

**UNIVERSITY OF EL SALVADOR
SCHOOL OF ARTS AND SCIENCES
DEPARTMENT OF FOREIGN LANGUAGES**



TITULO

**HOW ARTIFICIAL INTELLIGENCE CAN HELP PERSONALIZE THE
EDUCATIONAL EXPERIENCE TO MEET THE INDIVIDUAL NEEDS OF STUDENTS**

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APRENDIZAJE DE IDIOMAS EXTRANJEROS**

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ENGLISH**

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ABSTRACT

This research explores how Artificial Intelligence (AI) has revolutionized education through personalized learning. It highlights how AI adapts learning experiences to individual students' needs, offering tailored instruction unrestricted by traditional time limits. The interdisciplinary nature of AI, including Educational Artificial Intelligence (EAI), emphasizes the use of AI algorithms to enhance learning outcomes. Some historical developments, such as Intelligent Tutoring Systems (ITS) and data analytics, demonstrate AI's capacity to transform educational environments. The potential of AI to bridge learning gaps, improve motivation, and enhance learning efficiency is addressed, alongside ethical concerns surrounding data privacy, equity, and the need for teacher training. Along with that, the research demonstrates that while AI offers promising advancements in personalized learning, further development is needed to ensure its effective and equitable application. Ultimately, from the wide variety of subjects learned throughout the Specialization Course, the most important ones are presented as a summary of each module.

Keywords: Artificial Intelligence (AI), Personalized Learning, Intelligent Tutoring Systems (ITS), Data Analytics, Educational Technology.

I. INTRODUCTION

Virtual environments for teaching and learning foreign languages revolutionized the way education is delivered since it allows teachers and students to create an engaging experience without having to physically travel to university or school. Besides, they both have the opportunity to improve technological skills preparing them for the technology driven world of today.

In recent years, advances in technology have transformed education, enabling large-scale personalized learning. With the integration of Artificial Intelligence (AI), educational systems can now adapt to the specific needs of individual students, providing customized learning experiences that go beyond traditional methods. AI is transforming classrooms with its ability to analyze vast amounts of data, predict learning outcomes, and deliver customized instruction in real time.

Moreover, the field of Educational Artificial Intelligence (EAI) is rapidly growing, using machine learning algorithms to improve learning efficiency, motivation, and retention. Tools like Intelligent Tutoring Systems (ITS), data analytics, and gamified learning platforms enhance student engagement and outcomes. These technologies address learning gaps and adapt various learning styles, ensuring that students with diverse abilities receive targeted support.

AI's role in education dates back to the 1970s with systems like PLATO, an early example of computer-based learning. Since then, AI has advanced significantly, offering a wide range of tools that allow educators to create responsive and inclusive learning environments. Despite the benefits, challenges remain in areas like teacher training, ethical considerations, and ensuring equal access to AI resources for all students.

Finally, the advancement of technology has significantly transformed education, particularly in the realm of online English language teaching. This evolution has created a need for educators to acquire specialized skills and knowledge to teach effectively in virtual settings. For that reason, undergraduate students were trained in three essential modules: Online English Language Teaching, Educational Applications for Learning a Foreign Language, and the Design of Didactic Materials for Virtual Environments. Over the course of these modules, participants explored various pedagogical approaches, familiarized themselves with digital tools, and honed their skills in creating engaging and interactive teaching materials for virtual classrooms.

II. OBJECTIVES

II.1. General objective

- To determine how artificial intelligence can be used to tailor the educational experience to meet the individual needs of students

II.2. Specifics objectives

- To describe the potential of Artificial Intelligence in education to enhance learning.
- To explore the different ways Artificial Intelligence can make easier personalized education.
- To highlight the most significant accomplishments of the specialization course in the administration of virtual environments for foreign languages teaching and learning.

III. THEORETICAL FRAMEWORK

Teaching everyone the same way often means not achieving the same results for all students. In recent years, advances in technology have made large-scale individualized learning possible. Personalized learning adapts to the specific needs of each student, with AI algorithms playing a key role in creating these customized learning experiences.

Artificial Intelligence (AI) has an interdisciplinary nature which makes it difficult to define; however, as Luckin and Holmes (2016) explain: “It can be understood as computer systems that have been designed to interact with the world through capabilities and intelligent behaviors that would be thought of as essentially human.”

In the same context, “Educational Artificial Intelligence (EAI) is a promising and emerging field that integrates artificial intelligence and learning science to create personalized learning systems using machine learning algorithms”, Afiya (2024).

Furthermore, according to Encyclopedia Britannica, AI is found in applications as diverse as medical diagnosis, computer search engines, voice or handwriting recognition, chatbots, etc. For sure, AI has been used in educational matters since the 70s. Before the rise of PCs and the modern internet, a revolutionary system dove into the novel idea of computer learning. Programmed Logic for Automated Teaching Operations (PLATO) started as an educational tool and it was a distributed computer-based learning system that was created at the University of Illinois. It was the first generalized computer assisted instruction system, and as it grew developers and users added functions like games.

AI provides instruction and learning resources at a level of intensity that suits each learner's individual needs. Unlike traditional education, it offers explanations and guidance that are tailored to each learner and is not constrained by time limits. Afiya (2024) states that: “Personalized

learning plays a pivotal role in creating a successful educational experience. It is a revolutionary approach that addresses the growing demands for learning in the 21st century”. The main objective of AI in education is to enhance the personalization of learning and foster self-paced progress. Since students have varying learning capabilities, dedicating the same amount of time to learning the same content doesn't always yield equal results for everyone.

To this day, AI has evolved, in such a way that we can find many tools that facilitate personalized education. Some of these are listed below:

III.1. Intelligent Tutoring Systems (ITS):

In the 1980s, a significant development in the role of AI in education occurred with the creation of Intelligent Tutoring Systems (ITS). These systems employed AI algorithms to deliver personalized tutoring by adapting content in real-time based on student performance. As VanLehn (2011) discusses: “Intelligent Tutoring Systems (ITS) not only analyze student responses but also adapt instructional strategies to provide individualized feedback.” This advancement has been crucial in laying the foundation for more sophisticated AI-driven tools, which focus on personalizing teaching methods to address specific learner needs, thus enhancing the effectiveness of the learning experience. ITS can identify areas where students struggle and modify content and pedagogical strategies to address those areas, allowing for more efficient and targeted learning. The ability of these systems to offer instant and adaptive feedback represents a significant shift in how instruction is delivered and has led to the development of more advanced educational technologies aimed at optimizing the teaching and learning process.

III.2. Data Analytics and Machine Learning in Education:

The integration of machine learning and data analytics into education has fundamentally transformed how educational institutions manage student learning and outcomes. These

technologies enable the processing of vast datasets, such as student performance, attendance, and socio-economic factors, allowing for predictive analytics that identify students at risk of dropping out. With this information, schools can implement timely interventions like counseling or additional tutoring. For instance, adaptive learning platforms use data-driven insights to modify lesson plans, recommend resources, and provide feedback that aligns with each student's unique learning path. As Park et al. (2023) highlight: "This personalized approach ensures that educational interventions are more targeted and effective, addressing specific areas where students may need additional support or challenge." Overall, the application of data analytics and machine learning in education represents a shift toward a more informed, responsive, and individualized learning environment.

III.3. AI and Personalized Learning:

Artificial Intelligence has the potential to personalize the educational experience by utilizing sophisticated algorithms capable of processing vast amounts of student data. Through machine learning (ML), AI can identify patterns in a student's performance, strengths, and weaknesses. By doing so, it becomes possible to develop a customized learning path for each student, maximizing their educational outcomes. One of the most promising areas of AI in educational management is personalized learning. AI can help educators tailor learning experiences to the individual needs and preferences of each student, based on their learning history and performance data. Singh, Nahar, and Kumar (2021) point out that: "AI-based personalized learning can improve student engagement, motivation, and learning outcomes, leading to more effective and efficient educational systems."

Furthermore, AI can enhance the teacher's ability to cater to individual needs by providing detailed insights into each student's learning behavior. Rather than relying solely on standardized

testing, which offers a limited view of a student's abilities, AI can evaluate a broader range of competencies, such as problem-solving skills, creativity, and critical thinking. Similarly, AI plays a key role in creating personalized learning environments, adjusting instruction to fit each student's unique learning path.

III.4. AI in Enhancing Learning Efficiency and Motivation:

AI-driven educational platforms not only personalize the learning experience but also significantly improve learning efficiency. This can be particularly beneficial in today's fast-paced world, where students often struggle to balance multiple academic and extracurricular commitments. Besides, AI systems can significantly enhance the learning process by personalizing educational content according to the learner's cognitive profile, thus reducing time spent on ineffective study methods.

For instance, recent discussions highlight that AI-powered platforms can employ spaced repetition algorithms to optimize memorization and learning retention. As highlighted by the *World Journal of English Language* (2023): "These systems schedule reviews of material at intervals that maximize retention, ensuring learners revisit critical information just before they are likely to forget it, thereby enhancing knowledge retention." Additionally, Gamification and AI can be combined to provide more innovative, motivating, and effective educational experiences. This combination offers several benefits: it makes learning more fun, dynamic, and engaging, which increases learner interest and participation; provides immediate, accurate, and constructive feedback by continuously and automatically assessing learners' progress and performance; encourages meaningful, practice-based learning to improve performance, retention, and application of knowledge; empowers teachers with resources, tools, and data to enhance their

teaching strategies; and develops fundamental 21st-century skills such as critical thinking, creativity, communication, collaboration, problem-solving, and digital citizenship.

III.5. Bridging Learning Gaps with AI:

One of the most transformative aspects of AI in education is its ability to address and mitigate learning gaps. Students come from diverse backgrounds, with varying levels of academic preparation, access to resources, and learning styles. These differences often result in unequal outcomes within traditional educational models. However, AI can level the playing field by offering tailored learning experiences that consider these disparities. Likewise, AI systems can identify gaps in a student's knowledge and provide targeted interventions to address those gaps. For example, AI-powered tutoring systems like Carnegie Learning use algorithms to diagnose where a student is struggling and then adapt the lessons accordingly. This is particularly helpful for students who require additional support but may not have access to one-on-one tutoring or other supplementary educational resources. Shute and Zapata-Rivera (2019) emphasize that: "AI can also help address accessibility challenges faced by students with disabilities." For instance, speech recognition tools and AI-driven assistive technologies can help students with learning disabilities or physical impairments engage more fully in educational activities. AI's capacity to offer multiple modes of interaction text, audio, and visual ensures that learning materials are accessible to all students, regardless of their individual needs.

In closing, use of AI in personalized learning involves not only many benefits, but also challenges as Jian (2023) mentions: "An area that warrants attention is the training of educators to use AI tools effectively, ethical concerns around data privacy and security, equity in student access to artificial intelligence." These are just some of the areas needing improvement and further exploration.

IV. DESCRIPTION OF ACTIVITIES

IV.1. Module I: Online English Language Teaching

The first Module had the objective to let undergraduates know and apply the learning theories for teaching English online using emerging technological tools. The activities were performed asynchronously and synchronously that allowed interaction and feedback between the facilitator and the participants, likewise between participant to participant; indeed, there were analyzed the features, advantages and disadvantages of these virtual learning.

The main learning theories for teaching English addressed were: Behaviorism, Cognitivism, Constructivism, and Connectivism. Here is an overview about each theory, according to PHILO-notes (2021) and Zolzaya Sh (2020):

- Behaviorism states that learning is largely unknowable, that is we cannot possibly understand what goes inside a person the “backbox theory”.
- Cognitivism points that learning is viewed as a process of inputs, managed in short term memoria, and coded for long term recall.
- Constructivism suggests that learners create as they attempt to understand their experiences. Assumes that learners are not empty vessels to be filled with knowledge. Instead learners are actively attempting to create meaning.
- Connectivism explains that learning is a process that occurs within nebulous environments of shifting core elements not entirely under the control of individual learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database) is focused on connecting specialized information sets and the connections that enable us to learn more are more important than our current state of knowing.

Next topic of this module was the Learning Management System (LMS), which can be defined as web-based software platforms that provide an interactive online learning environment and automate the administration, organization, delivery, and reporting of educational content and learner outcomes. There was the opportunity to practice through the creation of a site on milaulas.com and recognizing its features categories: Course management, Security and Privacy, Assessment, Communication tools, Tracking progress, and Gradebook.

Some examples of LMS are MOODLE, SAKAI, EDMODO, e-Educativa. In this regard, and as part of the group work, the infographics about three of these LMS (Edmodo, Schoology and Sakai.) were created on Canva.

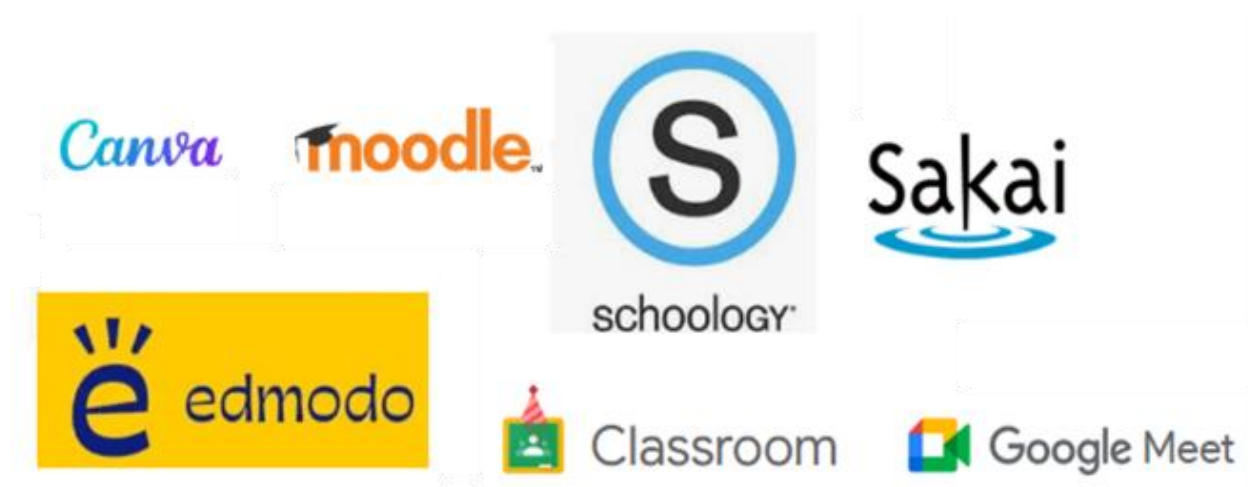
Furthermore, the pupils learned by creating a virtual class in Google classroom. That means, all learned how to access Google Classroom, create and edit a class, add students, invite guardians and email students, add resources and materials, create an assignment, student view of the assignment, grade and return assignment, and students view of the returned assignment.

Finally, it was learned how to use the video conferencing platform Google Meet and also some web-based tools to present a class in groups and the students were assigned to participate in the different activities designed.

As a result, participants improved their practice throughout this module, consequently they can carry out synchronous work sessions and asynchronous activities using the knowledge acquired.

Figure 1

Logos of platforms learned in Module I



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IV.2. Module II: Educational Applications for Learning a Foreign Language

During the second module, participants learned about the role of technology in education, starting with the historical use of computers in education, emerging in the 1970s when computers were first used to deliver educational programs, despite technological limitations. Educational technology was defined as not just using computers, but transforming teaching and learning practices.

Moreover, learners studied the TPACK Model, which combines three key areas of teaching. First, Content Knowledge (CK), which is the teacher's understanding of the subject; Pedagogical Knowledge (PK), which involves effective teaching methods and strategies; and Technological Knowledge (TK), which focuses on integrating technology into the classroom to support learning.

As the module progressed, the team also focused on the concepts of gamification and game-based learning. Firstly, they learned about the difference between game-based learning, which uses games to support teaching, and gamification, which incorporates game elements like rules and points into educational activities. Moreover, they discovered how these methods can enhance creativity, motivation, collaboration, and social skills, both in physical and virtual classrooms.

Similarly, students learned about Artificial intelligence (AI) and its applications in education. They explored how it can help with writing essays, creating lesson plans, and designing quizzes. Overall, they learned about the potential benefits and limitations of using AI tools like ChatGPT in educational settings.

Furthermore, undergraduates learned how to use various technological tools for teaching and learning foreign languages online. The main objective in this second module was to become familiar with the most important tools: Edpuzzle, Flip, Narakeet, Liveworksheets, Nearpod, Padlet, Kahoot!, Classroomscreen, and Powtoon. For instance, to achieve this goal, learners examined each tool closely through YouTube videos, group practices and they learned how to apply them in virtual classes. They were encouraged to design specific activities based on instructional practices and then present their work for feedback.

In terms of evaluation, the students were tasked with creating video tutorials and presentations to demonstrate their understanding of the tools. One of the key assignments involved creating a video tutorial with Flip, where they explained the use of Liveworksheets for assessments. This activity allowed them to apply their knowledge in a practical context and demonstrate their teaching skills using the technological tools. Another significant task was the creation of a video in Powtoon, in which they discussed the advantages and disadvantages of using

technological tools when teaching English. These activities not only tested their mastery of the tools but also enhanced their ability to present complex concepts clearly and effectively.

In conclusion, Module II provided the students with a comprehensive understanding of how to use technological tools to enhance the teaching and learning process in a virtual environment. Through practical activities, peer collaboration, and theoretical exploration, they developed the necessary skills to integrate technology into their teaching practices effectively. Moreover, the module emphasized the transformative power of technology in education, preparing the learners to create dynamic and engaging learning experiences for their future classrooms.

Figure 2

Logos of platforms learned in Module II



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IV.3. Module III: Design of Didactic Materials for Virtual Environments

In this module, participants learned how to use tools for the design of didactic materials for the teaching-learning of foreign languages in virtual learning environments. Participants elaborated concrete activities such as podcasts, online presentations, interactive images, videos,

among others using the technological tools. The general goal of this module is design digital materials to be used in the teaching and learning of foreign languages for asynchronous classes.

The first topic explained by the professor was the fundamentals of using multimedia resources in a virtual learning environment. Students gave their opinions and perspective on the meaning of different images presented by the teacher as a starting point for the multimedia resources topic. As explained, multimedia is a broad term for combining multiple media formats. Whenever text, audio, still images, animation, video and interactivity are combined together, the result is multimedia. Moreover, undergraduates explored the different types of educational multimedia resources and the importance of considering the audience for whom the materials are being created.

As a starting point for the beginning of the development of the module, learners created work groups to develop academic activities. At the same time, they decided on the topic to be developed for the different activities.

As a first step, participants learned how to create and insert an introductory audio on a topic based on different audiences: children, teenagers and adults.

The second topic developed by the instructor was the steps to create a successful podcast. To do this, first the students must introduce the topic, then decide the audience, give the podcast a name, write the script, record the audio, select some background music, use audacity to edit, and host the podcast in Soundcloud.

According to what was explained by the educator, a podcast is a digital audio file that can be taken from the internet and played on a computer or a device and that people can carry with them. Some advantages of podcasting learned by the participants are: engaging students, accessible

to all—podcasts are free to stream or download, and provides a wonderful way to infuse more technology into the instruction. Furthermore, audios refer to sound incorporations that can be of different types: voice over, dialogues, spoken texts, music, sound effects and even silences. Some audio formats are M4A audio file type, FLAC, MP3, MP4, and WAV.

This information was very important for the pupils since one of the module activities was the creation of a podcast. In order to provide resources to carry out this activity, the teacher presented how to use the application Audacity, which is a popular open-source audio editor and recorder, offering a comprehensive suite of tools for editing and mastering audio files. In addition, Soundcloud, another useful tool for managing podcasts, was presented.

Subsequently, the third topic developed by the educator was about the importance of using images in education. In the online educational environment, a digital image is very important for teaching since a simple image can improve the way in which people teach or learn. As explained by the instructor, a digital Image is simply a grid of numbers where each cell contains information about a single pixel. A pixel is the smallest unit in an image. So, there are numerous image file types out there so it can be hard to know which file type best suits students' image needs. Some image types such as TIFF are great for printing while others, like JPG, GIF, RAW, EPS or PNG, are best for web graphics.

Besides, learners discussed the meaning of some images presented by the professor. They gave their opinions on the meaning of each one, since each image can represent many things depending on the perspective of each student, and depending on the purpose for which an image wants to be used in teaching.

In order to explore the topic, participants familiarized on how to use different tools. Starting with how to use applications to reuse images such as reduceimage.com, they also became familiar with using Pixabay, an application for downloading images for free.

As part of the activities to be developed, students created an interactive image about their subtopic in Genially. Therefore, the instructor prepared some videos on how to use said application and showed some examples, so that the students could take reference for the development of the activity.

Additionally, the fourth topic developed by the tutor was about the importance of color combinations and choosing the best typography. During the development of this topic, participants learned the importance of the color palette for the creation of appropriate content. In addition, they learned how to choose a suitable font to add to presentations, the difference between a suitable and visible typography for the audience and one that is difficult to visualize.

With the objective of carrying out the following activity on creating a presentation in Google Slide, the instructor presented the steps to follow to create appropriate presentations that generate interest in the learners. The first step that must be considered is the audience to which the content will be presented. Then, the second step is to select an appropriate topic and content. After, the third step is to define the objectives of the presentation. The fourth step is to select the information for the body of the presentation, it is important to select information and engage content. Finally, the fifth step is to create an introduction and conclusions.

Subsequently, undergraduates mastered to create sites with the help of Google Sites and make a direct connection with Classroom, to improve student learning.

In conclusion, this module provided participants with a comprehensive understanding of designing digital materials for the teaching and learning of foreign languages in virtual environments. Through a series of practical activities, including creating podcasts, presentations, and interactive images, learners not only explored the fundamentals of multimedia resources but also applied these skills to real-world teaching scenarios. They gained hands-on experience with essential tools like Audacity, SoundCloud, and Genially, and learned the importance of elements like audience engagement, color schemes, and typography in effective instructional design. By mastering these tools and techniques, participants are now equipped to create engaging, asynchronous learning materials tailored to diverse audiences, enhancing the online language learning experience.

Figure 3

Logos of platforms and virtual tools learned in Module III



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V. ACHIEVEMENTS

V.1. Module I

The teams learned how to create Infographics on Canva for educational purposes. This activity was aimed to use the platform to design visual representation of data and information about a specific topic.

Next knowledge acquired was the use of Moodle, which is an open source platform with intuitive interfaces and it can be customized according to education and training needs.

The team also learned how to use Google Classroom which consists of a cutting-edge online learning management system designed by Google to foster effective communication and collaboration between educators and students. Then, all students practiced a virtual class on Google Meet that provides reliable, and secure video conferencing.

All of these online platforms are excellent options not only to facilitate the learning process but also to simplify the process of tracking the students' achievements.

V.2. Module II

In Module II, the team achieved great progress with several important activities to enhance their skills with technological tools for teaching. Firstly, they created a presentation that listed different educational tools that themselves chose like Canvas, Miro, Mentimeter, Classdojo, Socrative, Quill, Google Forms, Dotstorming, Blooket, Quizlet, Mobbyt, Wordwall, ClassPoint, Baamboozle, Quizizz, and they explained their basic functions and principles, as well as their advantages and disadvantages. This activity allowed learners to understand the purpose of each tool and how it can be used to support teaching and learning.

Secondly, students made a video using Flip to demonstrate how to use Liveworksheets for assessments. They showed step-by-step how to set up interactive worksheets that automatically correct students' answers. This task helped them learn how to make assessments more engaging and efficient for evaluating student progress.

Thirdly, they produced a video in Powtoon about advantages and disadvantages in the use of technological tools when teaching English. By creating this video, students were able to explore and present different viewpoints on how technology can be beneficial together with the challenges faced in the classroom.

Finally, undergraduates conducted a demo class incorporating all the tools they had learned about: Edpuzzle, Flip, Narakeet, Liveworksheets, Nearpod, Padlet, Kahoot, Classroomscreen, and Powtoon. This final activity allowed them to showcase their ability to use these tools together in a real teaching scenario, creating a dynamic and interactive virtual lesson.

V.3. Module III

In this module, the team learned how to effectively use and create multimedia resources like audio, images, and interactive content to enhance the teaching and learning of foreign languages in virtual environments. During this module, many skills and activities were acquired, such as:

The team successfully developed podcasts, learning how to plan, script, record, and edit using tools like Audacity and SoundCloud. They understood the value of podcasts in providing accessible, personalized learning experiences for various audiences, including children, teens, and adults. Podcasts in education are mainly used to introduce students to certain themes or have them consider the subject matter more deeply.

Furthermore, undergraduates designed interactive images using Genially. This skill empowered them to create visually engaging materials that encourage active learning, making the virtual classroom more dynamic and participatory. Genially use the all-in-one online tool to create stunning presentations, interactive images, infographics, gamification, quizzes, breakouts, etc. and add interactivity and animation effects.

Additionally, the team gained a deep understanding of how to use images, colors, and typography effectively in educational materials, learning how these elements contribute to enhancing online presentations and improving learner engagement.

Finally, the team members created a site on Google Sites, the site was created with the purpose of demonstrating the importance of these resources in online learning. And a class was created in Classroom for the same purpose.

VI. CONCLUSIONS

The use of Artificial Intelligence in personalized education is definitely an excellent choice since it allows to focus learning strategies on students' strengths and weaknesses. That means, lessons, assignments or assessments can be planned according to individual needs, and the AI-powered platforms track the results and provide specific feedback.

It is worth mentioning that AI promotes inclusive education since it helps students with learning disabilities using speech recognition tools and AI-driven assistive technologies.

In regard to Module's I program, it can be said it is well organized because participants can learn the topics without overwhelming, and objectives are achieved whether or not they have previous knowledge about managing virtual environments.

Likewise, Module II gave participants a solid understanding of how to use technology to enhance foreign language teaching. The students explored the historical role of computers in education, the TPACK model, and how technology transforms learning. They learned the difference between gamification and game-based learning. Additionally, they explored the benefits of AI tools like ChatGPT in education and how they can help with tasks like creating lesson plans and quizzes. Moreover, they practiced using tools like Edpuzzle, Flip, Narakeet, Liveworksheets, Nearpod, Padlet, Kahoot!, Classroomscreen, and Powtoon to make language learning better online. Finally, by creating video tutorials and presentations, they showed how well they could use these tools in virtual classrooms. In general, this module prepared students to integrate technology effectively and creatively, helping them make future lessons more interactive and engaging for their learners.

Finally, Module III effectively guided participants through the process of designing digital materials for foreign language teaching in virtual environments. By integrating multimedia elements such as audio, images, and interactive content, learners gained both theoretical knowledge and practical skills. They explored various tools like Audacity, SoundCloud, Google Site and Genially to create engaging podcasts, presentations, sites, and interactive images, tailored to specific audiences. Additionally, they learned about key design principles, such as the importance of audience consideration, color schemes, and typography. Ultimately, participants are now better equipped to develop effective, asynchronous learning materials that enhance language learning in online settings.

VII. RECOMMENDATIONS

The Specialization Course in the Administration of Virtual Environments for Foreign Languages Teaching and Learning is completely useful to all undergraduates, for that reason is essential the respective authorities of the Language Department, and the teacher in charge take notice the following suggestions:

1. Be up to date with the latest platforms and tools used in Education since the pace of technological change is much faster now than it has been in the past.
2. Consider the possibility of transitioning from synchronous to asynchronous online courses, so undergraduates can schedule their weekly course activities around their other personal and professional responsibilities.
3. Increase course flexibility by allowing learners more freedom in assignment deadlines or providing additional resources for those who may struggle to keep up with the pace of the course.
4. Establish an efficient communication system by implementing a direct and accessible method of communication between students, faculty, and the department. This system should enable the prompt and effective resolution of academic or technical questions, ensuring that students receive timely support.

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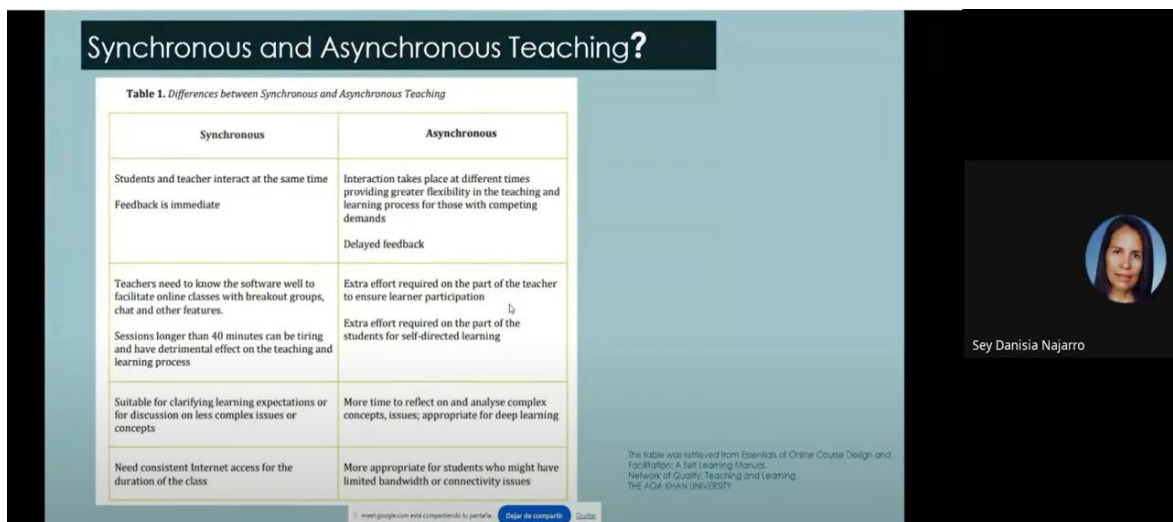
IX. APPENDIXES

IX.1. Appendix A

Screenshots of virtual activities

Figure A1

Differences between Synchronous and Asynchronous Teaching.



Synchronous and Asynchronous Teaching?

Table 1. Differences between Synchronous and Asynchronous Teaching

Synchronous	Asynchronous
Students and teacher interact at the same time Feedback is immediate	Interaction takes place at different times providing greater flexibility in the teaching and learning process for those with competing demands Delayed feedback
Teachers need to know the software well to facilitate online classes with breakout groups, chat and other features. Sessions longer than 40 minutes can be tiring and have detrimental effect on the teaching and learning process	Extra effort required on the part of the teacher to ensure learner participation Extra effort required on the part of the students for self-directed learning
Suitable for clarifying learning expectations or for discussion on less complex issues or concepts	More time to reflect on and analyse complex concepts, issues; appropriate for deep learning
Need consistent Internet access for the duration of the class	More appropriate for students who might have limited bandwidth or connectivity issues

This table was retrieved from Essentials of Online Course Design and Facilitation: A Self-Learning Manual, Network of Quality Teaching and Learning, THE ADA KHAN UNIVERSITY

1 meet.google.com/.../compared-to-jarvis?ui=video [Dejar de compararlo](#) [Quitar](#)

Sey Danisia Najarro

Figure A2

Creating a site on milaulas.com



Moodle | Página Principal | Área personal | Mis cursos | Administración del sitio

General

- Avisos
- Perfiles

Julio Blues Music

- Blues harmonica music
- Muddy Waters Blues Music...

Didi

- Play Station | Ratchet and ...
- RyC Rift apart
- Trailer for Ratchet and Clank

Bryan

- Introductions & Greetings

Maria

- Introductions & Greetings

Cristina - Hobbies

- Hobbies
- Hobbies and mental health

Greetings and Introductions.
Verb be: singular and negative statements.

Link:

M M MARIE, THE RECEPTIONIST

Modo de edición

Figure A3

Moodle infographic

MOODLE

What is Moodle?

Moodle is a free, online Learning Management system enabling educators to create their own private website filled with dynamic courses that extend learning, any time, anywhere.

Story

Moodle was born from a desire to give educators a way to create quality education experiences over the internet.

From its humble beginnings in 1999, Moodle LMS has constantly evolved through our commitment to pedagogy, open source philosophy, and a collaborative global community of like-minded educators and technologists.

Features

- Easy to navigate on both desktop and mobile devices.
- Display current, past and future course.
- Work and learn together in forums, wikis, glossaries, database activities, and much.
- Drag and drop files from cloud storage services including MS OneDrive, Dropbox and Google Drive.
- Simple and intuitive text editor.
- Users can receive automatic alerts on new assignments and deadlines.
- There are several ways to track student progress.

Who can use it?

Whether you are a teacher, student or administrator, Moodle can meet your needs. Moodle's extremely customisable core comes with many standard features.

Requeriments

- Disk space: 200MB for the Moodle code, plus as much as you need to store content. 5GB is probably a realistic minimum.
- Processor: 1 GHz (min), 2 GHz dual core or more recommended.
- Memory: 512MB (min), 1GB or more is recommended. 8GB plus is likely on a large production server.

Figure A4

Using Google classroom

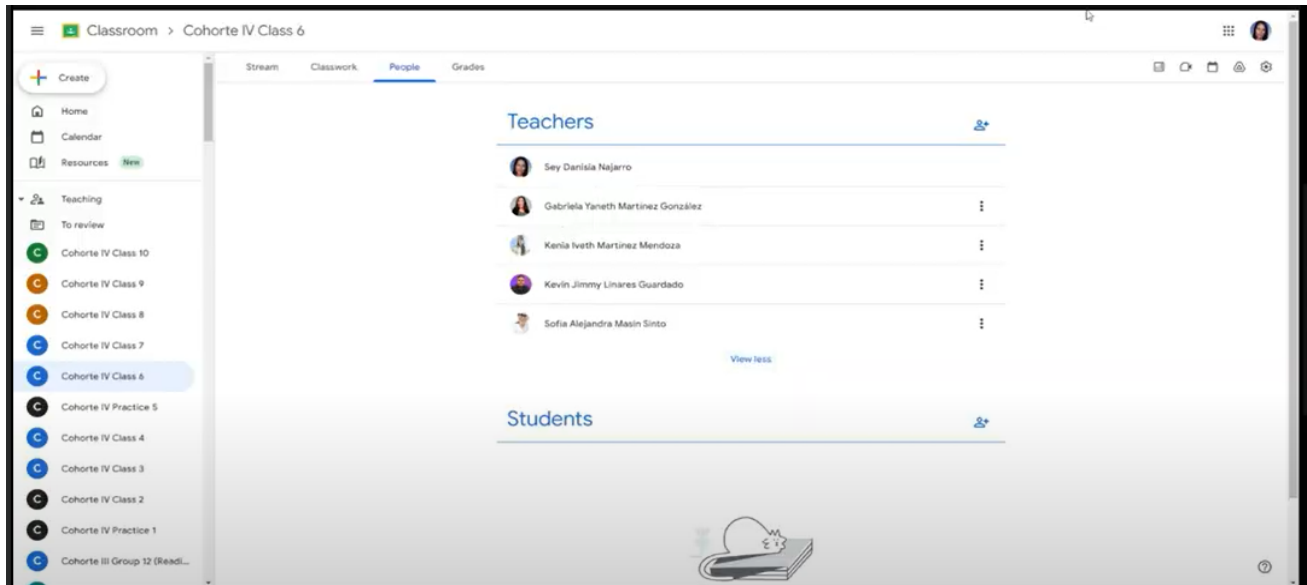


Figure A5

A demo class through Google Meet



Figure A6

Interactive Image in Genially



Figure A7

Interactive Image in Genially

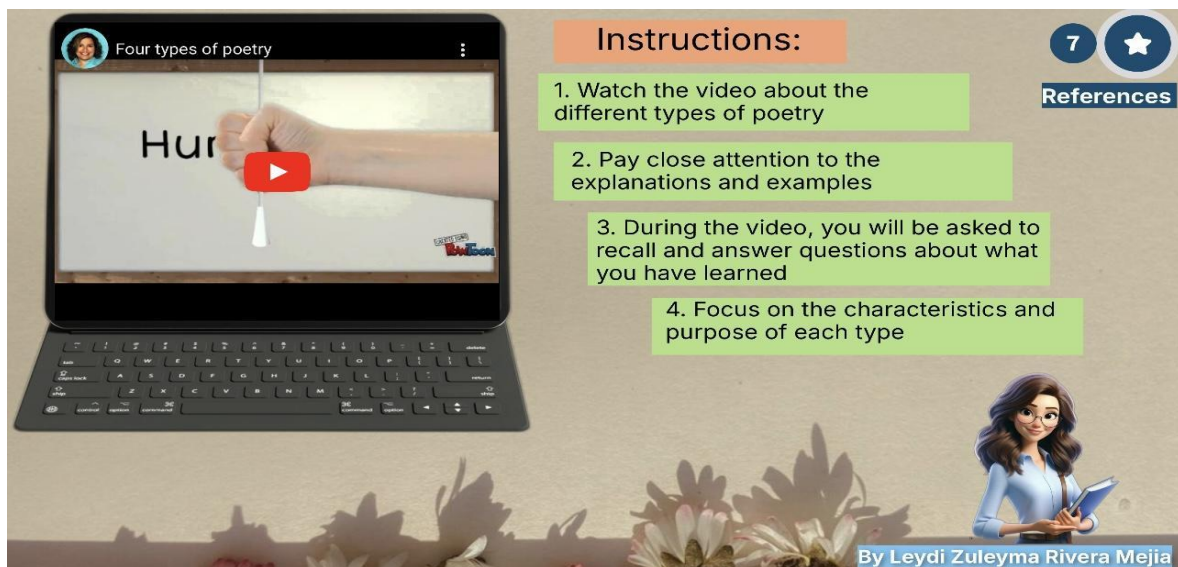


Figure A8

Interactive image in Genially



Figure A9

Podcast

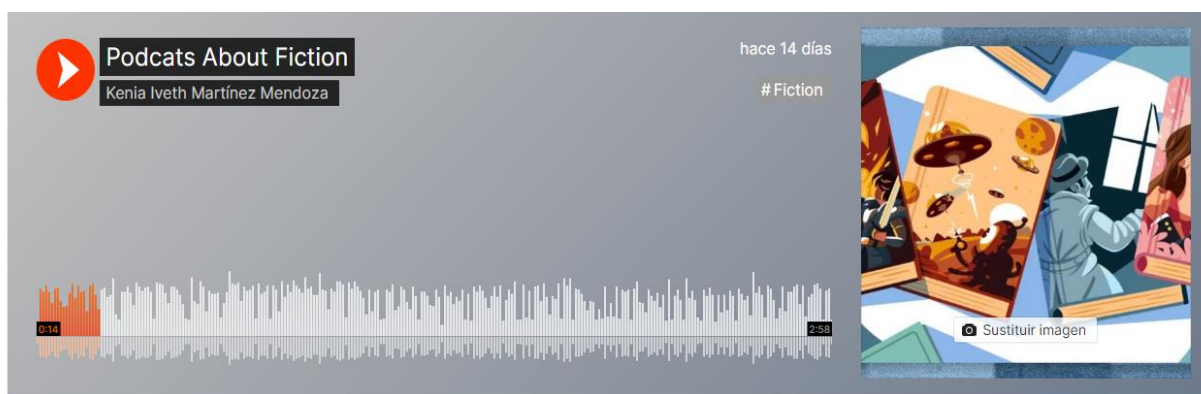


Figure A10

Creating presentation in Google Slide

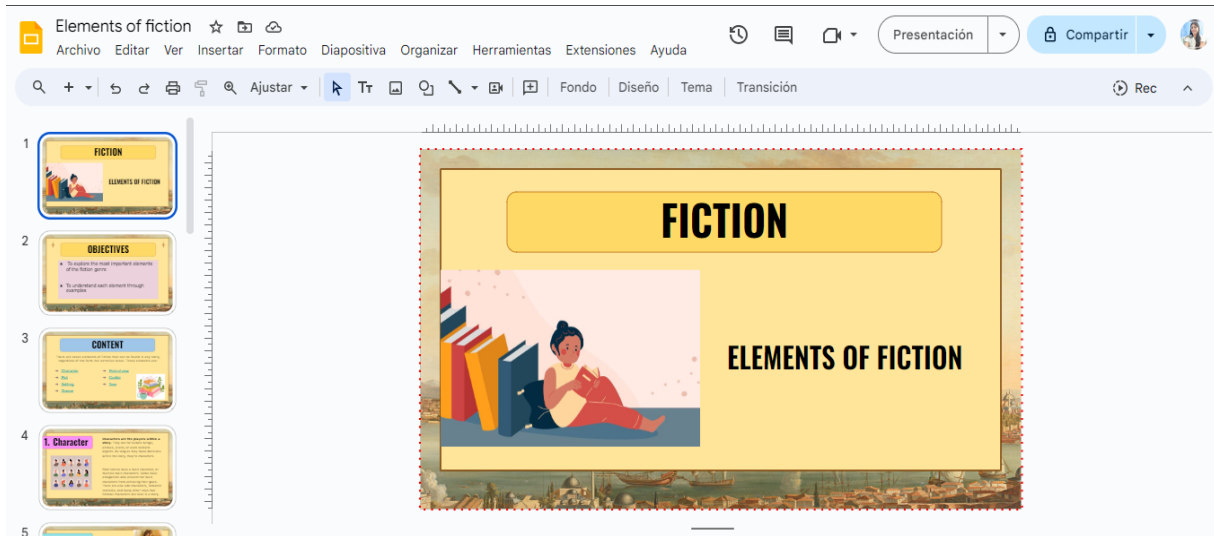


Figure A11

Podcast

