

# An Analysis of Contextual Characteristics for the Successful Design and Implementation of a Blended English Learning Program in a Higher Education Institution: A Possibility to Innovate \*

*El análisis del contexto para el diseño e implementación exitosos de un programa de inglés en modalidad semipresencial en una institución de educación superior: una posibilidad de innovación*

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## ABSTRACT

Innovations are usually associated with new technologies and applications. When it comes to teaching, the term pedagogical innovation is to introduce something new to improve learning and teaching conditions. This investigation seeks to analyze the characteristics of context to design and implement a pedagogical innovation that materializes into an English program in a blended learning modality. This is a needs analysis study that includes qualitative and quantitative types of information. The participants in the study are students, teachers, and administrative staff. This investigation employs questionnaires, in-depth interviews, and a focus group. The study concludes that to have a sustainable pedagogical innovation, the content should be based on the participants' academic areas, and the pedagogical innovation should foster the development of critical thinking, academic skills, autonomy, and collaboration.

**Keywords:** *blended learning modality, needs analysis study, pedagogical innovation, qualitative and quantitative analysis of information.*

## RESUMEN

Usualmente la innovación se asocia a avances tecnológicos, pero cuando se trata de introducir algo nuevo para mejorar los procesos de enseñanza y aprendizaje, el término que se emplea es innovación pedagógica. Esta investigación busca identificar las características del contexto para diseñar e implementar una innovación pedagógica, que para este caso se trata del diseño de un programa de inglés en modalidad semipresencial (*blended learning*). Este estudio es un análisis de necesidades que emplea análisis cualitativo y cuantitativo de información. Los participantes en este estudio son estudiantes, profesores y personal administrativo y los instrumentos de recolección de información son cuestionarios, entrevistas a profundidad y un grupo focal. El estudio concluye que para tener una innovación pedagógica sostenible el contenido se debe alinear con las áreas de estudio de los participantes, se debe fomentar el desarrollo del pensamiento crítico, de las habilidades académicas, la autonomía y la colaboración.

**Palabras clave:** *análisis cualitativo y cuantitativo, análisis de necesidades, innovación pedagógica, modalidad semipresencial.*

## PEDAGOGICAL INNOVATIONS DEFINITIONS AND CHARACTERISTICS

People usually associate innovation with technical progress (Walder, 2014). Research has attempted to translate the concept of innovation into education by outlining the concept of pedagogical innovations, that refers to intentionally introducing something new into a given educational context to substantially improve students' learning (Béchar, 2000). For Walder (2014), pedagogical innovations have the following characteristics:

- » They need to reflect a new way of teaching that is different from the usual practice.
- » They need to introduce something different in teaching that can produce slight or radical changes.
- » They need creativity to use other methods, techniques, or strategies to teach.
- » They also need to consider contextual, technological or discipline-related factors that can influence the application or use of an innovation.
- » They require a consideration of learning objectives, skill development, and careful planning when using a technological resource.
- » Successful implementation of an innovation requires a high level of resilience to transform a given situation while maintaining purpose, function, and sustainability (Salmon, 2016).

## PEDAGOGICAL INNOVATIONS IN LATIN AMERICA

In Latin America, pedagogical innovations defined as the introduction of something new to improve teaching or learning conditions, have been present for a long time as they can be traced back to the '60s when they centered on external processes led by experts. In the '70s and '80s, teachers carried out pedagogical

innovations that materialized in teaching experiences at the classroom level. In the '90s, pedagogical innovations focused on the global transformation of complete educational systems. Now, pedagogical innovations concentrate on learning and the incorporation of technology in the learning process (Ruiz-Bolivar & Ríos-Cabrera, 2020).

We can analyze pedagogical innovations in Colombia at two levels: at the classroom level and at the institutional level. At the classroom level, we can focus on the pedagogical strategies that teachers design for their classes, and at the institutional level, we can focus on the number of higher education programs in modalities different from traditional face-to-face instructions. According to the Colombian Ministry of Education, based on a survey carried out in 2016 in which 2,472 teachers participated, 56% (1,400) of the participants designed and used digital resources as wikis, blogs, educational software, websites, teaching sequences, and virtual learning objects (Ministerio de Educación Nacional, 2022).

Conversely, the landscape changes if we look at pedagogical innovations through higher education programs in modalities different from traditional face-to-face instruction. According to the Colombian Ministry of Education, in 2020, 27.047 higher education programs met the country's requirements of quality as an adequate administrative and academic infrastructure, appropriate mechanisms to select and assess students and teachers, and adequate resources to achieve institutional objectives. Of those, there were only 326 (1.2%) programs delivered at a distance or in a blended learning modality, and only 504 (1.8%) were completely online (Ministerio de Educación Nacional, n.d.), which implies that higher education institutions in Colombia go to great lengths to ensure that there are high quality programs in the traditional (face-to-face) modality, but

they do not make enough of an effort to innovate by designing programs in other modalities with high standards of quality. Similarly, the picture regarding the number of educational programs in modalities different from face-to-face in the public higher education institution where this study took place does not change as there are 326 undergraduate programs. Of those, only 3 (less than 1%) are delivered at a distance or in a blended learning modality, and 13 (almost 4%) are completely online (Universidad de Antioquia, 2021). This situation shows that the level of innovation in the country, and at the institutional level, is very low judging by the number of educational programs in modalities other than face-to-face. It also suggests a big need to innovate by designing language learning programs in alternative modalities.

In response to this need, I decided to design and carry out an exploratory pedagogical innovation that materializes in an English program in a blended modality. To assure not only the sustainability and the success of this innovation, but also an alignment between the program and the context as suggested by Sabah and Mohammed (2018), we assessed the needs, desires, and skills of prospective participants (students, teachers, and administrative staff) and the characteristics (technical and methodological) of the context where the program will operate. This is a qualitative, descriptive needs analysis study that includes qualitative and quantitative analysis of data. The results of this investigation show that to design and implement a sustainable pedagogical innovation, bringing about different actions at the institutional level that affect the curriculum and the classroom practices is necessary.

This study shows that other aspects that need careful consideration to design a long-lasting pedagogical innovation are the technological devices and tools students use, their access

to the internet, their technological and digital skills, and their preferences concerning English teaching and learning. Finally, this study suggests that an English language program in a blended learning modality is a suitable alternative to innovation.

## LITERATURE REVIEW

### Blended learning: definitions, advantages, design, and implementation

In this section, I will explore blended learning as it is the key concept of this investigation. To better understand blended learning, it is necessary to explore the elements that intervene when teaching and learning in this modality. Blended learning integrates teaching in a classroom with complementary online teaching activities including synchronous video sessions, podcasts, videos, wikis, blogs, or any other technological tool (Garrison & Kanuka, 2004; Ginns & Ellis, 2007; Picciano, 2009; Singh, 2003).

According to Kaur (2013), there are three perspectives to understanding blended learning: holistic, educational, and pragmatic perspectives. She claims that from a holistic perspective, blended learning is the delivery of instruction using multiple media. It is also any combination of media that supports teaching, and the mix of media can be synchronous or asynchronous. From an educational perspective, blended learning refers to integrating online with face-to-face class activities in a “planned pedagogically valuable manner,” combining two separate paradigms, the classroom-synchronous and online-asynchronous. From a pragmatic perspective, blended learning occurs both in the classroom and at a distance and uses a mix of different educational strategies.

For Hancock and Wong (2012) blended learning has several advantages. Learners take an active role in their learning process; they also have access to learning materials in different formats. Teachers offer learning activities that promote high levels of interest and authenticity. And blended learning provides possibilities beyond the face-to-face and the online modalities separately.

There are several models to implement blended learning. Kaur (2013) proposes a model that helps evaluate and integrate separate components of a blended program that result in instructional-sounded learning situations. The model has three components: a learning environment component, an instructional component, and a media component. The learning environment component can be either synchronous or asynchronous, and each provides different advantages as fostering collaboration through oral interaction (Hampel & Hauck, 2004) or providing opportunities to monitor the learning process (Lin, 2014). The media component refers to the vehicles that deliver content. Some instructional media can be more appropriate than others to use in synchronous or asynchronous environments as video-conferencing applications or podcasts (Hosseini, 2015). The instructional component refers to the instructional strategies that support learning objectives and facilitate learning transfer. Some instructional strategies can range from exploring complicated, broad or programmatic subjects or content that requires face-to-face interaction, expert observation, culture building, team building, and networking to succeed in problem-solving situations. Woodall (2010) claims that these instructional strategies can be carried out through traditional classrooms, virtual classrooms, live product practice labs, and interactive chatrooms.

Woodall (2010) observes a series of advantages and disadvantages when using traditional classrooms in blended learning. He claims that a conventional classroom allows disseminating

unpublished material; learners have access to peers and experts and group discussion, and practice can be engaging and add interest to a topic. He also claims that traditional classrooms support learners who depend upon highly teacher-centered methods. Nevertheless, traditional classrooms pose a series of disadvantages as being expensive if learners travel to the classroom location. It requires large blocks of time. There may be little time for discussions if the session is lecture-based. Sometimes classrooms place the learner in a passive role, and they can lose their attention.

Conversely, according to Kaur (2013), virtual classrooms allow instructors and learners to be in different places simultaneously and enable the instructor to archive the event for later viewing. Virtual classrooms use virtual tools; the sessions' topics can be the same as in traditional classrooms unless they are too complicated or contentious as manipulating chemical substances. Virtual classrooms have several other advantages. First, instructors and learners do not have to be physically present. Second, interaction among participants can occur by imitating raising one's hand by clicking a button, viewing a list of other participants, and listening to the instructor and the other students speak. Third, learners and instructors can access modern videoconferencing tools from different devices (smartphones, laptops, or desktop computers) (Aydemir et al., 2016). Despite their numerous advantages, virtual classrooms have some disadvantages. First, everyone must be online simultaneously; sometimes, participants need high-speed connections and the instructor must have technical skills and adequate resources. Virtual classrooms provide as much interaction between participants as traditional classrooms; furthermore, lecture-based events can place the learner in a passive role (Woodall, 2010).



I consider blended learning to present a suitable pedagogical innovation because it introduces something new and requires creative techniques, methods, and strategies to effectively implement.

Figure 1 summarizes the characteristics, advantages, components, and instructional methods used in blended learning.

*Figure 1* Definitions, advantages, components, and the instructional methods used in blended learning

Definitions	Advantages	Components	Instructional methods
<ul style="list-style-type: none"> <li>• Integration of different modes of instruction</li> <li>• Combination of different learning environments</li> <li>• Delivery of instruction using multiple media</li> <li>• Integration in a planned and pedagogical manner</li> <li>• Integration of two paradigms</li> </ul>	<ul style="list-style-type: none"> <li>• Learners take control of their learning process</li> <li>• Teachers can offer learning activities that promote high levels of interest</li> </ul>	<ul style="list-style-type: none"> <li>• Learning environment component</li> <li>• Instructional component</li> <li>• Media component</li> </ul>	<ul style="list-style-type: none"> <li>• Traditional classroom</li> <li>• Virtual classroom</li> <li>• Live product practice labs</li> <li>• Interactive chatrooms</li> <li>• Mentoring</li> </ul>

*Note:* own elaboration.

## METHOD

This investigation is an interpretative and descriptive needs analysis study that involves quantitative and qualitative analysis of information. It employs triangulation of sources and methods to assure reliability (Creswell, 2007; Creswell & Plano Clark, 2011; Jasso-Aguilar, 1999). Needs analysis studies are common when introducing a new technology, upgrading systems or planning significant investments. However, technology-related needs analyses for language learning and teaching are scarce

(González-Lloret, 2014) and necessary (García-Ponce, 2020). With this in mind, this investigation seeks to answer the following research questions:

1. According to the participants, what are the methodological aspects of teaching with technology that should be considered when designing an English program in a blended learning modality?
2. What are the participants' language learning and teaching preferences that should be taken into consideration when designing an English program in a blended learning modality?
3. What skills and learning activities appear as appropriate in an English program in a blended learning modality?
4. What are the technical requirements to design an English program in a blended learning modality?

### Instruments

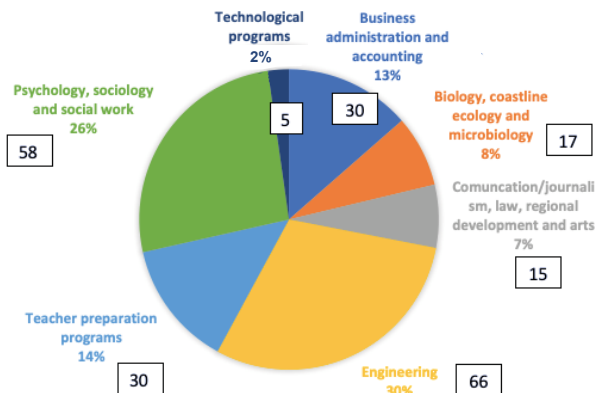
This investigation gathered data from questionnaires, in-depth interviews, and a focus group. The questionnaires were answered online and the focus group and the in-depth interviews were carried out via videoconference.

- » Questionnaires to students and teachers had four sections: demographic information, connectivity, technological infrastructure, and the students' preferences to learn or the teachers' preference to teach English. They had Likert scale questions in which participants had to rate items from 1 to 5, with 1 being the least preferred and 5 the most preferred.
- » Focus group and in-depth interviews with administrative staff had a protocol to guide the session that included questions that explored the particularities, frequent problems, and solutions of the programs that the respondents coordinate.

## Participants

221 students who, on average, were 22.9 years old and 26 teachers whose ages ranged from 33 to 64 years, responded to the questionnaires. Figure 2 shows that most students who answered the questionnaire were enrolled in an undergraduate engineering program, followed by psychology, sociology, social work, business administration, accounting, and teacher preparation programs. There were students of communication, journalism, biology, coastline ecology, and technical programs with a lower participation.

*Figure 2* Undergraduate programs of students

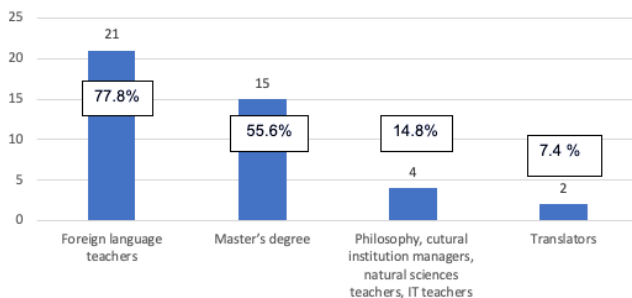


*Note:* own elaboration.

Most of the teachers who participated in this investigation had undergone training to teach languages. About half held a master's degree; some teachers held undergraduate degrees in translation, philosophy, cultural institutions management, and

science teaching. They had an average teaching experience of 18.7 years and only 2.6 years of online teaching experience. Figure 3 displays the areas of training of the teachers who participated in this study.

*Figure 3* Areas of training of the teachers



*Note:* own elaboration.

The administrative staff who participated in this investigation were the coordinators of online and distance undergraduate programs. On average, they had coordinated their programs for about six years. The programs were not English teaching programs; instead, they were undergraduate programs in engineering and education. The coordinators held undergraduate diplomas and graduate diplomas, and some had graduate diplomas in teaching in online environments or related areas. Table 1 summarizes the characteristics of the administrative staff who participated in this study.

The participants in this study are the people who will directly benefit from the innovation. Their responses will shape the methodology, content, objectives, etc., in the blended program

and they will participate in the entire decision-making process when designing and implementing it.

*Table 1* Characteristics of the administrative staff who participated in the study

Coordinators of online and distance undergraduate programs		
Time coordinating	»	5.8 years on average.
Type of coordination	»	Undergraduate program
	»	Non-English language teaching.
	»	Undergraduate level.
	»	Online or at a distance programs.
Coordinators	»	All of them held undergraduate and graduate diplomas.
	»	Two held master's degrees in areas related to teaching in online environments.
	»	Two were pursuing doctoral studies.

*Note:* own elaboration.

## Data treatment and analysis

Gathering data from different sources is essential to identify the participants' needs in well-developed language programs (Kitchen & Gray, 2013). Likewise, data about the needs of participants play a crucial role in technology-mediated language programs (Chapelle, 2014; González-Lloret, 2016), and triangulation of sources helps understand the participants' needs from different perspectives (Lambert, 2010) lower than normal learner motivation, and graduates who have no clear idea of what they have learned or who do not have the ability to use it for any functional purpose. Employment records, interviews and a sequence of surveys were used to build consensus on the L2 tasks faced by graduates over the 25-year period preceding the study. Results demonstrate that it was possible to identify and build consensus on task types common across workplace

domains, and that, given adequate support, graduates could specify target tasks as a basis for organizing focused, goal-oriented instruction in a context where TENOR was the norm. The study is intended to provide a heuristic framework and procedures for future task-based needs analyses. © The Author(s), broadening the scope and the validity of results (Creswell & Miller, 2000).

The transcriptions from the in-depth interviews and the focus group were initially analyzed using open codes and then with axial codes to categorize and synthesize emerging categories and subcategories (Creswell, 2012). Table 2 shows the categories and the subcategories that emerged from those analyses. Descriptive statistics analyses were performed with the responses to the questionnaires to identify group patterns (Moore et al., 2011).

*Table 2* Categories and subcategories that emerged from the analysis of the data

Categories		Subcategories	
»	Methodological aspects of teaching with technology	»	Online learning/teaching preferences
»	Infrastructure	»	Physical infrastructure
»	Technological and pedagogical access to technology	»	Internet access
		»	Technological/pedagogical support
»	Skill development	»	English language skills
		»	Other skills
»	Operation of the program	»	Communication
		»	Problem-solving

*Note:* own elaboration.

## RESULTS

This section will present the results of this investigation, attempting to answer each of the research questions (RQ).

RQ#1. According to the participants, what are the methodological aspects of teaching with technology that should be considered when designing an English program in a blended learning modality?

The analysis of the transcripts from the focus group and the in-depth interviews with the administrative staff showed that 56.4% (149 out of 264) of the coded references referred to methodological aspects of teaching with technology. The results suggest that the design of the pedagogical innovation needs to consider the following methodological aspects of teaching with technology. First, content should be presented in big sections of information as modules, units, or levels. Second, the design process of each module, unit, or level should start by defining the objectives, content, assessment procedures, etc. The results also suggest that the pedagogical innovation should have a synchronous and an asynchronous environment. The instructional design of both environments should use the syllabus of the unit, module, or level as guides. Clear objectives when designing and implementing the synchronous component of the program is another aspect of teaching with technology that the pedagogical innovation should consider. Finally, the results show that the delivery of instruction in the synchronous environment should take place on a regular basis.

The delivery of materials and content is another aspect of teaching with technology that this investigation highlights. Materials and content in the pedagogical innovation should consider multiple formats (paper, offline and online). An essential aspect of teaching in synchronous and asynchronous environments is the use of videos to give instructions. The results of this investigation show that short videos can be beneficial as explanations are available for learners at any moment, reducing the need for having a high number of synchronous sessions and

increasing the levels of flexibility by augmenting the number of asynchronous activities. A clear example is this explanation from one of the online program coordinators as he outlines the advantages of short video lectures.

I think the program can use short video lectures to give explanations or instructions. By using those video lectures, the students can access information from anywhere, and it is always available. Besides, the use of video lectures reduces the need for synchronous meetings. [Online or distance program coordinator, in-depth interview, July 2020]

Finally, these results highlight the need to include an introductory course or an orientation session to explore the basics of learning languages with technology because recently enrolled learners show inadequate online learning experiences in the lower levels of education (high school). These orientation sessions assure that learners can cope with the advantages and disadvantages of using technology for learning languages. The development of digital skills, the use of specific tools to complete some activities, and different learner roles appear as possibilities to explore in these sessions.

RQ#2: What are the participants' language learning and teaching preferences that should be taken into consideration to design and English program in a blended learning modality?

The responses to the questionnaire show that students prefer language learning activities that help them question, think, and take action to make a difference in society. They prefer activities in which grammar learning occurs at beginner levels and reading and writing at intermediate levels. Students like to learn using texts from their areas of study, and they think that the use of real objects and visual materials can help them.



For the students, understanding texts beneath the surface is essential, together with the interpretation of tables and figures, the development of study skills and oral interaction. To a lesser degree, students prefer activities that help them improve their pronunciation and identify deep and hidden meaning in texts. Students prefer activities that help them speak the language without hyperfocusing on errors. Identifying grammar rules is not very important according to learners, nor is it important to them to talk about personal information or daily routines, which are common activities in English learning programs. Interestingly, the use of Spanish and translation are not very important to students, implying that being immersed in the language is key for learning. Table 3 details the types of language learning activities that the students prefer.

*table 3* Language learning activities that the students prefer

Students' language learning preferences	Means	Standard deviation
Question, think, take risks, and believe that students' actions can make a difference in society	4.56	0.709
Learn everyday language and grammar at basic levels and learn to read and write at intermediate levels	4.55	0.704
Use texts from learners' areas of study	4.53	0.786
Learn using real-life objects and other visual materials	4.52	0.778
Understand texts beyond their superficial structures	4.49	0.685
Develop the ability to interpret figures, tables, and mind maps	4.49	0.743
Develop study skills	4.46	0.823
Promote the exchange of information and the oral and written interaction	4.45	0.69
Use real artefacts such as news broadcasts, scientific papers, and music	4.43	0.752

Imitate a native-like pronunciation	4.43	0.822
Identify deep and hidden meaning in texts	4.42	0.792
Speak in English regardless of errors	4.37	0.935
Identify grammar rules in books and papers	4.35	0.829
Speak about personal information or daily routines	4.32	0.913
Study different types of texts (narrative, argumentative, descriptive)	4.29	0.967
Recognize authoritarian discourses in texts	4.25	0.847
Use language structures according to different communicative situations	4.18	0.881
Translate different types of texts	4.16	1.09
Negotiate course content with classmates and teachers	4.04	1.046
Work in pairs or groups	3.94	1.021
Consider the teacher as a guide and facilitator rather than a learning model	3.87	1.073
Memorize grammar rules	3.74	1.275
Use more Spanish than English in class	2.86	1.239
Place pronunciation in second place in class	2.84	1.326

Note: own elaboration.

The analysis of the questionnaire for teachers shows that teachers consider themselves as guides or facilitators when teaching. They prefer activities that contain information exchange, written and oral interaction, texts from the learners' area of study, and group or pair work. To a lesser extent, teachers favor activities in which students question, think, take risks, and believe that their actions can make a difference in society, followed by teaching using real-life artefacts and activities to learn how to interpret tables, figures, and mind maps. Teachers also prefer activities in which students understand texts beyond their superficial meaning and identify the hidden meaning of texts. Unlike students, teachers prefer traditional learning activities as speaking about

personal information and daily routines, using real artifacts to teach as news broadcasts and scientific papers, and activities in which there are language structures according to different communicative situations. Similarly to students, teachers do not prefer Spanish or translation activities, and they value learning activities to develop study skills. Table 4 details the language teaching activities that teachers prefer.

*Table 4* Language teaching activities that teachers prefer

Language teaching preferences	Average	Standard deviation
Consider the teacher as a guide and facilitator rather than a learning model	4.85	0.362
Promote the exchange of information and the oral and written interaction	4.81	0.396
Use texts from learners' areas of study	4.78	0.424
Work in pairs or groups	4.7	0.465
Question, think, take risks, and believe that students' actions can make a difference in society	4.56	0.892
Learn using real-life objects and other visual materials	4.52	0.58
Develop the ability to interpret figures, tables, and mind maps	4.44	0.934
Understand texts beyond their superficial structures	4.37	0.565
Identify deep and hidden meaning in texts	4.19	0.786
Speak about personal information or daily routines	4.19	0.834
Use real objects as news broadcasts, scientific papers, and music	4.07	0.781
Use language structures according to different communicative situations	4.04	0.94
Identify grammar rules by presenting adequate linguistic forms	3.93	0.829
Develop study skills	3.85	1.406

Study different types of texts (narrative, argumentative, descriptive)	3.81	1.178
Negotiate course content with classmates and teachers	3.7	0.869
Speak in English regardless of errors	3.56	0.974
Imitate a native-like pronunciation	3.11	1.05
Recognize authoritarian discourses in texts	2.93	1.328
Learn everyday language and grammar at basic levels and learn to read and write at intermediate levels	2.74	1.375
Translate different types of texts	2.19	1.241
Place pronunciation in second place in class	2.11	1.188
Use more Spanish than English in class	1.81	1.001
Memorize grammar rules	1.52	0.7

*Note:* own elaboration.

**RQ#3:** What skills and learning activities appear as appropriate in an English blended learning program?

The analysis of the in-depth interviews and of the administrative staff focus group shows that 17% (45 out of 264) of the coded references suggest that the pedagogical innovation should focus on developing autonomy. The participants in this investigation consider that being responsible and disciplined are skills that the innovation should foster as they are essential for completing a language program that is completely online or that has a high technological component. Students lack these skills as they are not developed in their previous studies (high school). An example of this is the opinion of one of the academic coordinators as she elicits the fact that an online student should have discipline and responsibility as part of learner autonomy or agency.

An online program should develop these characteristics in learners: discipline and responsibility because they need to learn to take control of their learning. If a student doesn't

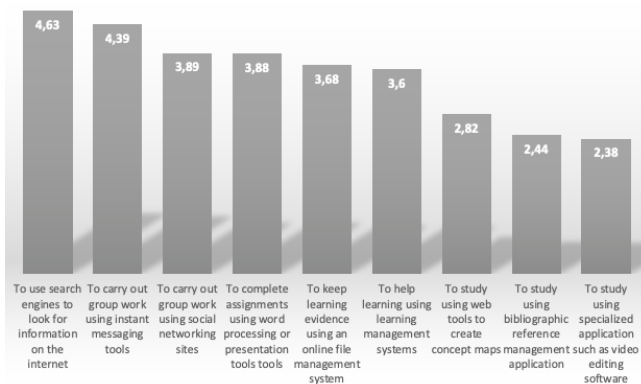
have these characteristics, he will not graduate. [Online or distance program coordinator, focus group, June 2020]

These results also show that it is advisable to implement learning activities that allow learners to collaborate to complete a task. The participants in this investigation refer to this as group work. They suggest the use of projects or problem resolution as possible learning activities. Finally, these results suggest that to make sure that learners become fully engaged in the learning activities, it is advisable to include assessment that is coherent with the modality of instruction. If the innovation is entirely online, then the assessment should be entirely online, and if the innovation has a face-to-face component, then the assessment should take place in that modality. However, they mention some inconveniences of having face-to-face assessment procedures, as a complicated logistics process and a possible lack of support from teachers. The results of this study suggest that assessment, whether online or face-to-face, has to be based on skill development, and it should be formative, allowing students to perform in different scenarios. This is evident in this opinion of a program coordinator that explains some of the inconveniences involved in having face-to-face exams in an online program.

Some of the online programs use this campus as a test center. We don't have much trouble with that...but I've seen that the logistics are a bit complicated... the teachers send the exam, and the program has personnel here to administer the test... sometimes, the teacher accompanies the process online, and he can answer some questions, but some other times the teacher is not there, and the students don't have anyone to help them... I think the exam should be in the same modality the program is offered. [Online or distance program coordinator, focus group, June 2020]

Regarding students' skills in using technology, the analysis of the questionnaire responses shows that learners have basic abilities to use technology. The results show that students are capable of using search engines to look for information on the internet, and they can carry out group work using instant messaging tools and social networking sites. They can also complete assignments using word processing or presentation tools, use an online file management system, and use learning management systems. To a lesser extent, students can use tools to create concept maps, bibliographical reference management systems, and specific applications as video editing programs. Figure 4 details the technological skills that students claim to have.

*Figure 4* Technological skills of students

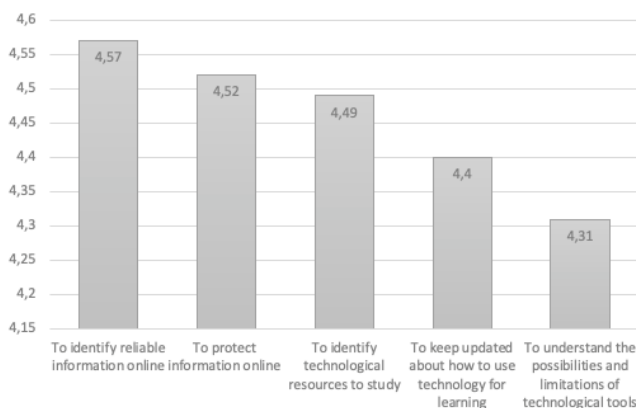


*Note:* own elaboration.

Another characteristic of the pedagogical innovation is the development of critical digital skills. These results show that

students claim to have very high levels of digital skills because they can identify reliable sources of information online, protect their personal information online, and identify appropriate tools to study. However, these results show that students struggle to keep updated about new technological resources for learning and understand the possibilities and limitations of these tools. Figure 5 shows the critical digital skills that students claim to have.

*Figure 5* Critical digital skills that learners have



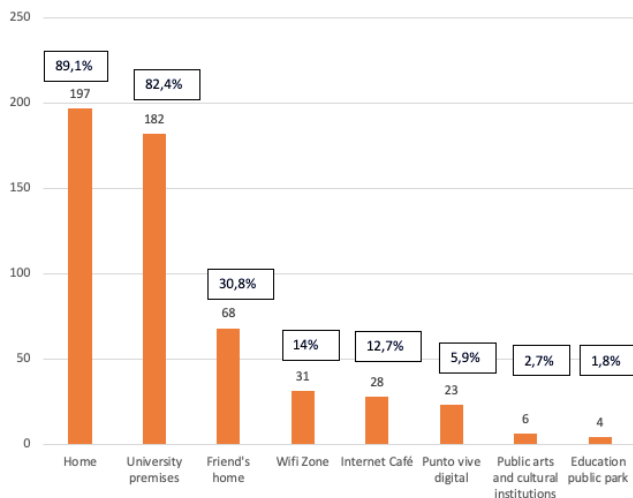
*Note:* own elaboration.

**RQ#4.** What are the technical requirements to design an English program in a blended learning modality?

The results of this investigation show that home and the university campus are the main places to access the internet,

followed by friends' houses, public places, and internet cafes. Figure 6 shows the locations where participants access the internet.

*Figure 6* Places from which the participants access the internet



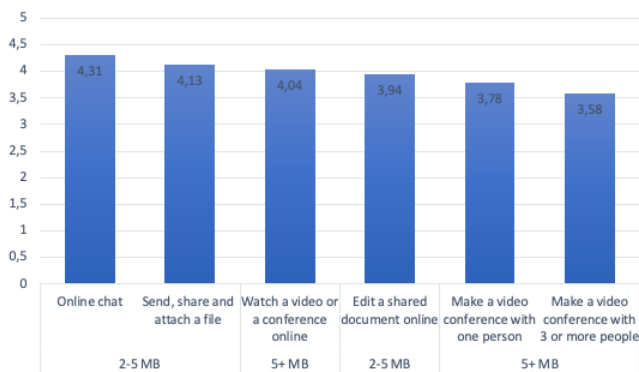
*Note:* own elaboration.

Based on the students' internet speeds, the results of this investigation show that the pedagogical innovation can rely primarily on activities as online chat, sharing, attaching, or sending a file because they do not require a fast internet speed. The results also show that designing activities that need a higher-speed connection, as participating in a videoconferencing session with more than three people, is not advisable. Figure 7



shows the activities that innovation can include according to internet speeds.

*Figure 7* Activities and internet speeds the innovation can use

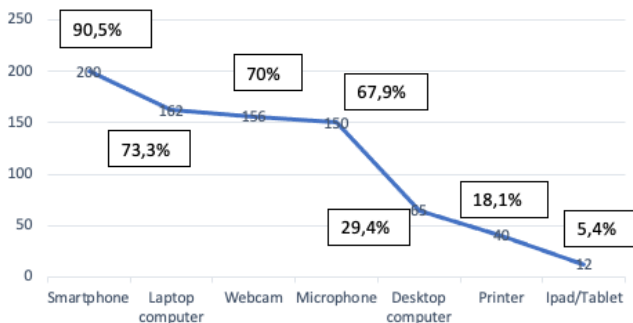


*Note:* own elaboration.

Regarding the technological devices that the pedagogical innovation can count on, the results of this study show that the innovation should design content for mobile devices as smartphones and laptops. The pedagogical innovation should also rely on activities that use webcams and microphones, as synchronous video conferences or short videos or podcasts. The results also show that the pedagogical innovation should

not rely on activities for desktop computers or printers. Figure 8 shows the technological devices that the pedagogical innovation can use.

*Figure 8* Technological devices on which the innovation can rely



*Note:* own elaboration.

## DISCUSSION

This investigation analyzed the characteristics of context to design and implement a pedagogical innovation in higher education. The pedagogical innovation is an English program in a blended modality. The results of this investigation show that the pedagogical innovation should consider aspects of online teaching as the organization of content in big sections within units or modules, the use of the syllabus as a starting point to the online design, the inclusion of synchronous and asynchronous environments, the delivery of content and instruction in different formats, and the inclusion of an introductory course or orientation session for learners who are joining the program for the first time. The results of this investigation agree with the

results of other studies. For example, Ginns and Ellis (2007), Picciano (2009), and García Aretio (2018) argue that a blended program involves the combination of online and face-to-face (synchronous) experiences. Other studies have found that when designing blended programs, flexibility is of utmost importance, meaning that learners have some level of control over time, place, path, or pace of learning (Boelens et al., 2017). These results also suggest that the synchronous and asynchronous environments should have clear objectives because this reduces the transactional distance between what learners already know and what they have to learn and increases the level of interaction (Russell & Murphy-Judy, 2020) this book comprehensively covers everything you need to know to design, develop, and deliver successful online, blended, and flipped language courses. Grounded in the principles of instructional design and communicative language teaching, this book serves as a compendium of best practices, research, and strategies for creating learner-centered online language instruction that builds students' proficiency within meaningful cultural contexts. This book addresses important topics such as finding and optimizing online resources and materials, learner engagement, teacher and student satisfaction and connectedness, professional development, and online language assessment. *Teaching Language Online features: A step-by-step guide aligned with the American Council on the Teaching of Foreign Languages (ACTFL)*. Finally, these results suggest that familiarizing students with the new ways of learning that the pedagogical innovation proposes provides bridges between cultural, social, and learning environments that facilitate the exchange of information that will later lead to learning (Pineda Hoyos & Tamayo Cano, 2016; Salmon, 2011).

The results of this investigation suggest that the language learning activities in the pedagogical innovation should aim to

develop critical thinking and academic skills using texts from the students' areas of study. The language learning activities should also aim to develop oral and written communication using pair and group work. According to these results, grammar teaching can occur at basic levels (in a five-level program, basic levels are levels 1 and 2), and translation and pronunciation are not very important. Finally, this investigation suggests that the implementation of the innovation can reconfigure the roles of participants as teachers see themselves as guides. These results are similar to other studies that have found that English for Specific Purposes (ESP), which is close to English for General Academic Purposes (EGAP), is an adequate approach for meeting students' needs at tertiary levels of education when teaching English as a foreign language (Chostelidou, 2010). Similarly, other studies have found that after implementing a blended approach to teaching, participants accomplish more linguistic activity in scientifically related areas, improve autonomy and correct aspects of the language. Finally, the innovation results in new roles for teachers and students. Students found a new way of learning, and teachers changed their teaching methods by placing an emphasis on individualized language corrections (Chafiq et al., 2014).

Regarding skills and learning activities, the results of this investigation suggest that the pedagogical innovation needs to strongly emphasize the development of autonomy, learning activities in which students collaborate, and the promotion of formative assessment. Regarding the learning activities, this investigation shows that the pedagogical innovation can take advantage of the high rates of technological skills that students possess. The learning activities can include searching for information on the web, group work using instant messaging applications and social networking sites, and completing activities

using word processing or presentation programs. Furthermore, these results suggest that the pedagogical innovation can take advantage of critical digital skills to design learning activities as participants can identify reliable sources of information, protect their information online, and identify technological resources to study. However, these results show that the pedagogical innovation should emphasize keeping students updated on how to use technology for learning and to understand the possibilities and limitation of technological tools. These results agree with the results of other investigations. For example, Kalyaniwala and Ciekanski (2021) claim that learner autonomy is still a relevant paradigm especially in relation to technology. For these authors, there are two perspectives to approach language learner autonomy and technology. In the first perspective, the language learning resources are available to learners and they have control over the process. In the second perspective, learners can unintentionally develop language autonomy from the wide availability of resources at their disposal on the internet. Unlike the first perspective, in the second perspective, there is not a figure of advisor or teacher and learning can take place in the “wild” (Sauro & Zourou, 2019). This pedagogical innovation can make use of both perspectives to develop learner autonomy and language learner autonomy.

Finally, the results of this investigation show that the pedagogical innovation should offer learning activities that can be accessed from different devices, especially mobile devices and in different formats (online, offline). Access to the internet is a great prerequisite for the implementation and sustainability of the pedagogical innovation. Although in Colombia in 2020, 56.6% of the population had access to the internet, only 39.3% had access to a computer. The situation gets worse when we make a comparison between rural areas and urban areas. In urban areas

(capital cities and big towns) 66.6% of the population had access to the internet, compared with only 23.9% in rural areas (DANE, 2021). The penetration of internet access through mobile phones is not very high, as only 27.5% of the population had a mobile connection to the internet and access to mobile networks in rural areas is not as high as in urban areas (MinTic, n.d.).

## CONCLUSIONS AND PEDAGOGICAL IMPLICATIONS

This investigation concludes that to have an appropriate design and implementation, and to ensure its sustainability, an English program in a blended modality should present the content in big organizational units. The process of design should start by designing the syllabi of the organizational units and these should guide the online and the face-to-face design. The content should be delivered in multiple formats, and there should be synchronous and asynchronous environments with clear objectives.

This investigation also concludes that the pedagogical innovation should emphasize the development of critical thinking, academic skills based on the participants' academic areas, autonomy, collaboration, critical digital skills, and communicative skills. The pedagogical innovation should be student-centered and skill-based because participants already have these skills and abilities.

This investigation suggests that the type of learning activities that appear as appropriate in the pedagogical innovation should involve searching for information on the web as webcasts or online treasure hunts, group work to complete a task or solve a problem collaboratively. This investigation shows that the use of specific programs as programs for editing video or audio is not very appropriate; instead, the pedagogical innovation should rely on programs as MS Office suite.

This study suggests that the pedagogical innovation can take advantage of the high levels of critical digital skills that learners

and teachers have, but it should also emphasize the inclusion of new tools to learn and the consideration of the limitations and advantages of the tools. In other words, the innovation should align tools with the content, activities, affordances and limitations of the context.

This investigation concludes that the pedagogical innovation should consider the fact that the internet connections are slow and uneven in the areas where the innovation will operate. As the participants mostly access the internet from home and the university campus, providing internet access to the students who have poor connections and providing a meeting point to complete assignments, searching for information, and socializing are crucial for the university campuses where the pedagogical innovation will operate.

The results of this study suggest that to have a successful implementation of the pedagogical innovation, designing an orientation session or a course to show new students how to learn in online environments is necessary because their experience in this type of environment is very limited or even nonexistent. The orientation session should include topics as time management skills, activities to self-assess their learning, strategies to choose extra work, etc. This orientation session should be accompanied by a robust component of teacher professional development because teachers need to be updated about new tools and strategies to teach using technology. Finally, these results suggest the design of a system to ensure technical and pedagogical quality of the pedagogical innovation to guarantee its successful and sustainable implementation.

### **LIMITATIONS OF THE STUDY**

The objective of this investigation was to shed light on the characteristics of context to design a pedagogical innovation.

The study has several limitations. First, when the project was in the data collection stage, we planned to visit the areas where the institution has its campuses to have a firsthand experience of the infrastructure and equipment that was available. We could not go because the lockdowns to control the spread of the Covid-19 virus had started, and travel in the country was suspended. However, we carried out the in-depth interviews and the focus group via videoconference. Second, it was difficult to reach a higher number of students because the institution has very poorly consolidated databases and a higher number of responses would have broadened the scope of the results. Having a bigger number of participants and visiting the regional campuses would have broadened the scope of understanding of the needs of the participants.

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