Artificial Intelligence in the EFL Learning Process for Dominican Higher Education

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Index Page

Abstract
This research work, explores the important incidence that Artificial Intelligence has have in the development of modern higher education and education at all in our country, the Dominican Republic, before, during, and after the Sanitary Emergence brought by the Covid-19 Pandemic.

Through this ***Documentary Research***, we examine in details the case of the Dominican Republic as compared to those cases occurred in the international arena, as a means for reflection and understanding of this phenomena called Artificial Intelligence on its different modalities since Computerizing and Internet changed our lives, decades ago.

It is the purpose of this work to bring light to the said technological phenomenon, which has been ultimately the product of fears on the emergence of a ***Robotized Society,*** where we the Human Beings would lose our capacity of controlling the machines.

Although our focus of interest lies on EFL Teaching-Learning Processes, it does not refer exclusively to this particular field of education, but to it different components, such as Applied Linguistics, Psychological factors and Modern Technology (CIT'S) as well, reason why a Multidisciplinary Team was formed to undertake this task.

Keywords: Artificial Intelligence, Virtual Classes in Higher Education, EFL Teaching and Learning Processes. Psychological Features, Technophilia and Technophobia.

Introduction

This Documentary Investigation constitutes a real challenge for us, in the sense of its being the very first time embarking in such a project. Although the work has been conducted with a strict adherence to the scientific laws and norms and rules of the academic laboratories, that feeling of *committing a crime* has accompanied through the development of this experimentation.

Humanities and Social Sciences, in our case the field of Applied Linguistic for the teaching-learning process of English as a Foreign Language (EFL), or as a Second Language (ESL), in Dominican Higher Education Institutions, have been historically excluded from the consideration of the Academy of Sciences and the Ministry of Education or Higher Education, when it comes to consider them as sciences up to the point of neglecting or denying us, the community of foreign language investigators the right to be recognized or awarded. It has been now, in recent times, that that Stalinist attitude has been abandoned due to the force of social gravity, or perhaps, out of the fear, of the national or international condemn.

Exploring and Interpreting the reality of any social phenomenon through the scope of a *literary revision*, explicitly a documentary research has not been a common task, but the exception in the academic community, and those who have embarked in it have been the focus of an acrid criticism.

Despite of that situation or those considerations, we firmly believe that this analysis, which is the product of a Multidisciplinary Team (Scholars, Linguists and Psychologists), on the situation of Artificial Intelligence in our country, could have not been better interpreted than through this particular scope of a literary examination on the lights of what has been happening in the international arena, cause this technological trend, to say it in a word is still unknown in our country.

It is our hope that through this four chapters, the spirit of a pure science can be understood in its real dimension, and that any type of prejudices or wrong preconception may fall apart, for the sake of a good social science in the Dominican Republic.

Chapter I: Theoretical Framework

Statement of the Problem

The Teaching-Learning Process of English as a Foreign Language (EFL), our area of teaching performance at the Universidad Autonoma de Santo Domingo-UASD-, was positively affected, through the use of Virtual Classrooms and/or Videos- conferences, the product of the work of the so-called **Professors-Contentists**, a whole series of experts, who supplied and uploaded the programmatic contents of a large number of subjects to the university's Virtual Platform. Those subjects that are included in the Curriculum of the Degree Programs (Bachelor's Degree in Modern or Foreign Languages, in its English or French mentions), and that are offered by our School of Foreign Languages (Escuela de Idiomas), belonging to the Faculty of Humanities of our Alma Mater.

This not very numerous teaching elite carried out this gigantic technological work, directed at that time towards Virtual Teaching in the pre-pandemic period and it was logically a free option for teachers. The vast majority or almost all of the teachers continue with in-person classes.

With the emergence of the Covid-19 Health Emergency, all Sections of the Nine (9) Faculties of our university, that is, more than 200,000 (Two Hundred Thousand) students, were forcibly and massively converted into Virtual Classes or Virtual Classrooms, through a Technological Platform set up by the High Authorities, like all universities around the world, ipso facto becoming Virtual Teachers or Tutors, and using therefore a Modality of Artificial Intelligence.

To that respect, Professor and business consultant Andrés Rojas highlighted the challenges and opportunities that higher education in the Dominican Republic faces in the face of artificial intelligence (AI), highlighting the importance of understanding the impact that these new technologies are having in all areas of modern life, particularly in the educational and academic field.

He pointed out the potential that *"AI has to significantly improve the higher education sector in the country and how universities can take advantage of it as a tool to update curricular content, implement personalized learning, provide feedback and automated evaluation, offer virtual tutoring and help educators not fear being displaced, but rather adapt and take advantage of it as a complementary tool to improve teaching.*
Professor and business consultant Andrés Rojas highlighted the challenges and opportunities that higher education in the Dominican Republic faces in the face of artificial intelligence (AI), highlighting the importance of understanding the impact that these new technologies are having in all areas of life. modern, particularly in the educational and academic field".

In addition, the professor at the Graduate and Master's School of the Universidad Católica Santo Domingo (UCSD) mentioned that through the use of AI, universities can optimize their administrative processes by automating activities such as enrollment management, class scheduling, evaluation performance, payment processes and administration of financial resources, among others. (Rojas, 2023)

In addition to this, an expert from the Dominican Ministry of Education-MINERD- (name omitted in the article), stated as follows: "*Artificial Intelligence has already been applied to education mainly in some tools that help develop skills and testing systems. As AI educational solutions continue to mature, the hope is that AI can help meet teaching-learning needs and enable schools and teachers to do more than ever before.*
Artificial Intelligence can drive efficiency, personalization and streamline administration tasks to allow teachers the time and freedom to provide understanding and adaptability, uniquely human capabilities that machines would struggle with"

This expert went on by furthering stating "*Within the framework of the Digital Republic in the area of the Dominican Educational System, the different strategies used by several companies such as* ***Content Technologies*** *and* ***Carnegie Learning****, which currently develop intelligent instructional design and the digital platforms they use to provide learning, testing and feedback to students from preschool through college level that gives them the challenges they are ready for, identifies gaps in knowledge, and redirects to new topics when appropriate. As artificial intelligence becomes more sophisticated, it is possible for a machine to read the expression that passes over a student's face that indicates they are having difficulty understanding a topic and will modify a lesson to respond to that. The idea of customizing the curriculum to the needs of all students is not feasible today, but it will be for machines powered by Artificial Intelligence"*

He finally stated out that "*AI tools can help make global classrooms available to everyone, including those who speak different languages or who may have visual or hearing disabilities. Presentation Translator is a free PowerPoint plugin that creates real-time subtitles for what the teacher says. This also opens up possibilities for students who are unable to attend school due to illness or who require learning at a different level or in a particular subject that is not available at their own school.*

Artificial Intelligence can help break down paradigms between schools and between traditional grade levels.

An educator spends a great deal of time grading assignments and exams. Artificial Intelligence can step in and make quick work of these tasks while also offering recommendations on how to close gaps in learning. Although machines can already grade multiple-choice tests, they are very close to being able to grade written answers as well. As Artificial Intelligence steps in to automate administration tasks, it opens up more time for teachers to spend with each student. There is great potential for Artificial Intelligence to create more efficient enrollment and admission processes.
These new ways of learning may seem fantastic, but they are all achievable through the smart integration of technology, design and imagination. The only certainty about the future ahead is that it will take the present to its core, and given the way immersive technologies and artificial intelligence are going, it seems that we will have the opportunity to turn education into any innovation we can imagine" (Regional de Educacion 07, 2020)

Importance of the Problem

It is of an upmost importance, to examine and explore through this Document-based research the global phenomenon of Artificial Intelligence for what it represents on the lights of the new inventions, as well as scientific and technological advancements, in the whole world and in our country, and of the different modalities of it [Artificial Intelligence] in which science and knowledge are applied and manifested for the sake of an education of higher quality, a *Sine qua non* requirement of today's society.

In that sense, we are comparing through a series of documentations from Dominican experiences as well as, from cases of Indonesia, Turkey, South Korea and that of the United States of America., in order to have an ample scope and an internationally proven experiences, of such an unpredictable technological phenomenon of which the last words hasn't presumably said.

Justification of the Problem

As far as we know, there has not been published any research nor investigations concerning Artificial Intelligence and its relationship to Foreign Language's Teaching in the Dominican Republic at the level of higher education. It seems to be that the surprise factor (the Covid-19 Pandemic), gave no many spaces available for conducting such researches, and the scientific and or educational community found place only for recovering tasks, at least that the situation of our country, where all topics debatable concerning that matter, lies only in the legal aspects of the phenomenon [there were not Virtual Colleges at that time, legally instituted to act as such] and on the capacity to respond to that emergency or to prepare for an oncoming similar experience in the near future.

General Objective:

To establish a comparison through a documentary-based research or investigation on different experiences and National Setting of Artificial Intelligence, applied to higher education.

Specific Objectives:

1.- To analyze the Dominican experience on the lights of the application of different modalities of Artificial Intelligence in pre-college education and that of higher education.

2.-To synthetize the foreign experiences found in the documentary-based explored here.

3.-To compare the degree of Similitudes and Discordances in those different National Settings.

4.-To seek the human or technological factors that affect Virtual Educations.

Research Questions:

1.-What is intended to be Artificial Intelligence in today's society?

2.-What are the different modalities of Artificial Intelligence known today in the Dominican Society?

3.-How is Artificial Intelligence applied to higher education in our country?

4.-What are the similitudes and differences of Artificial Intelligences on their application to education in general indifferent countries?

5.-Are there any specific aspects concerning EFL Teaching in our colleges and universities?

6.- What are the technological and/ or human limitations of Virtual Classrooms as compared to Presential Classrooms?

Definition of Terms (Glossary)

1.-Artificial Intelligence

"The term 'artificial intelligence' means a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments."

U.S. GOVERNMENT: NATIONAL ARTIFICIAL INTELLIGENCE ACT OF 2020,(2023)

2.-Computer Assisted Education

Computer-assisted learning is a type of education that involves the use of computers and other technology but does not require human interaction. Wikipedia (2023)

3.-Distance Education

Distance Education is defined as instruction between a teacher and students when they are separated by physical distance and communication is accomplished by one or more technological media (American Association of University Professors, 2007; Oregon Network for Education, 2000).

4.-Computer Assisted Language Learning-CALL-

Computer-assisted language learning (CALL) is an approach to teaching and learning foreign / second languages in which computer, computer-based resources and information technology are used to present, reinforce and assess material to be learned

And is briefly defined in a seminal work by Levy (1997: p. 1) as "the search for and study of applications of the computer in language teaching and learning".[1]

5.-Virtual Classrooms

A virtual classroom is an online teaching and learning environment where teachers and students can present course materials, engage and interact with other members of the virtual class, and work in groups together. The key distinction of a virtual classroom is that it takes place in a live, synchronous setting. Online coursework can involve the viewing of pre-recorded, asynchronous material, but virtual classroom settings involve live interaction between instructors and participants.

6.-Presential Classrooms

Traditional classrooms are a completely in-person learning environment. This means that students must attend class in person in order to learn.

Traditional classrooms typically involve the teacher lecturing to the class, students taking notes, and students participating in discussions.

7.-Technological Platform

A platform is, for example, an operating system, a large piece of software that serves as a basis for running certain applications compatible with it. Hardware architecture, programming languages and their runtime libraries, video game consoles, etc. are also platforms.

8./Tecchnophilia Vs. Tecnophobia

Technophilia: people called technophiles understand and see ICT resources as a widely diversified access to information and knowledge for the student, since it makes it easier for them to understand abstract concepts, and adds more dynamism, which is why This further increases the motivation of the students in classes, in addition to allowing them to be more dynamic in the aspects that are most repeated in their work as a teacher.

Perdomo, B., Flores A. M., Tonos B. (2011) describes technophiles as the subject who uses ICT excessively, reaching dependency on them.

As for the opposite of this position, there are people called technophobes, who maintain a position of rejection or over-criticize the use of ICT since they feel and think that the use of technology endangers our culture and values. . Other arguments frequently used by the so-called technophobes are the dehumanization of the student, health implications such as

vision problems, headaches, nausea, implications in the reproductive sphere, and increased anxiety levels.

On the other hand, Perdomo, B., Flores A. M., Tonos B. (2011) considers technophobes as people who manifest phobias when integrating the use of technology into their daily routine. (Perdomo et al, 2011)

Geographical and Historical Backgrounds of the Referred Institution of this Investigation

Geographical Space

The Universidad Autonoma de Santo Domingo (UASD) is a public university in the Dominican Republic, and the first state university in the country. Its headquarters are located in the capital, Santo Domingo, and it has campuses, centers and sub-centers in 18 of 31 provinces.

History

The University of Santo Domingo was created through the Bull *In Apostolatus Culmine,* issued on October 28, 1538 by Pope Paul III, which elevated to that category the General Study that the Dominicans had run since 1518, in Santo Domingo, viceregal seat. of colonization and the oldest colonial establishment in the New World.

The University of Alcalá de Henares was its model and as such it was the standard bearer of the Renaissance ideas that emerged from the medieval world, from which Spain emerged from the days of the conquest.

The nascent University began its teachings organized into four Faculties: Medicine, Law, Theology and Arts, in accordance with the standards established at the time for similar institutions in the metropolis. The studies of Arts included two modalities, namely: the "trivium" which included Grammar, Rhetoric and Logic and the "quadrivium", which included Arithmetic, Geometry, Astronomy and Music."

Vicissitudes

In 1801, as a consequence of the Haitian occupation in the country, the University interrupted its operation, because the Dominicans, who ran it, abandoned the colony. It was reopened in 1815, when the colony returned to Spanish sovereignty, but from then on it adopted a secular character.

Between 1815 and 1821 it operated under the rectorate of Dr. José Núñez de Cáceres. The University closed its doors again in 1822 because a large number of its students were recruited for military service by order of the Haitian regime that governed the nation. With the consummation of the Independence of the Republic in 1844, the will to reestablish the University, a symbol of cultural tradition and the character of the newly acquired nationality, was reborn among Dominicans.

Responding to this claim, on June 16, 1859, President Pedro Santana promulgated a law that reestablished the ancient University of Santo Domingo, with an academic composition similar to that of medieval universities (four faculties: Philosophy, Jurisprudence, Medical Sciences and Sacred Letters) and as a dependency of the central government through the General Directorate of Public Instruction and the corresponding State Secretariat.

But for reasons of political contingencies, the aforementioned provision was not executed and the University was not reopened.

On December 31, 1866, the Professional Institute was created by decree, which functioned in place of and replacing the old University of Santo Domingo.

On May 10, 1891, the Professional Institute closed its doors, until August 16, 1895, when it reappeared under the rectorate of Archbishop Fernando Arturo de Merino.

On November 16, 1914, the President of the Republic, Dr. Ramón Báez, who was also Rector of the Professional Institute, transformed by decree the Professional Institute into the University of Santo Domingo.

From 1916 to 1924, the University had to interrupt its operations as a consequence of the North American intervention.

During the 31 years of the tyranny of the dictator Rafael Leonidas Trujillo, the University of Santo Domingo, like the other institutions of the country, was deprived of the most basic freedoms to fulfill its high mission, becoming an instrument of control. political and propagation of totalitarian slogans, in the face of whose damages the scant material progress that the Institution achieved in those years of despotic government, such as the acquisition of land and the construction of the University City, were worthless.

University Autonomy and Jurisdiction

Law No.5778 of December 31, 1961 gave the University autonomy. From that moment on, he began to struggle to achieve institutional balance and a climate of coexistence that would allow him to develop all his creative powers. But after three decades subjected to the iron will of a regime contrary to any form of human communication that did not serve its interests, it was not easy for the institution to initially use the newly acquired freedom and self-government to carry out its mission of service and contribute for the cultural and economic improvement of our people.

On February 17, 1962, the first authorities were elected under the autonomy regime. Law 5778 on autonomy also established jurisdiction for the university campus, but this was suppressed by the de facto government of the Triumvirate, through Law #292, of June 12, 1964.

Philosophy

The University is an institution that unites professors, students and support staff for academic work, with the purpose of fulfilling the university mission and vision.

The Universidad Autonoma de Santo Domingo-UASD-, is a public social heritage of high strategic interest that is part of the National System of State Higher Education, made up of the Central Headquarters, Campuses, Centers and University Subcenters, spread throughout the country's geography and abroad, with regulatory centralization and operational and interdependent decentralization, which is managed under the regime of autonomy with responsibility.

The institutional educational model of the Autonomous University of Santo Domingo is based on teaching, research and extension; It seeks to strengthen the development of critical consciousness, reflective and creative thinking, as well as the other functions and activities required to fulfill its mission.

No organization or person may use the name or symbols of the University, nor use their status as a member of the University, to satisfy particular interests of a partisan, economic, religious, or other nature.

University life will develop in accordance with a spirit of democracy, justice and human solidarity. It will be open to all currents of thought, which will be exposed and analyzed in a rigorously scientific manner.

ART 2 to ART6 of the Organic Statute.

(info@uasd.edu.do, 2023)

History of the Faculty of Humanities

From its foundation in 1538 until 1823, when it closed its doors after the Haitian occupation, the University had a Faculty of Philosophy. When it re-emerged in 1882 as a Professional Institute, inexplicably, the reestablishment of the Faculty of Philosophy was omitted. This law was reestablished on November 19, 1914. It was suppressed again on April 5, 1918 by executive order voted by the Military Government. In the General Law of Studies of December 5, 1932, the Faculty of Philosophy was reestablished, but it began to operate in 1939.

On October 21, 1939, Law 1398 was published, which in its Art. 4 establishes the Faculty of Philosophy, Letters and History as part of the university structure. A law voted by the National Congress changed its name to the Faculty of Philosophy in 1939. By law No. 1186 of May 23, 1946, the building of the Faculty of Philosophy was designated with the name "Doctor Pedro Henríquez Ureña".

Art. 2 of Law No. 4864 of February 1958 changes the name of the Faculty of Philosophy to the Faculty of Philosophy, Sciences and Education. Another law, No. 5008, of October 2, 1958, changes its name to the Faculty of Philosophy and Education. In the University Organization Law of May 13, 1959, it is established that said Faculty would be empowered to grant the academic titles of: Bachelor of Philosophy, Doctor of Philosophy and Bachelor of Educational Sciences. There would be four schools attached to the Faculty: Journalism, Languages, Social Service and Archivist Librarians

Nature

The Faculty of Humanities is an academic body of the Autonomous University of Santo Domingo responsible for the training of professionals in the area of psychology, philosophy, social communication, History and Anthropology, Letters, and Languages; This faculty promotes the development of skills that give its graduates the ability to enter the world of work in the areas of teaching, research, extension, management, environment and new information and communication technologies.

Institutional Horizon

Vision:

To be a space for training professionals that meets national and international quality standards with a defined social commitment.

Mission:

Train professionals with high humanistic, cultural, scientific, technological levels, and committed to quality professional practice that promotes respect for human dignity, diversity, the environment, social integration and sustainable development at the local level, regional, national and global.

Purposes:

To train professionals in degrees, levels and specialties, in accordance with the philosophy of the Institution, in accordance with the new demands of socioeconomic, technological, political, scientific and cultural development of society.

Train professionals from a humanistic, interdisciplinary perspective, with a high sense of social responsibility, respect for tolerance and defense of human rights, diversity and the environment.

(info@uasd.edu.do, 2023)

The School of Foreign Languages at UASD University

Professional's Profile

Teach, study and research on the use and mastery of a particular language (English) in the context of the culture and civilization in which it is used: Carry out linguistic studies, especially comparative; teaches the use of the English language as a second language, tries to transmit and make known the culture or civilization of a people or peoples through the use of language; It tries not to cause the students to destroy their own language due to linguistic acculturation; teaches the English language to students at a university or higher education institution; organizes study plans and extracurricular activities; acts as a consultant in the field of translation of texts from one language to another; can act as an interpreter or translator; edits and publishes translations.

Mission

Train professionals in Administration with a high level of capacity, knowledge and critical awareness, based on ethical and humanistic values, with the relevant skills in order to contribute to Dominican society and the global economy.

Vision

To be a School that assumes an academic offer to overcome organizational problems, lead public and private institutions, through the comprehensive training of entrepreneurial and excellent quality professionals. (info@uasd.edu.do, 2023)

Chapter II: Review of Literature

Artificial Intelligence Definitions

Let us begin by describing Artificial Intelligence, in that sense the below definition is offered by Sumakul et al (2022) as follows: "*The term Artificial Intelligence (AI) was firstly coined by John McCarthy, considered by many as the father of AI, in 1955 when he and his colleagues wrote a proposal for the 1956 Dartmouth Summer Research Project on Artificial Intelligence. In the proposal, they introduced a description of AI as machines that "… use language, form abstractions and concepts, solve kinds of problems now reserved for humans, and improve themselves" (McCarthy et al., 2006, p. 12). Since then, AI as a branch of computer science started to develop. In its course of history, the studies and developments of AI diverged, where the discussions and contributions came from researchers and engineers from different fields, not only computer science but also anthropology, biology, philosophy, psychology, and linguistics (Luckin et al., 2016)"*

Ermağan (2022) brought us the following considerations:

The Fourth Industrial Revolution is especially based on knowledge. Artificial intelligence as one of the innovative technologies has a critical position in the Fourth Industrial Revolution (Russell & Norvig, 2019)

Machine learning lies at the heart of artificial intelligence technologies. With deep learning and the endless algorithms, life becomes more flexible, fast, comfortable and risky. On the one hand, while new jobs are being produced, on the other hand, some professions are either decreasing in importance or disappearing (Andrew, 1991; Ermağan, 2020; Charniak & McDermot, 1985).

It must be stated that such a reality seems far (if not impossible) yet. This vital problematic raised the question: "Can robots really destroy humanity?". Experts make statements as optimistic and pessimistic, statements made and the events encountered both increase people's attention and worry about the issue (Bakırtaş & Çavuş, 2020). In other words, generating ideas about the future of the relationship between humans and AI will be to note the trajectory of human beings (Tegmark, 2017).

On the back cover of Kurzweil's book, Bill Gates wrote: "The author's new book, which makes people curious, predicts a future where information technologies develop rapidly enough to allow humanity to transcend the biological boundaries and transform our lives in ways that we cannot even imagine today." (Kurzweil, 2016). Such that, two Microsoft executives Brad Smith and Harry Shum suggest that AI can replicate the characteristics of humans and that users will become twins with AI in the next 20 years (Microsoft Corporation, 2018).

Nevertheless, it is a fact that with the algorithms used by computers, solutions can be found to many problems of humanity (Christian & Griffiths, 2017). It is also a fact that

artificial intelligence applications make life easier. Main application areas of AI can be sorted as speech recognition, image processing, natural language (tongue) processing and reasoning. In daily life, it is mainly used in the following areas: Cyber security and defense industry, voice assistants, language translations, suggestion systems, navigation, social security, healthcare, e-Commerce, assistant robot applications (Pannu, 2015). In context of developing artificial intelligence technologies, the critical advances have been realized in recent years. There are especially three stages which can be seen below: (pp 202-204)

Artificial Intelligence and Language Learning

What kind of benefits could artificial intelligence provide in education? Let's start our analysis by answering this question: "The highlights of the forums where the world's leading technology leaders come together and seek answers to this question are as follows: It provides a personalized perspective on the artificial intelligence learning process . • Artificial intelligence helps that students realize their shortcomings and strengths more easily.

• Artificial intelligence can closely monitor the development processes of students.

• Artificial intelligence can support content production faster.

• Artificial intelligence can help increase quality and facilitate access to information." (Balçıkanlı, 2019):

In all educational activities, language learning is an issue that takes effort and time. Artificial intelligence technologies also affect language teaching and provide efficiency with advanced teaching techniques against traditional models.

Artificial intelligence is used not only to support learning, but also in many different areas such as teaching, assessment, classroom management, administrative affairs, teacher duties and school management (Arslan, 2020).

By using artificial intelligence, it is aimed to create individualized educational contents and environments that support the personal development of students. Artificial intelligence also takes into account the individual characteristics of the target person or group for successful self-learning.

One of the difficult and complex aspects of language education begins when the individual characteristics of the target audience come into play (Ermağan, 2022). Artificial intelligence undertakes a mission to solve this problem. In addition, projects are being developed to prepare educational content for schools and teachers in order to provide artificial intelligence education to students starting from primary school.

According to Hovsepyan there are four advantages there:

• Providing instant feedback: One of the greatest advantages of artificial intelligence in language learning is the immediate correction of mistakes in tests and exercises. Instead of

waiting for days to receive feedback, learners receive on-the-spot responses that they can take immediate action to fix.

• Eliminating the fear of failing: The way this feedback is given is not judgemental. Making mistakes is completely normal, yet some people feel uncomfortable or embarrassed The AI tools do not criticize learners in front of the classroom but instead evaluate them without judgment.

• Personalizing the needs of learners: Thanks to data collection and predictive analytics software, AI tools allow learners to create their own learning paths, adapting to the user's personal needs and interests. Learners can choose their level and topics they're interested in, and most language apps will offer personalized curriculums with personalized games and quizzes.

• Gamification: This brings us to an important element in e-learning that fosters motivation and competitiveness—gamification. The usage of gaming elements such as quizzes, marathons, and contests has increased engagement and enjoyment among learners." (Hovsepyan, 2022)

Another perspective is offered by Yang et al (2022), where they states that: AI in language education AI-supported technology in language learning can be viewed as a subset of computer-assisted language learning. The areas relevant to AI in computer assisted language learning are natural language processing, automatic marking and feedback systems, adaptive educational systems, and intelligent tutoring systems. (Pokrivčáková, 2019; Schulze, 2008).
The shift from computer-assisted language learning to intelligent computer-assisted language learning featured big data processing and machine learning algorithms and has brought a substantial change in student-computer interaction (Kannan & Munday, 2018; Pokrivčáková, 2019).
The benefits included reducing time, cost and learners' frustration and anxiety, quick assessment with instant feedback, and predicting learners' future performance (Pokrivčáková, 2019). For example, the intelligent language tutors collected learner data to build learner corpus and learner models, and to tailor learning content based on learners' needs and progress.
Teachers and researchers can also use this learner corpus to predict learners' performance or learning challenges (Godwin-Jones, 2019). Meanwhile there are three challenges in the area of AI-supported language learning.
The first is a relative lack of empirical research in the aspects of pedagogical effects, learners' interaction with AI-supported language learning, and teachers' and students' attitudes towards AI technology (Pokrivčáková, 2019). Together with the rapid development of AI technology in education, there has been a boom in research in the area

of language learning. Therefore, researchers call for more systematic reviews and empirical analysis of AI in language education (Liang et al., 2021).
The second challenge is the technology barrier, such as the dialogic competence of AI, which has imposed some difficulties in applying AI in language learning (Weigand, 2019). The third challenge is overcoming people's perceptions and fear of AI; for example, whether language learning/teaching will be needed in the future due to the development of AI (Godwin-Jones, 2019). To date, there have been several review studies on the use of AI in language education. Some focused on specific language skills supported by AI, such as the effect of an intelligent tutorial system on reading comprehension (e.g., Xu et al., 2019). Others looked at specific technology, such as chatbot (Smutny & Schreiberova, 2020).

Yet, there have been limited comprehensive research reviews related to the use of AI in language education (Liang et al., 2021).

The systematic review by Liang et al. (2021) covered the research of the last 30 years and revealed that during the period 1999 to 2006, research published in this area comprised mainly of conceptual papers with limited empirical data support. This was confirmed by the Zawacki-Richter et al. (2019) review which identified 2007 as a significant year in the development of AI in education when iPhone's Siri was introduced.

Therefore, this systematic review focused on the empirical studies using AI in language learning from the year 2007 to 2021, with the aim being to illustrate the trends in the empirical research on AI in language learning. In addition, this review only included papers published in peer-reviewed journals.

The criterion of being a peer reviewed paper has been viewed as a baseline of quality for published research in a specific field (Bond et al., 2020). In addition, this review summarised the limitations of each reviewed paper to bring insights about the future research needed. (p 182)

Whereas from the perspective of the US Department of Education Technological Office (2023) the need for implementing and enhancing are summarized as follows:

First, AI may enable achieving educational priorities in better ways, at scale, and with lower costs. Addressing varied unfinished learning of students due to the pandemic is a policy priority, and AI may improve the adaptivity of learning resources to students' strengths and needs. Improving teaching jobs is a priority, and via automated assistants or other tools, AI may provide teachers greater support. AI may also enable teachers to extend the support they offer to individual students when they run out of time. Developing resources that are responsive to the knowledge and experiences students bring to their learning—their community and cultural assets—is a priority, and AI may enable greater customizability of curricular resources to meet local needs.

As seen in voice assistants, mapping tools, shopping recommendations, essay-writing capabilities, and other familiar applications, AI may enhance educational services.

Second, urgency and importance arise through awareness of system-level risks and anxiety about potential future risks. For example, students may become subject to greater surveillance.
Some teachers worry that they may be replaced—to the contrary, the Department firmly rejects the idea that AI could replace teachers. Examples of discrimination from algorithmic bias are on the public's mind, such as a voice recognition system that doesn't work as well with regional dialects, or an exam monitoring system that may unfairly identify some groups of students for disciplinary action.

Some uses of AI may be infrastructural and invisible, which creates concerns about transparency and trust. AI often arrives in new applications with the aura of magic, but educators and procurement policies require that edtech show efficacy. AI may provide information that appears authentic, but actually is inaccurate or lacking a basis in reality.

Of the highest importance, AI brings new risks in addition to the well-known data privacy and data security risks, such as the risk of scaling pattern detectors and automations that result in "algorithmic discrimination" (e.g., systematic unfairness in the learning opportunities or resources recommended to some populations of students).

Third, urgency arises because of the scale of possible unintended or unexpected consequences. When AI enables instructional decisions to be automated at scale, educators may discover unwanted consequences.

In a simple example, if AI adapts by speeding curricular pace for some students and by slowing the pace for other students (based on incomplete data, poor theories, or biased assumptions about learning), achievement gaps could widen.

In some cases, the quality of available data may produce unexpected results. For example, an AI-enabled teacher hiring system might be assumed to be more objective than human-based résumé scoring. Yet, if the AI system relies on poor quality historical data, it might de-prioritize candidates who could bring both diversity and talent to a school's teaching workforce.
In summary, it is imperative to address AI in education now to realize key opportunities, prevent and mitigate emergent risks, and tackle unintended consequences. (p8)

Chapter III: Methodological Design

Characteristics of the Documentary Research

As explained in earlier chapters, this is a Documentary Research or a Document-based Research, so it is very convenient to examine some definitions of this type of research, before moving on to the analysis of some documents.

As explained and defined by Ahmed (2010)

"*A broad definition of a document is a 'written text'. Document "must be studied as socially situated products" (Scott, 1990: 34). It is defined as "any written material other than a record that was not prepared specifically in response to some requests from the investigator" (Guba and Lincoln, 1981: 228). Silverman (1993) has provided a classification of documents as i) files, ii) statistical records, iii) records of official proceedings and iv) images. Guba and Lincoln (1981) distinguish between documents and records"*

They define a record as "any written statement prepared by an individual or an agency for the purpose of attesting to an event or providing an accounting" (Guba and Lincoln, 1981: 228). Doing documentary research is much more than "recording facts". It is a reflexive process in which we confront what researcher calls the "moral underpinnings of social inquiry" (Coles, 1997: 6). "Documents do not stand alone" (Atkinson and Coffey 1997: 55), but need to be situated within a theoretical frame of reference in order that its content is understood. It is an important source of information, and such sources of data might be used in various ways in social research. Many researchers (Bailey 1982; 1994; Polit and Hungler 1991, Treece and Treece 1982; Webb, Campbell, Schwarz and Sechrest 1984) stated that document researches include institutional memoranda and reports, census publications, government pronouncements and proceedings, diaries and innumerable other written, visual and pictorial sources in different forms and so on. In a similar view, Denscombe (1998: 163) advocates, "government publications and official statistics would seem to be an attractive proposition for the social researcher."

This research method is often marginalized or when used, it only acts as a supplement to the other general social research methods. Documentary research method refers to the analysis of documents that contains information about the phenomenon we wish to study (Bailey 1994). The documentary research method is used in investigating and categorizing physical sources, most commonly written documents, whether in the private or public domain (Payne and Payne 2004).

This research method is just as good as and sometimes even more cost effective than the social surveys, in-depth interview or participant observation. Documentary research has been a staple of social research since its earliest inception. Documentary products are especially important for the ethnographer, providing a "rich vein for analysis" (Hammersley and Atkinson, 1995: 173). Along with surveys and ethnography, documentary research is one of the three major types of social research and arguably has been the most widely used of the three, throughout the history of sociology and other social sciences. It

has been the principal method, sometimes even the only one - for leading sociologists" Ahmed (page 2).

He went on to complete these definitions by asserting the main features or characteristics that accompany this singular research method as follows:

2.1 Authenticity

Authenticity refers to the truthfulness of origins; evidence is genuine, attributions, commitments, sincerity, devotion, and intentions. Authenticity of an evidence for analysis is the fundamental criterion in any research. The researcher therefore has a duty and a responsibility to ensure that the document he is consulting is genuine and has integrity.

2.2 Credibility

Credibility refers to the objective and subjective components of the believability of a source or message, whether the evidence is free from error and distortion. According to Wikipedia (2009), credibility has two key components: trustworthiness and expertise, which both have objective and subjective components.

2.3 Representativeness

The question of representativeness applies more to some documents than to others. Representativeness refers to whether the evidence is typical of its kind or not, to the extent of its untypicality known.

2..4 Meaning

Meaning refers to whether the evidence is clear and comprehensible. The ultimate purpose of examining documents is to arrive at an understanding of the meaning and significance of what the document contains (Scott 1990) (pp 3-5)

Table 1: Advantages and Disadvantages of using a Documentary-Research Method

Advantages	**Disadvantages**
1.-Readibly available data.	1.-Limited readibly available data.
2.-Non-expensive and economic form of data.	2.-Inexactitudes in original material.
3.-Time saving.	3.-Biased deposits.
4.-No presence of researchers during	4.-Total or partial document?
data collection.	
5.- Hypothesis formulation usefulness.	5.-Out of context data.

Original source of this re-formed table: Appleton and Cowley (1977), *Journal of Advance Nursing*, 25,1008-1017

Document Analysis

The documentation to be analyzed and partially cited here, are the following ones:

1.- **Artificial Intelligence in EFL Classrooms: Friend or Foe**?

By: Dian Toar Y. G. Sumakula*, Fuad Abdul Hamiedb , Didi Sukyadic.

Abstract

The disruptive impacts of Artificial Intelligence (AI) are currently affecting various aspects of society, including education. Despite some doubts and fears, many studies suggest that AI could offer advantages to education, and AI based applications have been developed for teaching and learning, and English as a Foreign Language (EFL) classrooms in particular. One way to understand whether AI could be harmful or beneficial to EFL teaching and learning is to see from the teachers' perceptions. Hence, this study investigated how teachers perceive the use of AI in their EFL classrooms. The data was collected through interviews with four EFL teachers in a university in Indonesia who have had the experience of integrating AI in their teaching practices. The results show that all teachers had positive perceptions towards the use of AI in their classrooms. The teachers agreed that AI could help teachers teach and students learn. Moreover, the interview data also indicates that students' motivational levels and teachers' technological and pedagogical competence should be put into consideration when integrating AI into EFL classrooms.

Conclusion

Friend or foe? This study suggests that Artificial Intelligence (AI) could be considered as a friend. This claim is based on the findings of this study concluding that the participants have positive perceptions regarding the application of AI technology in their English as a Foreign Language (EFL) classrooms. In general, the participants agreed that AI could help teachers teach and students learn. Moreover, two additional aspects were found worth considering when integrating AI in language classrooms. They are students' motivational levels and teachers' technological and pedagogical knowledge. AI is a relatively new technology, but it is changing the world. Particularly, in the field of language teaching and learning, there have been some developments affecting how teachers teach and how students learn. This study has revealed some of the issues regarding this matter. To have a better understanding on this issue, however, more data involving more teachers with different contexts are needed. It would also be more complete if this could be seen from the point of view of the students and other stakeholders of education in general or in the context of language teaching and learning in particular.

Artificial Intelligence and the Future of Teaching and Learning

By: The Office of Educational Technology of the USA.

Introduction

The U.S. Department of Education (Department) is committed to supporting the use of technology to improve teaching and learning and to support innovation throughout educational systems. This report addresses the clear need for sharing knowledge and

developing policies for "Artificial Intelligence," a rapidly advancing class of foundational capabilities which are increasingly embedded in all types of educational technology systems and are also available to the public. We will consider "educational technology" (edtech) to include both (a) technologies specifically designed for educational use, as well as (b) general technologies that are widely used in educational settings.
Recommendations in this report seek to engage teachers, educational leaders, policy makers, researchers, and educational technology innovators and providers as they work together on pressing policy issues that arise as Artificial Intelligence (AI) is used in education. AI can be defined as "automation based on associations." When computers automate reasoning based on associations in data (or associations deduced from expert knowledge), two shifts fundamental to AI occur and shift computing beyond conventional edtech: (1) from capturing data to detecting patterns in data and (2) from providing access to instructional resources to automating decisions about instruction and other educational processes. Detecting patterns and automating decisions are leaps in the level of responsibilities that can be delegated to a computer system. The process of developing an AI system may lead to bias in how patterns are detected and unfairness in how decisions are automated. Thus, educational systems must govern their use of AI systems. This report describes opportunities for using AI to improve education, recognizes challenges that will arise, and develops recommendations to guide further policy development.

Key Recommendation: Seek AI Models Aligned to a Vision for Learning

We've called attention to how advances in AI are important to adaptivity but also to ways in which adaptivity is limited by the model's inherent quality. We noted that a prior wave of edtech used the term "personalized" in differing ways, and it was often important to clarify what personalization meant for a particular product or service. Thus, our key recommendation is to tease out the strengths and limitations of AI models inside forthcoming edtech products and to focus on AI models that align closely to desired visions of learning. AI is now advancing rapidly, and we should differentiate between products that have simple AI-like features inside and products that have more sophisticated AI models.

Looking at what's happening in research and development, we can see significant effort and push toward overcoming these limitations. We noted that decision makers need to be careful about selecting AI models that might narrow their vision for learning, as general artificial intelligence does not exist.
And because AI models will always be narrower than real world experience, we need to proceed with systems thinking in which humans are in the loop, with the strengths and weaknesses of the specific educational system considered. We hold that the full system for learning is broader than its AI component.

3.- Innovative Technology and Education: Artificial Intelligence and Language Learning in Turkey.
By: Elif Ermağan İstanbul Medeniyet University, Turkey

Abstract

During the Fourth Industrial Revolution, especially in the internet age, digitalization and smart uses have significantly increased today, and they also deeply affect life and learning forms. Since language education is a difficult process, learners must make great efforts in the world. In this sense, the importance of traditional methods has decreased with the increase of technological inputs. In this study, the potential of using artificial intelligence technologies in language learning, which have radically increased worldwide, is analyzed. In addition to this, artificial intelligence language applications in Turkey and Turkish are examined. Here, it is claimed that, with artificial intelligence applications, language learning has become easier with some visual exercises and especially a non rote-oriented approach there. Moreover, it is noticed that Turkey has started to develop language learning programs based on artificial intelligence, and despite the shortcomings, some productive artificial intelligence applications have been developed to learn Turkish. These findings suggest that the modern society necessitates innovative technology in teaching language or any subjects, and it is important to understand the advantages of employing a collaborative technique in learning the subjects.

Keywords: Fourth Industrial Revolution, Artificial Intelligence, Education, Language Education, Turkish Learning.

Conclusion:

In this study, first of all, how artificial intelligence can be used in language education is explained, and then similar studies in Turkey are examined. Today, technology is transforming many branches of life. The Fourth Industrial Revolution has been advancing especially since the 2010s, and artificial intelligence is one of the most fundamental elements here.

It includes smart applications developed with various algorithms based on artificial intelligence. It is possible to see these smart applications in many areas. Around the world, the use of artificial intelligence applications in the field language education increases day by day.

Artificial intelligence applications aim to facilitate the work of human beings trying to keep up with the changing and transforming world. In particular, the pandemic process has reduced the functions of existing methods and revealed new training needs suitable for the era and the process. It is observed that artificial intelligence makes a healing contribution to the learner, the instructor and the learning process, and offers facilitating techniques by taking into account the individual differences of the learner. Especially e-learning platforms, online courses and mobile applications for educational purposes, making individual-specific analysis and giving feedback on the deficiency of the individual are among the factors that will increase the efficiency in language education.

In order to establish more effective education system, artificial intelligence and its applications are needed with innovative inventions. As a result of these developments, traditional education methods have partially lost their importance. Contemporary methods with artificial intelligence increase productivity by making training flexible. However,

because of the fundamental effect of the teacher-student interaction on language learning, it seems that human beings will continue to be critical in education.

4.- The current research trend of artificial intelligence in language learning: A systematic empirical literature review from an activity theory perspective

By: Hongzhi Yang The University of Sydney, Australia

And Suna Kyun Sookmyungv Women's University, South Korea

Abstract

Although the field of artificial intelligence (AI) has rapidly developed, there has been little research to review, describe, and analyze the trends and development of empirical research on AI-supported language learning. This paper selected and analysed 25 empirical research papers on AI-supported language learning published in the last 15 years. These empirical studies were analysed using the activity theory from seven constituents: tool, subject, object, rules, community, division of labour, and outcome. A key contribution of this paper is the use of activity theory to illustrate the dynamic interactions and contradictions between the seven elements. AI-supported technology as a mediating tool demonstrated some effectiveness in language learning but needs further improvement in the use of language for communication and collaborative design. We argue that teachers' intervention and configuration of AI-supported language learning in the pedagogical design plays an important role in the effectiveness of learning.

More research is needed to explore the use of AI-supported language learning in the classroom or the real-life learning context. Implications for practice or policy:

•Research on AI-supported language learning should view teacher and students as active agents in interacting with technology and making transformations in real life learning situations.

•More research should focus on productive dialogue and communication in AI-supported language learning with collaborative design.

•A mixed module of AI-supported language learning and formal teacher instruction should be incorporated in pedagogical design.

Keywords: artificial intelligence, language teaching, language learning, activity theory, empirical literature review, AI-supported language learning

Conclusion, limitations, and future research direction

The reviewed studies were analyzed in terms of the seven components of activity theory, revealing the trends of research in the field of AI-supported language learning.
Based on the analysis of the interconnection between these seven components, this paper noted some pedagogical implications and proposed future research areas. One pedagogical

implication is that a mixed module of AI-supported language learning and formal teacher instruction should be incorporated in the pedagogical design.

One way to do this is to design bridging activities between formal classroom instruction with after-class online learning, in terms of providing support and resources for learners to work autonomously online (Little & Thorne, 2017).
The second implication is to use AI-supported language learning to support learner collaboration in language learning, as research shows that learners still prefer working with their peers in conjunction with the AI-supported language learning.

We acknowledge that one limitation of this review paper was the relatively small sample for review. Due to the accessibility issue, the small size of the reviewed study cannot ensure the generalizability of the findings to other language learning contexts.

The second limitation is that we did not carry out a separate quality appraisal of the studies.

The third limitation lies in the method of calculating inter-rater reliability, which could be further improved by using the statistic to measure accuracy and precision (Belur et al., 2021).The trend towards hybrid learning models also indicates a future direction for the research on AI-supported language learning, moving from an experimental setting to the research on learner's interaction with AI in real life situations.

Another future research direction would be the mediation of AI-supported language learning in collaborative learning design. This review suggests several future research directions, including how language and meaning are negotiated in the interaction with AI, teacher and students' cultural role in the interaction of AI, as well as the impact on the power structure during their interactions with AI.

Chapter IV: Documentary Analysis, Conclusions and Limitations of this Study

Research Questions Discussion.

1.-What is intended to be Artificial Intelligence in today's society?

The term Artificial Intelligence (AI) was firstly coined by John McCarthy, considered by many as the father of AI, in 1955 when he and his colleagues wrote a proposal for the 1956 Dartmouth Summer Research Project on Artificial Intelligence. In the proposal, they introduced a description of AI as machines that "… use language, form abstractions and concepts, solve kinds of problems now reserved for humans, and improve themselves" (McCarthy et al., 2006, p. 12).

2.-What are the different modalities of Artificial Intelligence known today in the Dominican Society?

-The Virtual Classes that replaced the Presential classes during the times of the Covid-19, and were implemented through a Technological Platform.

-The Videos-conferences.

-The use of applications like *Google Meet* or *Zoom Meetings*, allowed by the UASD University as official tech means for regular virtual teaching, mostly during the times of the Covid-19 Pandemic.

-The use of Mobile, Tablets and laptops in our classrooms.

-The using of Power Point for expositions and conferences inside the classrooms

-The use of such applications like WhatsApp for grouping students, assigning tasks, etc.

-And now with the new wave of A I, the use in a less extent of the ChatGPT

3.-How is Artificial Intelligence applied to higher education in our country?

AI has to significantly improve the higher education sector in the country and how universities can take advantage of it as a tool to update curricular content, implement personalized learning, provide feedback and automated evaluation, offer virtual tutoring and help educators not fear being displaced, but rather adapt and take advantage of it as a complementary tool to improve teaching.

Professor and business consultant Andrés Rojas highlighted the challenges and opportunities that higher education in the Dominican Republic faces in the face of artificial intelligence (AI), highlighting the importance of understanding the impact that these new technologies are having in all areas of life. modern, particularly in the educational and academic field.

4.-What are the similitudes and differences of Artificial Intelligences on their application to education in general in different countries?

Those differences could be explained, mostly on the lights of their economic development, which is reflected in their educational reality in general.

As stated before, the Dominican Republic is considered to be a *Third World Country* or a *Country on its Way to be developed*, and with the heavy burden of a Large Scale immigration from the neighbor country of Haiti, something which increases poverty and lack of opportunities for our younger generations of Dominicans.

According to recent publications of the Dominican Republic Central Bank, the situation is as follows:

The real gross domestic product (GDP) registered a growth of 4.9% in 2022, in line with the latest projections of this institution.

• Nominal GDP would be around US$114 billion, which improves the proportion of debt over GDP compared to previously estimated.

• Total employment increased by 92,642 workers in October-December 2022 compared to the same period of the previous year, to reach 4.77 million employed people.

This increase responds to a decrease of 37,919 in informal jobs and an expansion of 130,561 in formal jobs.

• The open unemployment rate contracted by 3.2 percentage points, from 8.0% registered in January-March 2021 to 4.8% in October-December 2022.

• Year-on-year inflation has reduced by 181 basis points from a peak of 9.64% in April to 7.83% in December 2022.

• International reserves reached the historical figure for a year-end of US$14,440.6 million in 2022, equivalent to 5.6 months of imports and 12.8% of GDP.

• A total foreign exchange income is estimated at close to US$39 billion in 2022.

• Exports showed a growth of 10.5% compared to 2021, which represents an increase of US$1,306.9 million.

• Tourism income totaled about US$8,406.5 million in 2022.

• Family remittances received reached a figure of US$9,856.5 million.

• Foreign direct investment stood at more than US$3.8 billion.

• The accumulated appreciation of the exchange rate as of December 30, 2022 was 2.0%.

**The Central Bank of the Dominican Republic (BCRD), in the interest of keeping economic agents and public opinion in general duly informed, and as part of the institutional*

commitment to transparency and timely disclosure of data under its responsibility, reports the results preliminaries of the Dominican economy for the year 2022.

But despite the fact that 4% of the GDP is dedicated to the national educational budget, the improvement of the quality of the product and of the educational system do not reflect that reality and we continue to occupy the last places in the PISA Test measurements.

Business Action for Education (Educa), which is the Lobby for Education Privatization in our country, valued the improvement trend presented in the results of the International Student Assessment (PISA) corresponding to 2022 compared to 2018, but which was released this Tuesday by the Organization for Economic Cooperation and Development (OECD), which measures the academic performance of 15-year-old students in mathematics, science and reading.

On average, the results obtained in the PISA 2022 tests exceed those recorded in 2018 in the disciplines of mathematics (4.3%), reading (2.7%) and science (7.3%).

"The improved performance in mathematics and science is especially notable, which even exceeds those obtained in 2015, achieving the best results in all the Dominican Republic's participation in the PISA program," notes the organization representing the private sector. PISA has been carried out every three years, since 2000, in more than 70 member and non-member countries.

But the place of the Dominican Republic remains in the group of the last countries, therefore, Guatemala, El Salvador, the Dominican Republic and Paraguay are in positions 77 to 80. They occupy four of the last five positions in the global ranking.

So for implementing the new trends or waves of Artificial Intelligence, more Budgetary Money is needed, and as well as, a New Launching of the Dominican Education System, in search for a better quality in education at all levels, that is to say Pre-college and Higher education, which comprises New programs and Policies.

5.-Are there any specific aspects concerning EFL Teaching in our colleges and universities?

1.-Hours of laboratory improve their pronunciation, but not their speaking fluency or Communicative Capacities. For Dominican students, having groups debating topics in their EFL Advances classes is a more enjoyable activity than a computerized class.

2.- Dominican students feel more comfortable when Translanguaging is permitted in the classrooms, than when that linguistic resource is not allowed, and they do not consider that as a native tongue interference.

3.- EFL learners' level of attention is highest when they are socializing with other humans, than with robots, which is a pedagogical practice that has not been introduced to our students yet.

4.- The use of AI Chabot is not a common practice in our classrooms, we are still in the brink of beginning with certain AI tools, not only at the level of this, the State College, but also at the level of the private universities.

6.- What are the technological and/ or human limitations of Virtual Classrooms as compared to Presential Classrooms?

Since our country is still considered a Third World Country or a country in its way to be developed, our public schools are facing, a shortage of electricity which arise as an obstacle for applying Modern Technologies. And despite of the efforts of the authorities in supplying gadgets to our students like Tablets, laptops and computers, there is still a deficit of those tech tools as well as, a reticent of many school teachers to implement technology in their classrooms.

Another important factor is the poor aptitude of many teachers and professors for implementing the so called ICT'S in their classrooms, due to the fact that a number of them, show a rather timid or shy attitude toward technology or suffer from a phobia to technology (Technophobia), and are afraid to freely and comfortably use the computer in front of the students.

There is no doubt that Presential Classes are preferred, instead of the Virtual ones, in a general way in this country, and that is an undeniable factor or true proven during the time of the Covid-19 pandemic, which affected them enormously, not only physically, but mentally or Psychologically like having fears, phobias, anxieties, scenic fears, and introvert attitudes. And of course, there are also a series of subjects and courses that mandatorily require a physical presence, and that is the biggest limitation of virtual classrooms in the Dominican culture, that could also limit the use or an ample use of the Artificial Intelligence, in the future as it is desirable.

The Limitations of Virtual Classes in our National Environment

Backgrounds

Students in e-learning courses tend to react to usability problems with quite strong emotions [1, 5-6]. In his exploratory study of graduate students, Scull [26] found that, on the one hand, students experienced higher levels of anxiety when they were under time or goal pressures, or when technology failed or otherwise malfunctioned. When something

went wrong, this affected the student's emotional state, leading to panic and anxiety. On the other hand, the study also showed that despite deadlines and equipment failure, many students were able to develop strategies that can reduce their computer anxiety. For example, “they were careful to avoid information support that used computer jargon and call on patient and understanding computer friends for help” (213).

Along the same lines, another study by Sheeson [27] found that "computer confidence had effects on the user's perception of task complexity while the effects of computer liking were minimal at various task levels, increasing computer experience can help reduce computer anxiety” (213).

Technophobia: A Phenomenon Not Exclusive to Students.

Most of the studies reviewed indicate the effectiveness of individual technologies used in the language classroom, instructors' and students' use of computer technology in their teaching and learning, and their general attitudes toward technology integration. in instruction. According to Weir (cited by Bollentin, 1995), one of the reasons why people suffer from technophobia is that they find technology intimidating. Another reason given is that people suffer from technophobia because they are anxious about change in the environment in which they live and work. According to Gupta (2001), although “the idea of technophobia…sounds almost foreign and unnatural” to the current generation, however; It is affecting many people and, what is worse, they are not even aware that they are experiencing it. Some studies have cited a positive correlation between the amount of computer knowledge, either through the use of personal computers or through training, and positive attitudes toward computers (Bradford, 1984; Burke, 1986, Taylor, 1986 cited in Lam (2000). However, Sofranova (1993 cited in Lam, 2000) found that despite a positive attitude among teachers, computer use (68%) was used by less than 8% of teachers in the three schools of Russia, where she studied.

In some other studies again, researchers have attempted to relate teachers' negative affect about computers to a variety of variables. Issa and Lorentz (1989) found that computer experience and computer exposure were negatively related to computer anxiety and positively related to computer attitudes. A study of vocational agriculture teachers by

Kotrlik & Smith (1989) revealed that five variables were needed to predict computer anxiety, including teacher's level of computer skills, principal's support for computer use, availability of computers in school, perceived mathematical ability, and formal computer training. technophobia of teachers, the general conclusion was that those future teachers with more computer experience showed less computer anxiety. As in one such case, Summers (1988) observed that many preservice teachers were very apprehensive about computers and technology. On the other hand, many teachers say they have never worked in an environment where it is acceptable to try something genuinely innovative and give real responsibility to students. According to Lam (2000), it is more like 'risk phobia', and teachers need a completely different training experience to learn to work in new ways with their students. Overall, these studies have shown that technology use is determined by a wide range of factors, ranging from external factors, such as access to appropriate materials and professional development opportunities, to more internal factors, such as awareness of benefits of technology and personal attitudes toward technological innovations.

Factors Contributing to Teachers' Fear of Technology

Lack of knowledge about teaching L2 with computers. Some teachers speak of a lack of knowledge about the application of computers to language teaching as their main reason for not using computers. In research on perceptions of instructional materials, classroom teachers generally demonstrated little knowledge of technologies (Odabasi & Namlu, 1997 cited in Asan, 2003). This problem is partly because many teachers working today received their teaching certificates before the time when computer science education was not available to them. Teachers felt the need for computer training, which most of them did not receive.

Lack of Confidence in Computer Skills

Some teachers are uncomfortable using computers in front of a class because they do not have experience with computers. A teacher says: If you're a teacher, you don't want to walk into a classroom with something you don't know how to work, because you look like an idiot. It's already stressful to use something in a classroom, but if you don't know [how to

use it], that adds more stress. According to Swain (1999), this lack of confidence in their computer skills suggests that these teachers do not see their students as a resource. They seemed to prefer the traditional role of the teacher as expert, which could imply that their discomfort was perhaps not so much due to a lack of computer skills, as they claimed, but rather to the idea of giving up their expert role (see Warschauer, Turbee, & Roberts, 1996).

Lack of access to computers Many teachers consider access to computers at home and in schools to be important. In some cases, lack of access to computers discourages instructors from integrating them into their teaching. Some teachers have computers in their workplace, but they are not available for classroom use, only for student word processing. Some do not have access to the software programs used by students, who are expected to go to the computer lab on their own, consequently, teachers are not attentive to what benefits the computer provides to their students.

Inadequacy to the Needs of Students

Another reason for not using computers is the perception that computers cannot meet the needs of students. Some of the instructors have seen some computer programs, but they think they are quite stupid and too mechanical, and that computers are not fast enough or language-rich enough. When teachers who do not use computers are asked if they would use computers if circumstances were different, they again say no. Some teachers express reluctance to use computers because they are not comfortable with the computer, however, others who still have reservations admit to seeing some benefits in using the computer, such as giving students access to other students or practicing writing skills, but are still not convinced of other advantages

The Attitude of the Computer Presenter

Some teachers do not have a positive attitude and are not comfortable with computers because they have not been properly introduced to computers. Weil et al. (1990), emphasizing the important role that the technology "introducer" plays in the eventual development of technophobia, found that the likelihood of technophobic reactions could be

reduced if the technology "introducer" maintained a positive attitude toward the technology and felt qualified. and comfortable with computers. The Educational Testing Service (ETS) study (Martinez & Mead, 1988 cited in Rosen & Weft, 1995) indicated that even the computer coordinators who were surveyed did not feel they had the skills and preparation to teach computing. If coordinators do not feel prepared, then the classroom teacher, who the ETS study showed to be the most likely "introducer" of the technology, must feel even less competent. This places students at a severe disadvantage. They will learn about computers and technology from role models who are themselves uncomfortable about the computer and who might also be hesitant to teach it firsthand.

Application of role models

Rosen and Weil (1995) urge the use of confident computer users as role models for technophobic teachers. These role models must be comfortable with technology because a technophobic teacher will convey these attitudes and feelings to the student. They should also be calm, clear and very open to questions. These role models should guide technophobic teachers through the process of using a technological device first with them pressing the buttons. These trainers must then supervise teachers who perform the steps themselves. They should also consider immediacy in their training sessions as a valuable feature of successful training where they help teachers in the moment they are having problems.

The State of the Art of Artificial Intelligence in Our Country

Virtual teaching in its different modalities is nothing new in university spheres, nor in the area of teaching English as a Foreign Language (EFL) or as a Second Language (EFL), as the case may be; Thus we see how since the emergence of new automated information technologies, the so-called ICT'S, already existed in our country (The Dominican Republic), although in a limited way, due to the different social and economic realities of urban schools and those schools in the country side or rural areas, for example, The Computer-Assisted Method of Teaching English (for its acronym in English, CALL or Computer Assisted Language Learning), Online English Learning, Videoconferencing (Google Meet and Zoom Meetings) and finally The Virtual Reality Environment.

A) Computer Assisted Language Learning

1. Computer-assisted language learning (CALL) is an approach to teaching and learning foreign/second languages in which computers, computing resources and information technology are used to present, reinforce and evaluate the material being taught. will learn
2. A teaching strategy that makes use of technological resources in the teaching and learning of a language.
3. The use of computer programs and applications to assist in language learning and teaching. (IGI Global, 2022)

B) Online Distance Learning (On-line Language Learning)

This meets the needs of a growing population of students who cannot or prefer not to participate in classroom settings. These students include those who cannot attend traditional classes, who cannot find a particular class at their chosen institution, who live in remote locations, who work full time and can only study at work or afterward, and those who simply prefer to learn independently.

The minimum requirement for students to participate in an online course is access to a computer, the Internet, and the motivation to succeed in a non-traditional classroom. Online The courses provide an excellent method of course delivery without time or location limits, allowing for: Accessibility to instruction at anytime from anywhere. Students find the online environment a convenient way to fit education into their busy lives. The ability to access a course from any computer with Internet access, 24 hours a day, seven days a week is a great incentive for many of today's students.

Some of the main advantages of online learning include: Convenience: 24/7 access from any online computer; accommodates busy schedules; No
travel, without looking for parking.

• Improved Learning: Research shows greater depth of understanding and retention of course content; more meaningful discussions; emphasis on writing skills, technology skills, and life skills such as time management, independence and self-discipline.

• Leveling the playing field: students can take more time to think and reflect before communicating; shy students tend to thrive online; anonymity of the online environment.

• Interaction: Increased student-to-teacher and student-to-student interaction and discussion; a more student-centered learning environment; less passive listening and more active learning; a greater sense of connection, synergy.

• Innovative teaching: Student-centered approaches; greater variety and creativity of learning activities; address different learning styles; changes and improvements can translate to face-to-face courses as well.

• Improved administration: time to examine student work more thoroughly; ability to document and record online interactions; ability to manage online grading.

• Savings: Accommodate more students; Greater student satisfaction = greater retention and fewer repetitions.

• Maximize physical resources: decrease demand on limited campus infrastructure; reduce congestion on campus and parking lots.

• Scope: Give students options; reach new student markets; appeal to current students thus increasing enrollment. (Stern, 2021)

Video Conferences:

a) *Google Meet*

Google Meet is Google's video conferencing application, for web browsers and mobile devices, focused on the work environment and which replaces Google Hangouts, within G-Suite, Google's application pack for professionals.

Unlike Hangouts, which had a more general use, Google Meet is designed for the work environment. Its main difference with Hangouts and with other applications from the company itself such as Google Duo is that it is a paid application, unlike other applications such as Houseparty, Zoom or the recently launched Facebook Messenger Rooms, which also allow free video calls. (Google, 2022)

b) *Zoom Meetings*

Zoom is a video chat software program developed by Zoom Video Communications. The free plan offers a video chat service that allows up to 100 participants at the same time, with a time restriction of 40 minutes.

c) The Educational Environment Virtual Reality (VR)

Although the VR application with interactive control, capabilities and user focus were originally designed for such areas as healthcare (visualization of surgical operations), architecture (visualization of large-scale design projects),
aviation (flight visualization for pilot training), can be widely used in teaching due to its universal character and the possibility of user interaction in any three-dimensional world, real or abstract. The virtual world can be a building, a human body, an underwater world, space, a museum, a dinner party, etc.

VR radically transforms the principle of visualization, creating an appearance of real objects through information modeling. As a result, the student obtains almost the same (or stronger) personal experience in visual, auditory, tactile, olfactory
perception, in the execution of actions, as well as in reality interaction with similar situations. VR is one of the pinnacles of computerized learning. It achieves "overstimulation" of the sense organ (similar to obtaining a real perceptual experience), which is the basis of learning, including intellectual learning.
(Dovroba 2017).

Conclusions

As per this Type of Project

Conducting a Research Project, solely on the basis of a Documentary Investigations, it has its risks and limitations, as expressed in earlier chapter of this work. But when it is reliable in terms of the authentic documentation used as a true source of information, the Internal Validity remains as in any other type of research project.

The basis of sustentation was exhaustly explained through the whole body of this work; and those Fundamental Concepts such as:

a) Authenticity

Which refers to the truthfulness of origins; evidence is genuine, attributions, commitments, sincerity, devotion, and intentions.

b) Credibility

Which refers to the objective and subjective components of the believability of a source or message,

c) Representativeness

Which applies more to some documents than to others.

d) Meanin**g** which refers to whether the evidence is clear and comprehensible. The ultimate purpose of examining documents is to arrive at an understanding of the meaning and significance of what the document contains (Scott 1990) (pp 3-5)

As Per the State of the Art of Artificial Intelligence in the Dominican Republic

A complete account was offered in terms of our Socio-economic reality as an underdeveloped country and its direct incidence on the quality of education in general, which comprised pre-college and higher educational levels, as well.

In such an instance a report from the Central Bank of the Dominican Republic (2023), was offered, as well as a critic insight of the Results of the PISA Tests (2023), accounting for the level of educational performance and advances.

But the Main Topic or theme of this Research Work (Artificial Intelligence), was completely addressed, from the stand point or premise of its application and of its comparison to another educational reality in term of Virtual Education in the field of English as a Foreign Language (EFL) in our State College (UASD University), were a parallel was established as a comparison with the situation of countries like Turkey, Indonesia, The United States of America and South Korea, where those experiences were synthetized in terms of technological advances before, during and after the Pandemic of Covid19 and how that situation affected, not only the physical health of our students, but mostly the mental health and stability of teachers and student, who were all of a sudden converted into Virtual Tutors, and Virtual Students, many of them without any previous experience.

It was also through a complete examination of such mental and behavioral affectations such as Technophobia and/ or Technophobia or fears or anxieties or depression attacked *in situ*, that such phenomenon associated to the extensive use of the Virtual Classrooms of the schools, colleges and universities, we belong to, that we the Dominican people and the whole humanity learned what it takes to have everyday classes from our most intimate spaces at home like our living or dining rooms which were converted into Virtual Classrooms, with the inconveniences of the extreme sanitary regulations implemented by the authorities, such as curfews, martial law and those other limiting regulations for time and spaces to go to ordinary places such as banks, supermarkets or drugstores, because the Whole World was at War. And the only way to stay alive was through a vaccine, wearing a mask or keeping the distance with the rest of the Humans.

It is a common reflection among the peers of our academic society (Scholars, College Professors, School Teachers, and Researchers or Investigators), that further studies have to be conducted in the future to tests the validity of Full Virtual Education and of the Quality of that modality of education at all, but not only through the scope of English as a Foreign Language (EFL), focused and solely based in our School of Foreign Languages, but through a Research Project comprising the Nine Faculty of the university, that is to say

those Nine (9) Faculties, Forty-Seven (47) Schools, Eighty (80) Undergraduates Programs and Scores of Researches Institutes and Graduate Programs, ranging from Master's degrees to Doctorates, that affect the professional lives of the total enrollment of this university, that is to say, 220,000 souls.

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