

**The Reality of Integrating Blended Learning in ESP classroom – Seeking for Efficiency**  
**A Case Study of Master 2 Computer Sciences Students at Farhat Abbas University, Setif 1**

واقع دمج التعلّم المختلط في فصول تدريس اللغة الإنجليزية للأغراض الخاصة - السعي لتحقيق الكفاءة  
دراسة حالة لطلاب ماستر علوم الحاسوب في جامعة فرحات عباس، سطيف 1

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**Abstract:**

In English for Specific Purposes (ESP), Blended Learning (BL) is changing the nature of learning via providing flexible and instant language learning using digital content. However, the incorporation of BL in ESP instruction encounters some challenges from the infrastructure and equipment, learning content and methods, learning materials, familiarity and readiness. Therefore, the current research endeavours to investigate Computer Sciences Master students' perceptions toward the use and usefulness of blended learning modality in ESP classrooms at Algerian tertiary level, and to identify specific barriers to its implementation. Based on the quantitative results obtained from the questionnaire, incorporating BL mode into ESP classes received positive perceptions as an effective learning mode that boosts learner motivation, engagement, performance and achievement.

**Keywords:** English for Specific Purposes (ESP), Blended Learning (BL), Digital Content, Learners' needs, Tertiary Level.

**ملخص:**

في مجال اللغة الإنجليزية لأغراض محددة (ESP)، يقوم التعلّم المدمج (BL) بتغيير طبيعة التعلّم من خلال توفير تعلم لغوي مرّن وفوري باستخدام المحتوى الرقمي. ومع ذلك، تواجه إدماج BL في تعليم ESP بعض التحديات منها البنية التحتية والمعدات ومحتوى وأساليب التعلّم والمواد التعليمية والتأهب والاستعداد. لذلك، تسعى البحث الحالي إلى التحقيق في إدراك طلاب الماجستير في علوم الكمبيوتر للاستخدام والفائدة من وضعية التعلّم المدمج في فصول اللغة الإنجليزية لأغراض محددة على مستوى التعلّم العالي في الجزائر، وتحديد العوائق الخاصة بتطبيقه. استنادًا إلى النتائج الكمية المستخلصة من الاستبيان، تلقي وضعية التعلّم المدمج إدراكات إيجابية كتقنية تعلّم فعالة تعزز دافع المتعلم ومشاركته وأدائه. وتحقيقه.

**الكلمات المفتاحية:** اللغة الإنجليزية للأغراض الخاصة (ESP)، التعلّم المدمج (BL)، المحتوى الرقمي، احتياجات المتعلمين، مستوى التعلّم العالي.

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### 1. Introduction:

Due to The proliferation of technology development and the considerable impact of digital era on all domains, Blended Learning (henceforth, BL) has become a tendency in the field of higher education all over the world, and Algeria is no exception. In English language teaching (ELT), BL has grown as one of the most popular research trends combining the advent of information technology with conventional “face-to-face” learning. Recent studies have revealed that the incorporation of BL in ELT/ESP classes is crucial in boosting life-long-learning and promoting learners’ skills and potential for collaborative learning. . Significantly, BL promotes learning autonomy and self-directed learning through mastering instructional materials at adaptable settings. Besides, its effectiveness is based on its capacity to enhance learners’ engagement, reinforce their collaboration and creativity. It also prepares them with the necessary professional skills required in this digital era.

Over the last decade, Blended Learning has become a new epitome and an essential learning modality that is broadly implemented by several higher education worldwide. Nevertheless, the outbreak of COVID-19 urged social distancing and forced many academic institutions to embrace this new learning mode. Accordingly, this unexpected shift from the conventional face-to-face learning mode to digital platforms has been challenging for many higher education institutions, Algerian higher education institutions are no exception. As an alternative, Higher education authorities have attempted to replace conventional teaching with more innovative. Nonetheless, lack of a deep understanding about the underpinnings of blended learning models and unfamiliarity about the constituting components of the educational context to which they are being applied has turned such modality into a serious challenge in many cases.

In the post pandemic era, the Algerian Ministry of Higher Education and Scientific Research intended to adopt BL as new teaching modality to reinforce the use of technology and to assure better academic outcomes. However, the newly implementation of BL in the Algerian context, particularly in ESP course has been associated with several challenges from methods, learning materials, learners’ and lecturers’ readiness and motivation. One of the main drawbacks that has constantly hindered the full implementation of BL mode is the unfamiliarity with the perceptions of the teachers and learners in the target context. Therefore, the experiences and perceptions of using BL model in ESP instruction still needs to be comprehensively explored and scrutinized to guarantee its successful implementation in future in the Algerian context. To this end, the present study assays to explore Master 2 Computer Sciences students’ perceptions at Setif 1 University toward the effectiveness of BL course in meeting their language requirements in ESP class. In this vein, the addressed research questions are:

- .1 What are the perceptions of Master 2 Computer Sciences students at Setif 1 University toward the effectiveness of BL mode in meeting their language requirements?
- .2 What are the advantages of adopting BL as an alternative pedagogical mode in ESP course?

3. What are the challenges of adopting BL as an alternative pedagogical mode in ESP course?

## 2. Literature Review:

### 1.2 . English for Specific Purposes and Technology:

English for Specific Purposes (ESP) is a specialized area of language teaching that has gained population in recent years. ESP courses aim to provide learners with the language skills and knowledge required to communicate effectively in specific academic or professional contexts, such as business, medicine, law, or engineering. ESP courses differ from general English language courses in the fact that they are tailored to meet the specific needs and goals of learners in particular fields or professions, with a focus on relevant vocabulary, grammar, and communication skills (Lesiak-Bielawska, 2015). To achieve these goals, ESP courses often involve a needs analysis to determine the specific language requirements of learners in their academic or professional contexts. The development of ESP courses involves careful consideration of the language skills and knowledge required for effective communication in the target field, as well as an understanding of the broader socio-cultural and contextual factors that impact communication in those settings .

Technology has become an integral part of ESP instruction, providing a range of resources and tools that can enhance learning outcomes (Butler-Pascoe, 2009; Dashtestani & Stojković, 2015). One important area of research in ESP and technology is the development of online materials and resources. Online platforms offer a range of resources for language learners, including interactive exercises, multimedia materials, and collaborative projects (Arnó-Macía, 2012). These materials can be tailored to the specific needs of different professional domains, providing targeted language practice and exposure to authentic language use .

### 2.2. Blended Learning:

Although the term has gained much popularity in the recent decades, “blended learning” can bear multiple interpretations as it exists in a plethora of forms and is prevalent in most classroom practices. In this respect, Oliver and Trigwell (2005) suggest that the term should be supplanted by “blended pedagogies”, “blended teaching” or “learning with blended pedagogies” (pp. 17–26). Collis and Moonen (2001), as cited in Rovai and Jordan (2004) define Blended Learning as “a hybrid of traditional face-to-face and online learning so that instruction occurs both in the classroom and online, and where the online component becomes a natural extension of traditional classroom learning” (p.3).

Significantly, Driscoll (2012) provides a comprehensive description BL is "a formal education program in which a student learns at least in part through online learning, with some element of student control over time, place, path, and/or pace; and the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience." (p. 2). Overall, all studies provide slightly different definitions of blended learning, yet, they agree upon the common theme of combining different instructional methods and technologies to create a more effective and integrated learning experience for students.

### 3.2. Blended Learning in ESP:

The development of ELT methods and approaches have rapidly changed for decades and the integration of technology in education has offered a new way in

language teaching. Significantly, Blended Learning (BL) has become as an alternative method to teach English as a Foreign Language (EFL) which is combined with Face-to-Face classes with virtual learning experience in order to offer the students and teachers as well a wide range of materials and resources organized in a methodological way. As ESP is a subfield of ELT, BL is an innovative teaching approach in ESP teaching aims at fostering independent English learning skills via using interactive tasks integrated through a virtual classroom atmosphere to enhance students' learning engagement and exchange of information (Chen, Liu, Lin, & Wang, 2019). This method allows for a more flexible and personalized learning experience that can be tailored to meet the requirements of learners. BL in ESP typically involves a combination of face-to-face classes, self-directed online learning, and interactive online communication with teachers and other learners. The online components can include multimedia resources such as videos, podcasts, interactive quizzes, and discussion forums.

In the realm of ESP, BL involves combining traditional instruction with online learning activities and materials (Whittaker, 2013). Studies have shown that BL can be more effective than traditional or solely online instruction (Arifani, Khaja, Suryanti, & Wardhono, 2019), primarily BL has been found to significantly improve ESP learners' reading, speaking, listening, and vocabulary skills (Kurucova et al., 2018). Previous research also highlights the positive impact of BL on promoting independent and collaborative learning among ESP students (García-Sánchez, 2016). Besides, it provides authentic learning activities and promotes self-directed learning (Tsai, 2012). Furthermore, BL has been reported to assist English language instructors in developing innovative learning activities and incorporating multimedia (Wichadee, 2017). According to Mulyadi, Hersulastuti, and Purnama (2019), incorporating BL in ESP instruction can improve learners' attitudes and motivation towards learning English as a foreign language.

As it has been reviewed, BL in ESP has been the subject of several studies, which demonstrate its effectiveness as a teaching approach. These studies have found that blended learning is more effective than traditional classroom-based teaching in improving learners' language proficiency, motivation, and engagement with the course. BL has been found to be particularly effective in improving learners' writing skills, technical language proficiency, and reading comprehension skills in ESP courses for business communication, engineering, and tourism. Overall, these studies suggest that blended learning is a promising approach to teaching ESP that can improve learner outcomes.

While there are numerous studies tackled the issue of blended learning courses, very few of them focus on incorporating online learning into ESP courses in higher educational settings, particularly in Algeria. In fact, the lack of research examining the practical implementation and effectiveness of BL in the Algerian ESP context, from the perspective of students within a particular discipline, is significant. Consequently, the present study contributes to the literature by investigating Master 2 Computer Sciences students' perceptions towards BL mode in ESP classroom and providing insights into the benefits and challenges they encounter. Moreover, the study explores the students' perceptions of the course instructions, materials, online activities, interaction, and engagement, which can inform the development of effective blended learning courses in the future.

### **3. Research Design and Methodology:**

This study is descriptive exploratory in nature as it endeavours to shed light on the reality of using blended learning in ESP classrooms at Algerian tertiary level. For this purpose, a quantitative approach is employed using an online Likert Scale questionnaire in order to assay the perceptions of Computer Sciences Master two students at Setif 1 University toward the face-to-face learning integrated with the online learning method as well as to gauge their experience in engaging that blended learning model in ESP classroom.

#### **3.1. Research Participants' Profile:**

The participants of the study are Master two students enrolled in Computer Sciences in the Faculty of Sciences at Farhat Abbas, Setif 1 University, Algeria. The students participated in ESP classes for the first semester of the 2021–2022 academic year. They studied the English course (ESP) using blended learning for one semester. The total number of students was 40 participants (31 Males, and 9 Females) who were enrolled in two different specialities IDTW (Web Design) and IFIA (Artificial Intelligence). Their ages ranged from 22 to 35 years old. Their English proficiency levels were between intermediate and upper intermediate.

#### **3.2. Data Collection Instrument:**

The adapted questionnaire was utilised as the main instrument in this study. It comprises of three sections, namely: personal information, perceptions and challenges. The first section is germane to find out participants general information gender, age, and experience, etc. The two sections of questionnaire are completed by using five preferences of Likert scale, i.e., with five rating scale replies (strongly disagree, disagree, neutral, agree and strongly agree). The questionnaire was firstly pilot tested with 20 participants in order to guarantee that all statements are relevant, comprehensible and appropriate. Later, the online questionnaire was sent to the participants to answer it.

#### **3.3. Data Analysis Procedure:**

The obtained data from the questionnaire were measured by descriptive analysis using SPSS 24. Accordingly, the analysis results have been substantiated to find out the statistical description of students' perceptions toward the practicability of BL teaching method for ESP course, particularly English for Science and Technology.

#### **3.4. Validity and Reliability of the Questionnaire:**

The questionnaire items were then checked for reliability and validity. The Cronbach alpha coefficient in the present study was .84, which is indicative of a good internal consistency of the blended learning questionnaire. For the validity, the coefficient of the research tool is statistically significant at the significance level (0.01), where the value of the validity coefficient of the tool is 0.73, accordingly, the validity coefficient is high and the tool is valid.

### **4. Data Analysis and Interpretation**

#### **4.1. Participants' Background information:**

The participants of the study are Master two students of Computer Sciences in the Faculty of Sciences at Setif 1 University. They studied the English course (ESP) using blended learning method for one semester. The total number of students was 40 (77.5% Males, and 22.5% Females) who were enrolled in two different specialities IDTW and IFIA. Their age ranged from 22 to 35 years old. Their English proficiency level was somewhat heterogeneous. Their experience in technology literacy ranged from intermediate (27.5%) to expert (72.5%), this result is due to their studies nature that highly based on computer and technology.

#### 4.2. Students’ Satisfaction of Using Blended Learning in ESP Class:

**Table 1: Students’ Overall Perceptions of Using BL in ESP Class**

N	Statement	SD	D	N	A	SA
1	ESP course using BL model was effective method to learn.	2.5%	7.5%	2.5%	42.5%	45.0%
2	ESP course using BL model assisted me to meet my language requirements.	2.5 %	25.0%	0.0%	50.0%	22.5%
3	The BL model supported me to develop my communicative and linguistic competences.	7.5%	15.0%	5.0%	52.5%	20.0%
4	The BL model helped me to be motivated and engaged in my learning process.	10.0%	20%	12.5%	35.0%	22.5%
5	The BL model promoted my self-directed and autonomous learning.	2.5%	27.5%	2.5%	45.0%	22.5%
6	I am satisfied with the results I received in learning ESP via BL model.	10.0%	17.5%	0.0%	42.5%	30.0%

Regarding answering the enquiries in the second section: How would you perceive your ESP BL course experience? The results from the survey reveal that the students viewed BL experience as satisfying and effective. As indicated in Table 2, the majority of respondents rated all items as "agree" and "strongly agree". The data analysis shows that the students were mostly satisfied with the offered ESP BL course A (42.5 %) SA (45.0%). The majority of students A (50.0 %) SA (22.5%). reported that they were satisfied with the selected method, facilitating to attain their learning outcomes of the course’s objectives .Furthermore, it was determined that course delivery methods and tools A (42.5 %) SA (45.0%) were effective. As a first-time experience, the results showed a highly satisfactory achievement of learning outcomes in terms of communicative and linguistic competences A (52.5%) SA (20.0%) of participants were also satisfied with course engagement activities levels and the high level of motivation. Moreover, the students reported the BL model promoted their self-directed and autonomous learning A (45.0%) SA (20%). All in all, the participants confirmed their willingness to continue study ESP BL course and showed high

satisfaction A (42.5%) SA (30.0%) and a positive attitude towards the new shift of BL ESP experience.

#### 4.1. Students' Perceptions on the Implementation of BL Model

**Table 2. Students' Perceptions on the Implementation of BL Model**

No	Statement	SD	D	N	A	SA
1	The BL model makes the foreign language teaching-learning process more flexible.	15.0%	22.5%	7.5%	37.5%	17.5%
2	The content provided in the BL model is complete and systematic.	2.5 %	25.0%	0.0%	50.0%	22.5%
3	I like the variety of tools and platforms used in BL model.	10.0%	20.0%	12.5%	35.0%	22.5%
4	The availability and accessibility of learning materials in BL help me to well-achieve and increase my performance.	10.0%	17.5%	0.0%	42.5%	30.0%
5	The interaction and communication with classmates and instructor becomes easier and more effective.	20.0%	27.5%	10.0%	27.5%	15.0%
6	The given instructions and tasks are clear, adequate and comprehensive.	7.5%	37.5%	15.0%	22.5%	17.5%
7	The instructor plays an efficient role in teaching via BL model.	10.0%	17.5%	2.5%	45.0%	25.0%
8	I find it easier to manage my study hours after the lecturer applies the BL model.	25.0%	35%	0.0%	22.5%	17.5%
9	The assessment procedures in BL model are operative and informative. (Submitting assignments and doing quizzes.)	10.0%	30.0%	15.0%	27.5%	17.5%
10	I prefer BL model more than conventional models (face-to-face in the classroom).	12.5%	47.5%	5.0%	25.0%	10.0%

The findings in table 3 highlight many important points. Firstly, students were generally satisfied with the majority of the components of ESP course using BL model. From the table, there were several statements that were responded by students with a large number of "Agree" and "Strongly Agree", namely on statements; the flexibility of the BL model course, the systemacity of the course content A (35%) SA (22.5%), the variety of tools A (35%) SA (22.5%), of the accessibility of material provided in the E-learning A (42.5%) SA (30%). However, it can be seen that some students still respond "Disagree" to some of the statements submitted; clarity and adequacy of the instructions and tasks (37.5%), communication and interaction with lecturers and classmates (27.5%), easy managing learning hours (35%), efficient

assessment procedures (30%). Significantly, participants seemed to be persistent to the conventional mode of learning compared to the BL mode where they disagree (47.5%) with the statement about preferring the BL mode to the conventional learning.

#### 4.3. Students’ Perceptions on the Challenges in Implementing of BL Model

**Table 4. Students’ Perceptions on the Challenges in Implementing of BL Model**

No	Statement	SD	D	N	A	SA
1	The lack of familiarity to employ the BL model.	7.5%	22.5%	10.0%	32.5%	27.5%
2	A poor internet to access in the learning platform.	00.0%	00.0%	00.0%	32.5%	67.5%
3	The lack of feedback and interaction within the virtual in BL model.	10.0%	17.5%	2.5%	42.5%	27.5%
4	Most learning methods in BL are NOT appropriate to our learning styles.	27.5%	32.5%	10.0%	22.5%	7.5%
5	Difficulty in time management due to the newness of experience.	2.5%	17.5%	5.0%	57.5%	17.5%

After joining the blended learning model course, Master 2 Computer Sciences students were asked to report their perceptions regarding the challenges they faced while participating in the course. Table 4 demonstrates the responses vis-à-vis the difficulties and challenges identified by the participants while experiencing BL model in ESP course. Four varying categories arose including: managing time, technical and connexion issues, lack of familiarity and novelty of the learning experience and learning style.

As mentioned in the literature review, BL method consists of combination between the conventional learning and the e-learning modes. According to the obtained results, the conventional learning did not seem to have any constraint because the instructional environment could be described as complete. Yet, it was noticed that the identified challenges could be obviously found in the e-learning mode where internet connection is the major obstacle in the learning process (67.5%). It is worth noting that time management was one of the challenges that faced students (57.5%). Another reported challenge was the lack of interaction with their classmates and feedback from lecturer (42.5%), Nevertheless, a few students indicated some inter-related issues they encountered during learning online, which included limited familiarity with the learning tools (32.5%) and its appropriateness to their learning styles (22.5%).

#### 5. Discussion:

The findings of the present research are consistent with the previous study that has proved the overall positive perceptions of the students about blended learning model (Bordoloi, Das & Das, 2021). In fact, the positive perception that students have towards blended learning can be attributed to the convenience and flexibility and



practicality it offers. According to Whitelock and Jelfs (2003), BL allows students to access course materials and submit assignments from anywhere and at any time. Ying and Yang (2016) also noted that the flexibility of blended learning, along with easy access to resources, were reasons for students' positive attitudes towards it. In a study conducted by Ja'ashan (2015), students reported that being able to review and pace their learning was a major factor in making blended learning enjoyable. Additionally, in a study by Malasari, Kurniawati, and Martanti (2021), ESP language learners stated that blended learning deepened their understanding of course materials, promoted independent learning, and provided opportunities to experience various types of learning media. The findings of challenges are also in the same line with those studies that identified investigating blended learning in higher education; Rianto (2020) concluded that while the language learners perceived the e-learning aspect of blended learning in positive light, they referred to technical issues and a slow internet connection as its drawbacks.

Based on the obtained responses, it can be inferred that the implementation of blended learning in ESP class with Computer Sciences students received a positive perceptions in several parts, namely the flexibility, practicality and efficiency of the ESP course, independent learning, materials availability, motivation and saving time in the learning process. In terms of material distribution, students can directly access material provided by lecturers. This shows that by implementing blended learning, lecturers can easily share materials and assign activities. In addition, in terms of learning independence, students can do their own learning because the materials and tasks used are already accessible. Students can learn it anytime and anywhere. Yet, the challenging four sub-categories in which students were less in an agreement with; namely instructor, instruction, interaction and assessment. The mentioned issues are tightly connected to new shift in the roles the instructor and learner newly play in a blended learning environment. Probably, students were cautious about their new active role as autonomous learners and with the instructors' role in providing instructions, attributing feedback and handling interaction during the teaching and learning process.

### **5.1. Recommendations:**

The success of the implementation of BL mode in an ESP class I Algeria depends on thoughtful planning, engaging activities, and effective integration of online and offline components. The following recommendations can be adapted to suit the specific needs of learners and the requirements of ESP courses. ESP practitioner should:

1. Determine learning objectives: Clearly defining learning objectives for ESP class through needs analysis. The identification of the specific language skills and content areas that need to be covered.
2. Choose suitable online tools and resources: Selecting online tools and resources that align with your learning objectives and cater to the specific needs of your students.
3. Design interactive online activities: Creating engaging online activities that allow students to practice the target language skills independently. These can include interactive exercises, quizzes, discussion forums, or collaborative projects.
4. Facilitate online discussions: Using discussion forums or online platforms to encourage students to communicate and collaborate with their peers. Besides,

assigning topics related to the specific field of study encourages students to share their opinions, ask questions, and provide feedback to one another.

5. Integrate multimedia materials: Incorporating videos, audio recordings, infographics, or interactive presentations that relate to the specific ESP content.

6. Provide timely feedback: Regularly assessing and providing feedback on students' online activities through online quizzes, assignments, or project submissions.

7. Plan face-to-face sessions strategically: Organizing face-to-face sessions to complement the online activities, for more interactive and hands-on activities such as role-plays, debates, case studies, or group discussions.

8. Foster a supportive learning environment: Creating a supportive online learning community and active participation where students feel comfortable asking questions, sharing ideas, and collaborating with their peers.

9. Reflect and adapt the course: Continuously reflect on the effectiveness of the BL mode in the ESP class by updating it with new technologies and resources that can enhance the learning experience.

## 6. Conclusion:

The present study aimed to shed light on the perceptions of ESP students majoring in Computer Sciences in terms of BL model practices. In particular, the study investigated Computer Sciences Master two students' views about BL, namely the benefits and difficulties associated with BL implementation, and suggestions for the furtherance of BL practices in Algerian higher education context. It is worth noting that face-to-face instruction is still indispensable for ESP learners in the sense that it allows them vividly learn the language; interact directly with their teachers, thereby increasing their engagement and motivation. On the other hand, online learning allows learners to promote their English mastery autonomously and independently as it provides extensive opportunities for engagement beyond the conventional learning boundaries.

In conclusion, BL can be an effective learning mode for enhancing language proficiency in ESP classroom, but it is important to consider the quality of the online learning materials, the level of engagement of the participants, and the support provided to learners. Consequently, this study calls for further efforts on integrating professional development trainings, seminars and educational workshops for ESP educators in order to encourage innovative ESP teaching methods for online learning and alternative instructional plans. The results provide valuable insight into students' perceptions towards BL and pose practical questions for its implementation. It is highly important for the Algerian authorities to assure the efficiency of implementing this learning mode in ESP learning experience, the availability of learning material used by ESP instructors, the assessment of ESP teachers' performance, and students' difficulties with ESP learning. Hence, instructors and institutions need to be well-equipped with adequate knowledge and skills, so that blended learning could be implemented successfully.

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