su aprendizaje ESP, es decir, flexibilidad, autonomía y colaboración. Los hallazgos muestran también que pocos estudiantes se enfrentan a algunos retos como la desmotivación, la procrastinación y problemas técnicos. Con estos resultados, la revisión termina con implicaciones para los profesores e investigadores de ESP.

PALABRAS CLAVE: aprendizaje híbrido; inglés con finalidades específicas; revisión sistemática