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**“THE INFLUENCE OF ICTS WITHIN THE CONTINUOUS DEVELOPMENT OF
LEARNING IN THE STUDENTS OF THE THIRD YEAR OF "ISABEL DE GODÍN"
EDUCATIONAL UNIT, IN RIOBAMBA CITY, CHIMBORAZO PROVINCE.”**

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Certificación del Tutor

Certifico que JOHN FRANKLYN CAICEDO PACHECO con C.C 060248801-7, estudiante de la **Maestría en la Enseñanza del Idioma Inglés como Lengua Extranjera**, ha trabajado su investigación titulada **"THE INFLUENCE OF ICTS WITHIN THE CONTINUOUS DEVELOPMENT OF LEARNING IN THE STUDENTS OF THE THIRD YEAR OF "ISABEL DE GODÍN" EDUCATIONAL UNIT, IN RIOBAMBA CITY, CHIMBORAZO PROVINCE"** el mismo que ha sido orientado y revisado con el asesoramiento permanente de mi persona en calidad de Tutor. Así mismo, refrendo que dicho trabajo de titulación ha sido revisado por la herramienta antiplagio institucional; por lo que certifico que se encuentra apto para su presentación y defensa respectiva.

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Riobamba, 14 de octubre de 2024



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DEDICATORY

I dedicate this research to all the members of my family who have been aware of this achievement since I started it, to the professors of this master's degree who have imparted the knowledge that I will later apply to the generations of students who are in my charge and for their professional benefit.

In a special, to my children Daemon, Khrystel, Kaeylleigh, Ameerah; my parents, my whole family, and the most important woman in my life Yajaira, who contributed to the perfect completion of this document.

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General Index

| | |
|--|------------|
| Certificación del Tutor | ii |
| Declaración de Autoría y Cesión de Derechos | iii |
| Dedication..... | iv |
| General Index..... | vi |
| Tables Index | ix |
| Graphs Index..... | x |
| Resumen | 1 |
| Summary | 2 |
| CHAPTER I..... | 3 |
| 1 REFERENTIAL FRAMEWORK..... | 3 |
| 1.1 Introduction | 3 |
| 1.2 Background..... | 5 |
| 1.3 Problem contextualization | 8 |
| 1.4 Problem statement | 9 |
| 1.5 Research questions | 9 |
| 1.6 Justification..... | 10 |
| 1.7 Objectives | 11 |
| 1.7.1 General Objective:..... | 11 |
| 1.7.2 Specific Objectives..... | 11 |
| CHAPTER II..... | 12 |
| 2 THEORETICAL FRAMEWORK..... | 12 |
| 2.1 State of the art..... | 12 |
| 2.2 ICTs | 14 |

| | | |
|-------------------------|---|-----------|
| 2.2.1 | Accessible Technology..... | 14 |
| 2.2.2 | Identify Advantage and Disadvantage..... | 15 |
| 2.2.3 | Prioritize the four english skills..... | 16 |
| 2.2.4 | Cause a Good Impact..... | 17 |
| 2.2.5 | Acquisiton of new Tecnological Skills..... | 18 |
| 2.2.6 | Structured Knowledge..... | 18 |
| 2.2.7 | Implementing of Adecuated Solution..... | 19 |
| 2.3 | Continuous learning..... | 19 |
| 2.3.1 | The importance of Continuous Development..... | 20 |
| 2.3.2 | Technical Education of the Students..... | 20 |
| 2.3.3 | Mastery of Language Skills Based on ICTs..... | 21 |
| CHAPTER III..... | | 22 |
| 3 | METHODOLOGY..... | 22 |
| 3.1 | Kind of research..... | 22 |
| 3.1.1 | Documental Research..... | 22 |
| 3.1.2 | Field Research..... | 22 |
| 3.1.3 | Exploratory Research..... | 23 |
| 3.1.4 | Data Analisis..... | 23 |
| 3.2 | Scope of the Research..... | 25 |
| 3.2.1 | Descriptive Research..... | 25 |
| 3.2.2 | Causal Research..... | 26 |
| 3.3 | Research Design..... | 26 |
| 3.3.1 | Non-Experimental Research..... | 26 |
| 3.3.2 | Cross-Sectional Research..... | 26 |
| 3.4 | Instruments of Data Collection..... | 27 |

| | | |
|-------|--|-----------|
| 3.4.1 | Survey..... | 27 |
| 3.5 | Instruments | 27 |
| 3.5.1 | Questionnaire..... | 27 |
| 3.5.2 | Validation of instruments | 27 |
| 3.5.3 | SPSS | 29 |
| 3.5.4 | R Comander..... | 29 |
| 3.6 | Population and sample..... | 30 |
| 3.6.1 | Population..... | 30 |
| 3.6.2 | Sample | 30 |
| 3.7 | Informed consent form | 30 |
| | CHAPTER IV | 32 |
| 4 | ANALYSIS AND INTERPRETATION OF RESULTS | 32 |
| 4.1 | Results | 32 |
| | CHAPTER V..... | 39 |
| 4.2 | Discussion of results | 39 |
| 4.3 | Conclusions..... | 43 |
| 5 | References..... | 45 |
| 6 | Annexes | 49 |

Tables Index

| | |
|--|----|
| Tabla 1: Chronbach's Alpha..... | 27 |
| Tabla 2: Students' list..... | 31 |
| Tabla 3: Predictions..... | 37 |
| Tabla 4: Predictions with 95% confidence intervals | 38 |

Graphs Index

| | |
|----------------------------------|----|
| Figure 1: DUMMY | 33 |
| Figure 2: ScatterPlot | 34 |
| Figure 3: Residual Analysis..... | 37 |

Resumen

El estudio investiga la influencia de las TIC's en el proceso de enseñanza-aprendizaje del idioma inglés, analizando cómo estas herramientas tecnológicas facilitan y mejoran el rendimiento académico en esta lengua, especialmente en un contexto pospandemia donde la educación virtual ha cobrado mayor relevancia.

El objetivo principal de este trabajo fue analizar el impacto que el uso de las TIC's tiene en el rendimiento académico de los estudiantes de la asignatura de inglés, evaluando factores como la accesibilidad tecnológica, el apoyo familiar y las condiciones socioeconómicas. La investigación combinó métodos cualitativos y cuantitativos. Se utilizó una encuesta a 135 estudiantes de tercer año del Bachillerato General Unificado (B.G.U.), además de entrevistas y observación directa. La muestra se seleccionó mediante muestreo aleatorio simple y los datos se analizaron utilizando los programas SPSS y R para identificar la causalidad del uso de las TIC's en el rendimiento académico de la población muestreada.

Los resultados revelaron que el uso adecuado de las TIC's contribuye significativamente al desarrollo de las habilidades en inglés, especialmente en áreas como la comprensión auditiva y la producción oral. Sin embargo, se identificaron barreras relacionadas con la falta de acceso equitativo a dispositivos tecnológicos y conexión a internet, lo que afecta el rendimiento de algunos estudiantes. La investigación concluyó que las TIC's tienen un impacto positivo en el aprendizaje del inglés, pero para maximizar sus beneficios, es crucial abordar las desigualdades tecnológicas y fomentar el apoyo familiar.

Palabras clave: TIC's, impacto, accesibilidad, apoyo familiar y condiciones socioeconómicas, desarrollo continuo.

Summary

The study investigates the influence of ICT's on the teaching-learning process of the English language, analyzing how these technological tools facilitate and improve academic performance in this language, especially in a post-pandemic context where virtual education has become more relevant.

The main objective of this work was to analyze the impact that the use of ICTs has on the academic performance of students in the English subject, evaluating factors such as technological accessibility, family support, and socioeconomic conditions. The research combined qualitative and quantitative methods. A survey of 135 students in the third year of the Unified General Baccalaureate (B.G.U.) was used, in addition to interviews and direct observation. The sample was selected through simple random sampling and the data were analyzed using the SPSS and R programs to identify the causality of ICTs use on the academic performance of the sampled population.

The results revealed that the appropriate use of ICTs contributes significantly to the development of English skills, especially in areas such as listening comprehension and oral production. However, barriers were identified related to the lack of equitable access to technological devices and internet connection, which affects the performance of some students. The research concluded that ICTs have a positive impact on English learning, but to maximize their benefits, it is crucial to address technological inequalities and foster family support.

Keywords: *ICTs, impact, accessibility, family support, and socioeconomic conditions, continuous development*

CHAPTER I

1 REFERENTIAL FRAMEWORK

1.1 Introduction

The use of Information and Communication Technologies (ICTs) in education has radically transformed traditional methods of teaching and learning. In particular, in English language teaching, these technologies have proven to be powerful tools that enhance student learning, allowing greater interactivity, access to resources, and flexibility in the educational process. This research aimed to analyze the influence of ICTs on the continuous development of learning in students in the third year of high school of "Isabel de Godín" Educational Unit, located in the city of Riobamba, province of Chimborazo.

The current context, marked by the COVID-19 pandemic, forced educational institutions to adopt virtual teaching models, which accelerated the integration of ICTs in the educational process. This had raised new questions about how these technologies impact learning and academic performance, especially in the development of competencies in a second language such as English. This research addressed this issue, exploring how students' attitudes towards the use of ICTs influence their academic performance, and what are the main barriers and facilitators in this educational context.

Through a mixed methodological approach, which combined documentary, field, and exploratory research, it sought to provide an in-depth analysis of the perceptions of teachers and students, as well as the real effects of the integration of ICTs in the

classroom. In addition, the socioeconomic implications that affected access to these technologies and how these inequalities influence academic outcomes are explored.

This research was of great relevance, as it provided a clearer understanding of the advantages and limitations of the use of ICTs in the teaching-learning process of English, as well as the possible strategies to optimize its implementation in educational contexts with limited resources. With this, it is expected to contribute to the debate on the need for educational policies that promote equitable access to these technological tools and that enhance learning in all students.

1.2 Background

Inside the following research, it was important the revision of primary and secondary sources previous the title, so, it permitted us to know the background searched in different situations, and in the same way how does it contributes the influence of ICTs within the continuous development of learning.

Martí (2006) in the preparation of his doctoral thesis: “Teacher Training In ICT- Based Learning Settings: Design And Implementation Of An On-Line Instructional Model For English Language Teachers .”

In the thesis about Teacher Training in ICT- Based Learning Settings: Design And Implementation of an On-Line Instructional Model For English Language Teachers; its principal objective is to apply or integrate a consensual model to follow by teachers and to specify the way of studying and identify the potentialities of ICTs for teaching English, some adequated instruments for this research, based on 4 questions to know where it will emerge; besides based on different paradigms’ knowledge to place the real thinking of it, it uses a quantitative and deductive methodology; to get its real results it applied fieldwork instruments, observations, interviews, narrations, and questionnaires; after that, the results can be statistical, descriptive for each variable; to compare each element with correlations, reliability estimations; finally, as a conclusion can be taking in account the whole positive aspects that ICTs introduction and integration can provide to all teachers and students and the real benefits for teaching-learning process in nowadays and according to the current time.

This research contributed to the theme, in the whole theoretical frame, critical, and structured parts because it served to guide the conceptual basis, paradigms, and methodology to follow, and recognize the difference between before and now according to the usage, and application, of ICTs in education.

Almeida (2023) in the preparation of Undergraduate Program: “Critical analysis about the use of ICTs in English language learning process.” With the modality: research report, in Technical University of Cotopaxi:

It's a written work that talks about the analysis of ICTs' use in the teaching process, to know how it is the incidence and relevance using a qualitative approach methodology and a descriptive one; and how the transmission of the knowledge using them; based on objectives such as: to establish theoretical foundations about the use of ICTs in the English language learning process, and to analyze the English teachers' perceptions about the use of ICTs in the English language learning process. where the methodology besides an unstructured interview and discussion to facilitate the data collection; for this, a survey as a technique of tabulating percentages on a Likert scale was applied; according to the results it noticed that the benefits to using this kind of technique to improve English language skills; taking in account that there is a lack of correct training in ICTs; and like a recommendation the way to optimize the use of ICTs.

The analysis in this document helped me to know deeply about the real impact and where and how ICTs can provide benefits in the learning-teaching process special in improving English language skills according to the technological advances, in addition,

to notice that technology can help or summarize our lives about the time and resources; we need to understand that digital era is inevitable and everybody will need in a certain part of our lives, this kind of tools permit us to reach some knowledge in less time as possible because ICTs simplify the activities we have programmed.

Avalos (2022) in the preparation of research work for obtaining the bachelor's degree as: "Usage of Liveworksheets as Academic Tool for English Teaching to Students at Octavo Año de Educación General Básica "A" of the Unidad Educativa "Fé y Alegría" located in the city of Riobamba, Chimborazo Province, during the School Year 2021-2022":

In this document, the principal problem was how it is possible to use or apply in English classes an easy, practical, and flexible tool to work virtually, as is the live worksheets; it appeared the explanation about the correct function and characteristics of this tool to take advantage in English teaching-learning process as a complement in class or a way of assessment, and a way to use of ICTs; it was a support to keep students motivated, concentrated and in training in English; for this, the research the objectives wanted to discover how this academic tool is used; the particularities and potentials, the qualitative method was used for data collection; direct observation for analysis all of this with the whole language skills; as a global conclusion said that definitively the correct use and application of ICTs – live worksheets with the students determined good results in skills development, so that, they permitted to get more confidence to encourage English.

This research showed the multiple forms in which ICTs can help to improve different fields of knowledge, especially in English because the technological devices that we handle nowadays can facilitate the rapid and secure knowledge of our dudes.

1.3 Problem contextualization

The teachers of the whole planet were using some magistral classes, work shops, in presential way, trying to reach their class objectives; but Pandemic period changed our lives in different and diverse forms; makes teachers needed to worry about the real and important things of our lives; family, health, personal overcoming; this last one; according the education, have to change because of the obligatory confinement, the school needed to take some alternatives to try to balance the absence of assistance to schools; and one of them was virtuality; this option was the most suitable for education, since that year follows to use to get contact for different fields.

ICTs for education have converted in the most indispensable instrument to give virtual classes, share many new discoveries, researchings, get and send tasks and in special when it's not possible to assist to classes, students and teachers can connect in somewhere at anytime with their personal devices.

Now, this tool has converted in a necessity for education in special to improve continuous learning, because people can study in different schedules, times, and places, it meant there is no longer excuses to study and continuous overcoming.

The present research developed in “Isabel de Godín” educative unit, with students of third year in Riobamba city, Chimborazo province, through this research wanted to

answer this question; how do the ICTs influenced within the continuous development of learning in the students on the teaching-learning process of the English language?

1.4 Problem statement

How do the ICTs influence within the continuous development of learning in the students of the third year of "Isabel de Godín" educational unit, in Riobamba city, Chimborazo province on the teaching-learning process of the English language?

1.5 Research questions

- What impact do students' attitudes have towards the use of ICTs on their overall achievement in the English subject within a baccalaureate program?

1.6 Justification

The importance of research in the educational field of the English language comes from the lack of practice within the skills or abilities that the language possesses, however, the need has been seen since the time of the pandemic, to use different means or tools called ICTs, in order to continue with the teaching of both the teacher and the students. and generate different strategies for the development of the students' capacities and strengthen knowledge, for this reason it was necessary to study this topic since technology advanced and teaching must continue in constant learning and evolution.

Through this research it was intended to know the different ICTs that are necessary for the educational development in the English language in high school students, for this reason information was found through the collection of data, and the knowledge of the tools most used by students to improve their continuous learning, for this reason it allowed the strengthening of English skills such as, Speaking, Reading, Grammar, Listening, and Writing allowing the discovery of the use of the aforementioned tools.

In order to know in depth this student situation within the use of ICTs and how they influenced continuous learning, surveys were carried out with students to know the most used tools for educational development and what is the capacity of academic help in the subject of English, however, as a teacher it allowed me to know in depth the strategies that are needed to improve the teaching of the course, through a technical language, whose objective is to know, disseminate the theoretical and practical results, and in this way be able to demonstrate the different results of the proposed research.

1.7 Objectives

1.7.1 General Objective:

- To analyze how ICTs influence the continuous development of learning in third-year BGU students of "Isabel de Godín" Educative Unit in Riobamba City, in Chimborazo province on the teaching-learning process of the English language.

1.7.2 Specific Objectives

- To diagnose students' attitudes towards the use of ICTs through a survey.
- To evaluate the influence of ICTs on the academic performance of English baccalaureate students using two dummy variables.
- To determine the impact of ICTs on the English academic performance of baccalaureate students after such evaluation.

CHAPTER II

2 THEORETICAL FRAMEWORK

2.1 State of the art

“ICTs stand for “Information and communication technology”. It describes technological advancements that facilitate communication-based information access. Though it mostly concentrates on communication technologies, it is comparable to information technology (IT). This covers wireless networks, cell phones, the internet, and other channels of communication. (Ratheeswar, K, 2018, p.S45)

In the century of digital communication, we are immersed in the use of technological tools, since in one way or another technology has become part of our daily lives, both for students, professionals, and even for the elderly, in this way, we are optimizing time efficiently and effectively.

One of the biggest issues facing education today is the integration of technology into research and instruction. It's time to collaborate with other organizations and cultures outside of our classrooms in order to bring education back to life. This study centered on the utilization of technology in the teaching-learning process, which can significantly aid in fulfilling students' needs to learn at any time and from any place. Information and communication technology (ICT) integration into the teaching and learning process is a developing field with varying meanings depending on viewpoint. (Bashin, B, 2012, pp. 130-140)

As far as the field of education is concerned, it is a basic tool that allows us to access and even go beyond the limits of the institution by connecting us through this

medium to the whole world and knowing everything required; It gives new life, form, and interest to research at all levels.

All facets of human existence were currently being impacted by information and communication technologies, or ICT. They had prominent roles in business, education, entertainment, and the workplace. Furthermore, a lot of individuals acknowledge that ICTs are change agents; they can affect how we handle and exchange information, how we educate and learn, how science is conducted, and how we access information.(Mikre, F, 2011, p. 109)

Throughout the evolution of humanity, and especially in education, the advancement and updating of technology is inevitably needed to serve as a link more easily and quickly than is required in the field.

Numerous nations have been searching for methods to create distinct strategies for the mixed funding of lifelong learning as well as strategies to enhance people's learning opportunities by introducing models including various types of vouchers and education accounts. (Oosi et al., 2019, pp. 1-160)

Continuous learning, a phase of our lives in which the personal intellect is developed through the knowledge and application of different pedagogical models, for the development of skills within the educational system, giving way to a new learning modality.

They support educational interaction in this way. whereby the instructor revitalizes their academic teaching and the student enhances their learning by creating a favorable balance within the pedagogical community.(Álava et al., 2020, pp. 68-78))

Throughout the students' life, during the academic period of each one of them, they carry the fact of advancing in continuous learning that allows each one to develop and strengthen linguistic skills regardless of the language they are studying.

“It is the responsibility of Ecuadorian educators to provide a thorough and ongoing assessment of their progress and advancement as professionals.” (Álava et al., 2020)

Throughout the history of education, initiatives and attempts toward reform and study have focused on teachers' ongoing improvement and its impact on students' academic accomplishment, especially in the late 20th and early 21st centuries. This study set out to investigate whether a professional development program based on adult learning principles and contextualized inside professional learning communities. (Merchán and Geovanny 2021, pp. 1-95)

One of the professions that should necessarily have methodical and continuous learning is the professor, since the vertiginous advance of science and technology exposes us to find ourselves at a disadvantage at every moment in the face of this advance and giving way to a necessary training for the development of continuous learning and the evolution of new techniques, tools to teach each of the students in the classroom, otherwise the world will get out of hand.

2.2 ICTs

2.2.1 Accessible Technology

The evaluated papers demonstrated recent advancements in technology-mediated English instruction and provided a fresh viewpoint for educators who are open to implementing those tactics.(Cruz and Rodríguez, 2023)

Technology today is an important part of the digital education process, because students are immersed in the digital age, and they have technology as their ally; they have it on their cell phones, their laptops or desktop computers, on watches, they are practically surrounded by it. However, with regard to the institution I work for, the students belong to a medium and low society, often bordering on poverty, this factor is what limits a certain percentage of the population from having access to technology.

There is, therefore, great importance for the ease that technology provides at all levels within Ecuadorian education; however, the complex economic situation that is being experienced slows down the progress of many students who do the impossible to level their knowledge in terms of the use of technology, in many cases they get ahead renting, lending the equipment to fulfill the different tasks, remaining as technological illiterate in an era where technology prevails.

2.2.2 Identify Advantage and Disadvantage

This is especially important in gendered vocational schools where the majority of students are either girls or males in different programs. According to national surveys, the majority of teenage guys play video games, but relatively few ladies do the same. (Ahmadian, 2024)

In education, there are many applications of technology that also differ according to the level of teaching, ranging from the use of interactive whiteboards, small interactive games, projectors, videos, audios, to the use of social networks, interactive platforms, and reaching artificial intelligence that when used intelligently, and appropriately for the teaching-learning process, have many more advantages than disadvantages; the

rapid dissemination of documents, immediate collection of data required at the same time, exchange of information in a matter of seconds, access to all kinds of new and previous and even upload of newly discovered content by scholars, scientists and professionals who generate content.

A few benefits towards the area of knowledge, in terms of disadvantages of its application some people used for watch prohibited contents, lose the time in social networks, to try or intent to follow extreme thinkings, copying, plagiarism, and so on.

2.2.3 Prioritize the four english skills

In order to address three of the main issues with TEFL in secondary education—motivation, involvement, and bad emotions in the classroom—this essay suggests linguistic intercultural exchange initiatives between high schools.(Serra, 2017)

In order to find out how intercultural linguistic exchanges between educational institutions in the English classroom, made possible by ICT, can enhance our students' learning process, the three previously mentioned aspects are examined from a theoretical standpoint. The article also covers didactic ideas for language exchange initiatives between educational establishments in various non-English

My research was directed to the study and develop of english language skills mainly; because the study of different factors to improve these skills such as learning-teaching process, teachers, students, the correct curriculum, the high or low use of technology, the socio-cultural aspects, extra-curricular activities and so on; they are decisive elements we need to prioritize to reach best results in students' english language learning. (Speaking, Writing, Listening and Reading)

Skills that together with the correct application of digital technology hopes that the level of learning will be higher than the starting point at the beginning of the scholar year.

2.2.4 Cause a Good Impact

This article's goal is to give the reader a specific understanding of the benefits and drawbacks of the appropriate usage of ICTs in the teaching-learning process in universities as a remedy for the COVID-19 pandemic's mandatory confinement. (Limón, 2021)

Specifically since the pandemic hit the world, the use of ICTs became almost an obligation in all fields of knowledge, research and logically education with even more emphasis due to the fact that students should not be left without their advancement in knowledge; the impact caused by ICTs at that time was of utmost importance, to continue with their normal and sometimes accelerated course; in one way or another in education the work deployed, the result obtained at some point was considered as the most effective way to keep students and teachers as it is logical advancing in knowledge, motivation, teaching and evaluation; taking into account that the positive attitude of teachers in terms of the use of technology, realizing that it increased in certain cases and subjects efficiency, speed of response, motivation, curiosity, cooperation between teachers, co-working, communication, access to material, etc, etc.

Its positive aspect had an excellent impact on the progress of school activities and especially on the development of English language skills; and in the transfer of knowledge of all subjects in general, the use of ICTs were necessary support to this day.

2.2.5 Acquisiton of new Tecnological Skills

According to the findings, there is no discernible difference in the performance of pupils who use assistance resources or who rely on education. The sole significant element in this procedure turns out to be the teacher. Therefore, it can be said that even with the advancement of computer-based learning technologies, the instructor still plays a crucial role in this regard.(Valenzuela et al., 2016)

All or the vast majority of students finish their school year with a certain percentage of knowledge acquired throughout their stay in regular education; others on the other hand with acceptable levels and others with very low levels of performance due to different personal circumstances and the family environment; in the same way, young people acquire from various channels and levels the knowledge and ability to handle the digital tools shown in class or researched on their own; Each of them, according to their possibilities, opportunities, and skills, manage certain platforms, social networks, pages and educational resources, interactive with great ease and efficiency, this is what allows in most cases to have technology as their best ally when acquiring and handling information.

2.2.6 Structured Knowledge

Generally, the vast majority of knowledge is acquired in a structured way; with the help of the best and most sophisticated methods with technological means, it is the type of literature that in many ways we acquire from the internet of academic interest, documents that are created as a result of the discovery, evolution and collection of knowledge of what has already been discussed and compared with what is current; The

cognitive architecture of human behavior structures knowledge in such a way that it is accessible at all times and places with the help of technology, knowledge that optimizes human performance.

2.2.7 Implementing of Adequated Solution

ITCs together with the knowledge of English and the correspondent guide using this actual technology, the really and complete knowledge of the platforms and how to take advantage of them to increase the ideal of man, which is to reach perfection and real knowledge of his reality and the relationships with his environment based on the benefits of technological tools; try to give humanity the appropriate solutions in all fields of knowledge, now even with the appearance of Artificial Intelligence, are to forget that the undeniably capacity of the human being; to put all these discoveries at their service to implement them in the solution of a large part of the tasks.

2.3 Continuous learning

Before the pandemic takes away a lot of life from all of humanity; continuous learning was carried out in person with a diversity of resources provided by teachers and institutions that taught what took longer and in a traditional way in most cases; however, the health emergency caused our daily lives to change in their entirety, customs, activities, commerce, and even education had to adapt to the new reality, not to mention the great need for the education sector to also have some strategy to continue with learning that allows both students and teachers to continue with the academic aspect in progress; thus, as has been said before, technology turned out to be the best tool and ICTs even more so; so that online classes, workshops, training at all

levels, congresses, hearings and all kinds of meetings that had to be in real time, was the fastest solution to this health episode that we had to live.

For this reason, continuous learning was benefited at all levels of education and to this day when face-to-face learning is not possible, as can be evidenced, the best results in terms of time and efficiency of its execution times are evident.

2.3.1 The importance of Continuous Development

"Bringing up educated people with comprehensive knowledge of society, social activity, ability to understand public life processes and events, modern worldview, moral, cultural, and ethical values, socially responsible, behavioral norms" is the primary goal of education for sustainable development."(Terziev, 2020)

Every kind of development permitted that people are connected with their own reality that surrounds them, in all the aspects inside the society and the family; continuous learning allowed people to understand all the risks in real life, to try to solve them, improve the economic situation, to rise all their skills to face the life and, besides, it increases their competitive behaviour.

2.3.2 Technical Education of the Students

Students apparently when started their baccalaureate were in the possibility to select in good way their next career; some selection between traditional study, with some general subjects, or technical education when there is the possibility to select a future career from their early beginning; it means that the students were in the possibility to choose some technical study because there are another kind of experience in high school because students develop their talents, their interests, their autonomy,

their effectiveness is increased, and the most important part they experience a certain way of professional treatment like a self-experience of life in work.

2.3.3 Mastery of Language Skills Based on ICTs

ICTs are in all fields, one of them is in order to develop Language Skills, because the use of computers and digital age has many years in last two decades; and the application and benefits to use the ICTs in learning languages is very important because there many different and manageable platforms that are very useful for collaboration, integration, communication, in virtual way.

There are many reasons to use technology to teach and learn languages, because the modern world demands.

It permitted students and teachers improve their language skills because they are the most powerful tools to change education parameters to improve all the aspects related to continuous development in language skills.

CHAPTER III

3 METHODOLOGY

3.1 Kind of research

3.1.1 *Documental Research*

Documentary research is comparable to content analysis in that both entail examining pre-existing data that has been captured in texts, media, and tangible objects. In this case, gathering data from subjects is not necessary for research purposes. Thus, this is a perfect illustration of secondary research..(Bhat, 2020)

This kind of research helped me a lot because in general all the documents that I reviewed were in texts from different platforms and pages I needed to read, analyze, summarize, the most important details for my written work.

3.1.2 *Field Research*

Numerous techniques are used in field research to examine organizational life in its natural environment through first-hand observations from the perspective of a specific person or group. (Van de Ven and Poole, 2017)

It was a very necessary kind if research is in order to apply the surveys or individual interviews, or simply conversations about my theme or research in special with the people we needed to get the real and reliable information to apply the stadistics of the results.

3.1.3 Exploratory Research

Undefined problems are investigated through exploratory research. Although exploratory research is carried out to obtain understanding of the current issue, it is unable to offer a definitive solution to these challenges. (Exploratory Research, s. f.)

Practically, this research helped in my written work when I didn't understand certain aspects of my research that it appeared; to solve this I needed to apply it, comparing with other papers or thesis information to guide me in the correct way to research when I were confused, besides in some items cleared the vision of it.

3.1.4 Data Analysis

In this study, an estimation of the impact of Information and Communication Technologies (ICT) on the continuous learning development of third-year students of the Unified General Baccalaureate was carried out. For this, a comparison was made between the results obtained from a survey applied to students and their academic performance averages in the area of English during a specific period.

3.1.4.1 Comparison Methodology

- **Survey Results:** Students completed a survey designed to measure the use and perception of ICT in their learning process. This survey includes aspects such as the frequency of use of technological tools, satisfaction with the available resources, and the perceived impact on their academic performance

Survey Results: Students completed a survey designed to measure the use and perception of ICTs in their learning process. This survey includes aspects such as the

frequency of use of technological tools, satisfaction with the available resources, and the perceived impact on their academic performance.

- **Achievement Averages:** Data on students' academic performance were collected, specifically English grades, which serve as an indicator of continuous learning. These averages were calculated from the previous evaluations and used as a baseline to assess the impact of ICTs.
- **Comparative Analysis:** The comparison was made by analyzing the correlations between the results of the survey and the performance averages. We sought to identify patterns that could indicate a significant relationship between the use of ICTs and academic performance. This comparison was based on statistical models, such as linear regression, which allow us to observe how performance varies depending on the use of ICTs.

3.1.4.2 Results and Findings

- **Relationship between ICTs and Continuous Learning:** The findings showed that greater use of ICTs correlates positively with better academic results in English. This suggests that students who reported more frequent use of educational technologies also got higher grades
- **Impact of Additional Factors:** When analyzing the results, other factors that influence academic performance were identified, such as cognitive ability, socioeconomic conditions, family support, study habits, and psychological factors. These elements were included in the error term of the regression model, recognizing that not all factors that affect performance can be directly quantified.

- **Assumptions Evaluation:** The assumptions of the regression model were verified, including the normality of the residuals, using the Lilliefors test (Kolmogorov-Smirnov). The p-value obtained (0.1763) confirmed that the residuals followed a normal distribution, which validates the reliability of the results.

Comparing the survey results with the academic achievement averages provides a clear view of the impact of ICTs on students' continuous learning. The positive relationship observed suggests that the effective integration of ICTs in the educational process can be a key factor in improving academic performance. However, the need to consider additional factors that may influence academic success is also highlighted, suggesting that future research should explore more complex models that incorporate multiple variables for a more comprehensive analysis.

This approach will allow educational managers to develop more informed strategies to integrate ICTs into the teaching-learning process, maximizing their positive impact on students' academic development.

3.2 Scope of the Research

3.2.1 *Descriptive Research*

Descriptive research can be defined as an account of current events in which the researcher has no influence over any particular variable..(Manjunatha.N, 2019)

Throughout the research appeared some aspects were not possible to understand or follow with the real research, some topics I needed to research deeply to clarify the real meaning that I wanted to tell or find according the data or results of the variables.

3.2.2 Causal Research.

In scientific research, the methodological approach of causal research is employed to examine the relationships between variables that are cause-and-effect. Causal research seeks to ascertain whether alterations in one variable result in alterations in another; on the other hand, causal and descriptive research only looks at associations or describes phenomena.

Specifically, this kind of research was very important because when it took into account the incidence of continuous development through the correct use of ITCs and to see how affects in English learning emerged the necessity to explain this like a causality.

3.3 Research Design

3.3.1 Non-Experimental Research

Nonexperimental research, defined as any kind of quantitative or qualitative research that is not an experiment, is the predominate kind of research design used in the social sciences.(Reio, 2016)

This research was used when I managed the obtained results from the application of surveys and interviews; because it was very necessary to put in practice the human intellect and background to get a real comment about the results.

3.3.2 Cross-Sectional Research

The majority of cross-sectional studies with primarily analytical goals are those that offer preliminary data for the examination of potential correlations between variables (Cvetkovic-Vega et al., 2021)

Really this research permitted to me make the comparison and get the relationships between the obtained results from the variables in context of my research to have clear ideas to produce the expected results.

3.4 Instruments of Data Collection

3.4.1 Survey

One technique that is commonly employed is survey research. (Salvador-Oliván et al., 2021) Within my research work, surveys were used to find out if students and teachers used ICTs, appropriately and with what frequency, in this way 20 closed questions were asked regarding the topic of the research.

3.5 Instruments

3.5.1 Questionnaire

Consistently backed by an appropriately designed, automated questionnaire to guarantee the transparent administration of a sizable amount of data in almost real time.(Cisneros Caicedo et al., 2022)

3.5.2 Validation of instruments

3.5.2.1 Chronbach's alpha.

As previously mentioned, Chronbach's alpha coefficient was used to determine each scale's dependability.(Renecele, 2020)

Tabla 1: Chronbach's Alpha

| Scale | Average if the | Scale | variance | Total | Cronbach's |
|-----------------------|----------------|---------|----------------|-------|------------|
| item has been deleted | if the | element | correlation of | alpha | if the |

| | | has deleted | been corrected elements | element has been deleted |
|-----|---------|------------------------|--|-------------------------------------|
| Q1 | 77,9583 | 44,911 | 0,357 | 0,797 |
| Q2 | 77,8750 | 44,288 | 0,482 | 0,790 |
| Q3 | 77,3750 | 46,418 | 0,362 | 0,797 |
| Q4 | 77,5833 | 45,732 | 0,264 | 0,803 |
| Q5 | 77,8333 | 45,275 | 0,393 | 0,795 |
| Q6 | 77,7500 | 47,500 | 0,137 | 0,809 |
| Q7 | 77,6250 | 45,201 | 0,429 | 0,793 |
| Q8 | 77,7917 | 44,607 | 0,441 | 0,792 |
| Q9 | 77,5833 | 44,949 | 0,495 | 0,790 |
| Q10 | 77,7917 | 46,172 | 0,229 | 0,805 |
| Q11 | 77,7500 | 45,674 | 0,208 | 0,809 |
| Q12 | 77,7083 | 46,476 | 0,203 | 0,807 |
| Q13 | 77,5000 | 44,957 | 0,461 | 0,792 |
| Q14 | 77,6250 | 44,940 | 0,459 | 0,792 |
| Q15 | 77,6667 | 43,449 | 0,498 | 0,788 |
| Q16 | 77,7500 | 43,326 | 0,507 | 0,788 |
| Q17 | 77,5833 | 44,514 | 0,489 | 0,790 |

| | | | | |
|-----|---------|--------|-------|-------|
| Q18 | 77,7500 | 45,239 | 0,394 | 0,795 |
| Q19 | 77,5000 | 44,870 | 0,423 | 0,793 |
| Q20 | 77,2500 | 45,761 | 0,380 | 0,796 |

Prepared by: John Caicedo

A value of 0.8 has been obtained, this analysis was carried out by element and general scale, giving a result "Very good" according to the scale, and determines that the instrument of the variables is reliable to apply in the research. The Cronbach's alpha coefficient, which is based on the coherence method, was applied to determine the reliability of the instruments under the following reliability criteria, which are detailed below.

The questionnaire used was a necessary tool to collect the information that is needed and are determined according to the order of the different indicators of ICTs and continuous learning

3.5.3 SPSS

It is a collection of computer programs designed to examine scientific data pertaining to the social sciences. (What Is SPSS?, s. f.) The SPSS program allowed data to be entered to obtain the sampling of the students who were piloted for the Chronbach Alpha and to validate the instrument.

3.5.4 R Comander

Use of statistical analysis after conducting exploratory data analysis using R Commander to address common questions in the biological sciences. (Karp, s. f.) The program allowed the research test statistician, with resampling data.

3.6 Population and sample

3.6.1 Population

The study population is the students of the 3rd year of Unified General Baccalaureate, of the "Isabel de Godín Educational Unit" giving a total of 207 students who through the surveys are allowed to know if the current situation of ICTs knowledge and continuous learning.

3.6.2 Sample

The sampling used is simple random sampling, a smaller group, known as the sample, is chosen at random from the entire population of participants, which is a bigger group. It's among the most straightforward techniques for systematic sampling to obtain a random sample. (Simple Random Sampling.) In this way, through the SPSS program, we have a sample of 135 students from the 3rd year of BGU to carry out the surveys that allowed the development of the research.

For the following research, a permutation Re sampling was performed to readjust the model.

3.7 Informed consent form

To guarantee the protection of participants in this study, an informed consent form was developed that met ethical and legal standards. This form included information about the study's intentions, the nature of the research, and the students' voluntary participation. The ethical elements contemplated were: confidentiality of the data, the right to privacy and the option to withdraw from the study at any time without repercussions.

Permission for the application of the test in the students was granted by the rector of the "Isabel de Godín" Educational Unit, who supported the development of the causal investigation. The participation of 135 third-year high school students, obtained after informed consent, made it possible to collect relevant data for the analysis of the impact of ICTs on continuous learning, thus ensuring compliance with ethical principles in research.

Tabla 2: Students' list

| Nº | Participants | Accepted terms |
|------------|---------------------|-----------------------|
| 135 | Students | Yes |

Prepared by: John Caicedo

According to the provided table, we can observe the participation of 135 students of the third year of high school of the "Isabel de Godín" Educational Unit, which allowed the development of the causal research.

CHAPTER IV

4 ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Results

For the construction of the response function, a scatterplot with two linear functions is followed with the following variables:

Independent variable: ICTs

Dependent variables: Continuous development of learning. English subject (Score)

The minimum squares method ensures that the addition of the squares of the residuals is minimal. In addition, the method is of minimum variance and the fulfillment or not of the assumptions. In addition, to determine the parameters or coefficients in the response functions, Forms, a component of a representative sample of the population that must adhere to the established parameters, has been used. The statistical package R Commander will be used to calculate the optimal response function.

It referred to investigating how ICTs influence the continuous learning of students in the 3rd year of General Unnified Baccalaureate on the teaching-learning process of the English language, verifying if the sample comes from the population in which the phenomenon is described, such as ICTs. In this case, the fulfillment of the assumptions is expressed through the classical models. The following is verified:

If the R2 coefficient is included in the following range: $0.6 \leq R^2 \leq 1$ If the used model corresponds to the studied phenomenon. If there is a relationship between the variables that are ICTs and continuous learning, for this, the following qualitative test is carried out

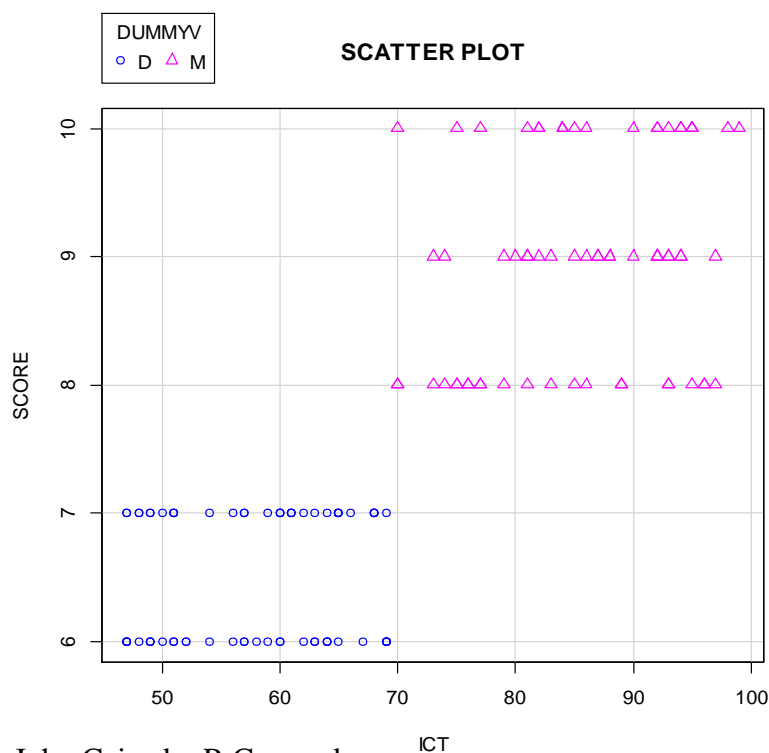
on the students to verify if there is a relationship between the independent variables and the dependent variable.

The obtained results within the object of study are demonstrated below. The relationship between the measurement of alignment between ICTs and continuous learning (Cognitive Ability, Socioeconomic Conditions, Family Support, Study Habits, Psychological Factors)

When estimating the results

Between ICTs and continuous learning

Figure 1: DUMMY

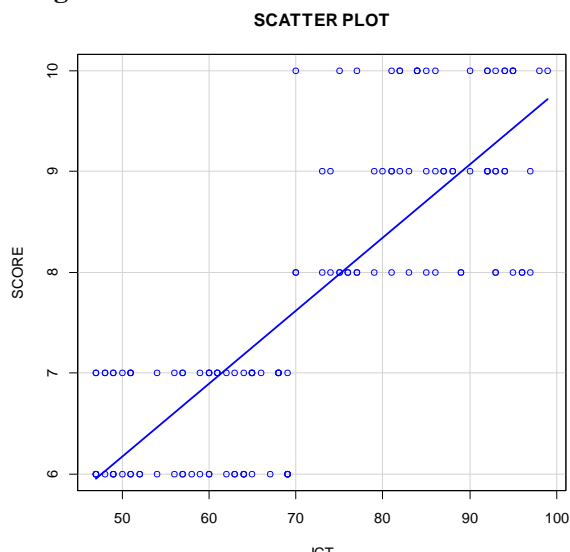


Prepared by: John Caicedo, R Comander

The pink triangles indicate of **motivated** students; Taking this into account, within the analysis of the results it is indicated that there is a small number of **demotivated students**, indicating that this was produced by the lack of interaction that for various reasons were

not found or lived with them, internal problems that worry and destabilized the academic process; while unmotivated students were taken into account that they have less than 7 that these scores are reached, students who did not have the same opportunities as the other group, referring to family problems that prevent their complete student development, lack of access to technology, among others.

Figure 2: ScatterPlot



Prepared by: John Caicedo, R Comander

R² (coefficient of determination) In the study of academic performance in the English subject, an R²= 0.6558 and p-value= < 2.2e-16 are obtained, in conclusion, it is an adjusted linear model.

The equation of the adjusted model is:

Academic performance in English=2.556675+0.072326×ICT/SURVEY+Error: (Cognitive Ability, Socioeconomic Conditions, Family Support, Study Habits, Psychological Factors).

Academic performance in English = 2.556675 + 0.072326 × ICT/SURVEY + Error:

(Cognitive Ability, Socioeconomic Conditions, Family Support, Study Habits,

Psychological Factors)

- **Academic performance in English:** The dependent variable, that is, what the model is trying to predict or explain. It represents the academic performance of students in English.
- **2.556675 (intercepto):** This is the **intercepto** or constant of the model. It indicated the average value of academic performance in English when all the independent variables (in this case, ICTs/SURVEY) take the value of 0. It is the reference value when the ICTs variable was not used.
- **0.072326 × ICT/SURVEY (ICTs/SURVEY coefficient):** This is the coefficient of the independent variable ICTs/SURVEY. It represented the expected change in academic performance in English for each additional unit in the ICTs/SURVEY score. That is, for every 1 increase in the survey score (which measures the use of ICTs or its influence), academic performance in English increased by 0.072326 units, all other factors being equal.
- **Error (Cognitive Ability, Socioeconomic Conditions, Family Support, Study Habits, Psychological Factors):**
 - The **term error** (or residual) included other factors not directly modeled in the formula, but which can influence academic performance in English. In this case, the error captures the variables:
 - **Cognitive Ability**
 - **Socioeconomic Conditions**
 - **Family Support**
 - **Study Habits**
 - **Psychological Factors**

These variables influenced in academic performance, but they were not explicitly included in the equation as independent variables. Rather than being modeled directly, they are considered part of the error, meaning they are recognized as factors that may be affecting the results, but are not specifically quantified in this model.

This model predicts that for every one-unit increase in ICTs' usage, academic performance in English increases by 0.072326 points.

- **$R^2 = 0.6558$** : This indicates that 65.58% of the variability in academic performance in English can be explained by the use of ICTs, which is a considerably high value, suggesting a strong relationship between the variables.
- **p-value < 2.2e-16**: This value is significantly less than 0.05, confirming that the model is statistically significant at the 95% confidence level. This means that the observed relationship between ICTs and academic performance is not the product of the probability.

Within the causal studies there is a range of error and this will always consider the other variables those are Cognitive Ability, Socioeconomic Conditions, Family Support, Study Habits, and Psychological Factors)

Within this research, which is a causal study therefore, it allowed to give predictions, which are the minimum and maximum values, has an explained variability of 65.58% and with a p-value <0.05. It turns out to be significant at 95% confidence level.

- A student who obtains 47 is likely to have within the "Isabel de Godín" Educational Unit is 5.95.
- A student who obtains 77 is probable to have 8.12 within the "Isabel de Godín" Educational Unit.

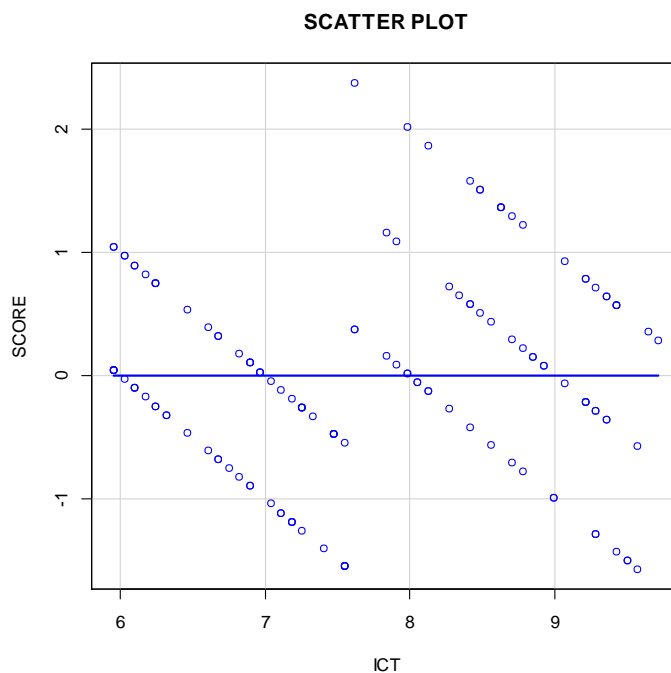
- A student who obtains 100 is probable to have 9.78 within the "Isabel de Godín" Educational Unit.

Tabla 3: Predictions

| ICT | SCORE (Prediction) |
|-----|--------------------|
| 47 | 5.955984 |
| 77 | 8.125756 |
| 100 | 9.789248 |

Prepared by: John Caicedo

It is important to do a residual examination because it is necessary to know what is the normality of residuals, and to avoid generating bias in the research.

Figure 3: Residual Analysis

Prepared by: John Caicedo

It is important to do a residual examination because it is necessary to know what is the normality of residuals, and to avoid generating bias in the research.

Within this research, it is required that the ICTs and continuous learning variables are distributed in the normal way of the Lilliefors test (Kolmogorov-Smirnov) for a sample that can be used and to know that the variables are distributed appropriately if it has more than 50 data. It is important to obtain $D = 0.064944$, $p\text{-value} = 0.1763$, during this process it is not resampled as the residuals are normally distributed at 95% confidence level.

The **Lilliefors test (Kolmogorov-Smirnov)** was applied to verify the normality of the residuals. The p-value obtained was **0.1763**, which is higher than 0.05. This indicated that the residuals follow a normal distribution, which validates one of the assumptions of the linear regression model.

Tabla 4: Predictions with 95% confidence intervals

| ICT | SCORE (PREDICTION) | LOWER | UPPER |
|------------|---------------------------|--------------|--------------|
| 47 | 5.955984 | 4.291051 | 7.620917 |
| 77 | 8.125756 | 6.475101 | 9.776412 |
| 100 | 9.789248 | 8.120206 | 11.458290 |

Prepared by: John Caicedo

These predictions are accompanied by 95% confidence intervals, which indicate uncertainty in the prediction:

- For **ICT's = 47**, the confidence interval ranges from **4.291051** to **7.620917**.
- For **ICT's = 77**, from **6.475101** to **9.776412**.
- For **ICT's = 100**, from **8.120206** to **11.458290**.

This simple linear regression model provides a significant relationship between ICTs use and academic performance in English. The results are solids, with good adjustment model and adequate residual normality, supporting the reliability of the predictions made.

It is important to know that the use of ICTs contributes significantly to academic performance in English, it is necessary to broaden the focus to include other determining factors in the learning process. Future researches could explore more complex models that include additional variables such as those mentioned above, in order to obtain a more holistic analysis. Likewise, it would be interesting to investigate whether this relationship between ICTs and academic performance is maintained in other areas of knowledge or if it varies depending on the educational context, the demographic characteristics of the students, or the type of ICTs implemented. This would allow education managers to design more informed strategies to effectively integrate ICTs into the teaching-learning process, maximizing their positive impact on students' academic development.

CHAPTER V

4.2 Discussion of results

Answering the question what impact do students' attitudes towards the use of ICTs have on their overall achievement in the English subject within a baccalaureate program? of the research done the learning as second language such as English is a complex process influenced by various cognitive, socioeconomic, familiar and technological factors. In this chapter, based on the obtained results, several variables that affect the development of language competencies in students in the third year of the Unified General Baccalaureate of the Isabel de Godín Educational Unit during the 2024-2025 school year on the teaching-learning process of the English language. Among the most relevant factors are access to information and communication technologies (ICTs), cognitive skills, socioeconomic conditions, family support and study habits. These elements are fundamental to

understanding how teaching-learning processes are configured and what challenges students face in this context.

The results obtained in this study show a coefficient of determination (R^2) of 0.6558, which indicates that 65.58% of the variability in academic performance in English can be explained by the use of ICTs. This value is remarkably high and aligns with previous research findings that also document a significant correlation between the use of information and communication technologies and academic performance in various subjects. For example, similar studies have found that R^2 varies between 0.60 and 0.75 in the educational contexts analyzed, which supports the idea that the effective use of ICT contributes to improved academic results. However, it is essential to recognize that, although the relationship is significant, there are still variables such as cognitive ability, socioeconomic conditions, family support, study habits, and psychological factors that can influence this dynamic. Therefore, although the results are consistent with the existing literature, they suggest the need to further investigate the interrelationship between these variables in order to fully understand the impact of ICTs on students' continuous learning.

ICTs and its impact on English Learning Information and communication technologies have proven to be powerful tools to enhance language learning, especially when they are effectively integrated into the school curriculum. According to several studies, the proper implementation of ICTs in the classroom not only increases students' interest, but also improves their academic performance in specific language skills such as writing, listening, and speaking (Chen and Hsu, 2021). In the context of this research, it is observed that students who have regular access to technological devices and online educational platforms make greater progress in developing their English skills.

According to Sánchez and Zubieta (2020), the use of digital tools such as mobile applications, autonomous learning platforms, and multimedia resources significantly increases students' intrinsic motivation towards learning a foreign language. This motivation is a key, especially in an environment where traditional classes can be unattractive or decontextualized with respect to youth interests. However, as survey results indicate, unequal access to these technologies remains an obstacle for many students, perpetuating gaps in academic achievement between those with and without technological resources.

Socioeconomic Conditions and their Effect on the Educational Process.

The socioeconomic status of students was identified as a key factor affecting both access to ICTs and the English learning process. Various studies, such as that of Kormos and Csizér (2018), indicated that students from lower socioeconomic backgrounds tend to have fewer opportunities to practice English outside the classroom, which limits their exposure to the language and their ability to develop strong language skills. This situation is confirmed in the results of the present research, where a large majority of students belong to lower-middle or lower class families, which has restricted their access to devices and connectivity necessary to take full advantage of ICTs.

Despite these economic constraints, students showed a high motivation to learn English, driven in large part by the awareness that language proficiency is a key tool to improve their future job and academic prospects. This internal self-motivation is a critical element that, as Weiner's (1994) attribution theory points out, is closely related to the perception that students have about their own achievements and failures. Those students who attribute

their success to personal effort, rather than external factors, tend to develop greater resilience and perseverance in the face of economic adversity.

Cognitive Factors and Family Support.

The development of cognitive skills is another determining factor in learning English. Research suggests that students with higher cognitive ability tend to adapt better to the demands of learning a second language, as they can process and retain information more efficiently (DeKeyser, 2021). In this study, it was observed that those students with functional homes and significant family support have better results in tasks related to English, especially in oral and written production.

Family support is an aspect that not only improves the emotional well-being of students, but also fosters an environment conducive to learning. As indicated by recent studies (Saville-Troike and Barto, 2017), students who have a family environment that values education and actively supports the learning process tend to perform better academically compared to those who lack this support.

In addition, the results reveal that psychological factors, such as self-confidence and self-esteem, play an important role in the development of English skills. Students who feel confident in their abilities are more willing to engage in communicative activities, which accelerates their language learning (Horwitz, 2019).

Limitations of the Study

Despite the significant findings, this study has some limitations. First, limited access to technologies and disparity in students' socioeconomic status may have influenced outcomes more pronouncedly than expected. Likewise, the number of participants and the duration of the study restrict the possibility of generalizing these results to other

educational contexts. It is suggested that future research expand the sample to more institutions and conduct longitudinal follow-up to gain a more detailed view of the factors that influence English learning over time.

4.3 Conclusions

In conclusion, the present study has evidenced the significant influence of information and communication technologies (ICTs) on the academic performance in the English subject of students in the third year of the Unified General Baccalaureate at the Isabel de Godín Educational Unit on the teaching-learning process of the English language. The coefficient of determination (R^2) has been found to be 0.6558, suggesting that 65.58% of the variability in academic performance can be explained by the use of ICTs. This indicates a strong correlation between the use of these technological tools and the development of language skills, corroborating previous findings in similar research. However, it is also essential to consider other factors that influence the learning process, such as cognitive skills, socioeconomic conditions, family support, and study habits. The evaluation of the achievements obtained in this research reveals that, although ICTs are a key factor, there are limitations that need to be addressed. Inequalities in access to technology and socioeconomic differences have affected a group of students, generating a gap in academic performance. This study not only highlights the relevance of ICTs, but also highlights the need for a more inclusive approach that considers students' family and economic contexts, as these aspects significantly influence their motivation and academic performance. Regarding the implications of the results, it is suggested that educators and educational policymakers design strategies that promote the equitable use of ICTs in the classroom, as well as the implementation of programs that strengthen family support. This is vital to

ensure that all students, regardless of their socioeconomic background, have access to resources that facilitate their learning. It is also essential to promote the active participation of families in the educational process; since their involvement has been related to better academic results. Finally, it is recommended that future research delve into the relationship between ICTs and learning in other areas of knowledge, as well as explore the impact of various demographic characteristics on the use of these technologies. Broadening the approach to more complex models that include additional variables will allow for a more holistic understanding of lifelong learning and contribute to improving pedagogical strategies in diverse educational contexts.

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6 ANNEXES

Annexe 1

INFORMED CONSENT FORM

Thank you for agreeing to participate in this study: The influence of ICTs within the continuous development of learning in the students of the third year of "Isabel de Godín" educational unit, in Riobamba City, Chimborazo Province". This form provided information about the purpose, procedure, benefits of the study, and incentives, in addition to contact details in case you have questions about the research and your rights.

The purpose of this research was to analyze how ICTs influence the continuous development of learning in students of BGU in the third year determine the high or slow or advance in the improvement of English language skills; using effectively ICTs, applying as strategies and methods to reach better results in learning English according to the advancement and development of English skills (listening, speaking, writing, reading and vocabulary) in classroom and in real life.

The benefits of this study included to know that ICTs are actually a good option to develop English skills at school and at home as a self education; surround about these kind of digital tools to link the technology with the actual students' education; trying to create a personalizing process with the foreign language; for students, this tendency is very natural to manage; and very easy for them and in effect the correspondent positive answer to improve the English language process developing their abilities in a high percentage.

To collect data, the sample students were taken from the 3rd level in high school of “Isabel de Godín” Educative Unit, because they were the current group when this study started; besides, taken in account their previous reached abilities in the first levels, and after applying the different ICTs tools; and the obtained results after the survey application to compare their thinking, practice and personal experience using ICTs.

This report was used just in this document of research, managed the results in order to determine the objectives and conclude the proposals on it. The results was not used for other proposals.

Your participation in the research was not affected in their academic record, and if you decided not to participate, it was not generate any punishment. However, if you continue with the research until the end of it, personal information was not revealed. The information will be keep in private and confidential for five years. After this point, you have the choice to keep or destroy it.

If you have any complaint about any aspect of this research, or you require further information as to the process of the research, you can contact John Franklyn Caicedo Pacheco, researcher 0984102406 johncaicedo53@hotmail.com

By signing this Informed Consent form, we, the undersigned, concur with the terms of these agreements. Date: 28 – 07 – 2024

Anexxe 2: Survey

ENCUESTA DIRIGIDA A: Los estudiantes de 2dos y 3ros de bachillerato de la Unidad Educativa "Isabel de Godín

OBJETIVO DE LA ENCUESTA

Recopilación de datos referente a cómo influyen las TIC's en el desarrollo del aprendizaje continuo de los estudiantes de tercer año de B.G.U. de la Unidad Educativa "Isabel de Godín" en la ciudad de Riobamba, provincia de Chimborazo.

* La Encuesta es de carácter investigativo, los datos obtenidos con ella son de usos exclusivo para el desarrollo del proyecto de investigación.

1. (N.I-10%) Nada importante
2. (P.I-30%)
Poco importante
3. (M.I-50%)
Medianamente importante
4. (I-70%)
Importante
5. (M.I-100%)
Muy Importante

jazminmoina27@gmail.com [Cambiar de cuenta](#)



No compartido

* Indica que la pregunta es obligatoria