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<u>Español</u>	<u>Inglés</u>
1. practicante	student teacher
2. código axial	axial coding
3. triangulacion	triangulation
4. competencia tecnológica	technological competence
5. competencia pedagógica	pedagogical competence
6. perfiles TIC	ICT profiles
7. technology	tecnología

RESUMEN DEL CONTENIDO: (Máximo 250 palabras)

Este proyecto busco determinar el nivel de competencia tecnológica y pedagógica que los practicantes del programa de licenciatura en ingles demostraron en el proceso de práctica llevado a cabo en el periodo 2015-B. Fue desarrollado con base en investigación exploratoria secuencial mixta dirigida por Brown (2006), el cual proporciona la información cualitativa y cuantitativa necesaria para ampliar el análisis. Encuestas, entrevistas, y observaciones fueron implementadas al grupo de practicantes. La información recolectada a lo largo de la investigación fue organizada con el apoyo de una técnica de triangulación y analizada con ayuda del código axial. Los resultados mostraron que la mitad de los practicantes fueron *indiferentes* de acuerdo a los perfiles modificados por las investigadoras los cuales fueron propuestos por Aretio(2007)con respecto al uso de la

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tecnología con propósitos pedagógicos. Por el contrario solo un pequeño grupo de practicantes fueron categorizados como *equilibrados* y una cantidad similar como desencantados

ABSTRACT: (Máximo 250 palabras)

This project sought to determine what levels of technological and pedagogical competences student teachers of the ELT Program at Universidad Surcolombiana demonstrated in their practicum process carried out in 2015-B. It was written under the basis of mixed sequential exploratory research addressed by Brown (2006), which provided qualitative and quantitative data necessary to broaden the analysis. An Ending cross sectional-survey, interviews and observations were implemented to the group of Student Teachers. The information gathered with the instruments throughout the research study was organized supported on the triangulation technique and analyzed with the head of the axial coding. The results showed that half of the student teachers were indifferent, according to the profiles modified by the researchers from the ones proposed by Aretio (2007), towards the use of technology for pedagogical purposes. On the contrary, just a small number of student teachers were categorized as Balanced and a similar amount as Discouraged.

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ICT PEDAGOGICAL AND TECHNOLOGICAL COMPETENCES STUDENT TEACHERS
DEMONSTRATED DURING THEIR PRACTICUM IN SECONDARY.

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Abstract

This project sought to determine what levels of technological and pedagogical competences student teachers of the ELT Program at Universidad Surcolombiana demonstrated in their practicum process carried out in 2015-B. It was written under the basis of mixed sequential exploratory research addressed by Brown (2006), which provided qualitative and quantitative data necessary to broaden the analysis. An Ending cross sectional-survey, interviews and observations were implemented to the group of Student Teachers. The information gathered with the instruments throughout the research study was organized supported on the triangulation technique and analyzed with the head of the axial coding. The results showed that half of the student teachers were *indifferent*, on the contrary, just a small number of student teachers were categorized as *Balanced* and a similar amount as *Discouraged*. The profiles mentioned in this study research were modified by the researchers in accordance to the teacher's ICT profiles proposed by Aretio (2007), towards the use of technology for pedagogical purposes.

Keywords: Student teacher, axial coding, triangulation, technological competence, pedagogical competence, ICT profiles, Ministerio de Educación Nacional, technology.

Introduction

Over the past few years the use of computers and new technologies has become a must in the teaching and learning processes at Universidad Surcolombiana, as well as the positive impact with the implementation of ICT resources in educational environments and the use of media inside the classrooms, (Herrera; Fernández; Alarcón, 2016).

In Colombia “although teachers were aware of the importance of using ICT in the learning and teaching processes, based on our observations and based on the data gathered, we identified that most of student teachers knew how to use ICT for personal purposes, but not in their daily teaching practices. Actually, many of them considered themselves good at handling with ICT whereas they admitted in the surveys that they hardly used these tools in their classroom to improve the student's learning process.” (Arias, Buitrago & Pineda, 2011)

This research study portrayed the level of *technological competence* which is the ability of using and selecting the technology in the proper way for specific objectives and *pedagogical competences* defined as the ability to use ICT to strengthen the teaching and learning processes of student teachers who carried out the practicum in 2015-2B in schools of Neiva in light of the ICT competences for the professional teaching development established by the Ministry of Education in Colombia issued in 2013.

The project was conducted on the basis of a sequential explanatory design, (Creswell, 2003). The implementation of a cross-sectional survey, interviews and observations to student teachers served to collect qualitative and quantitative data necessary to reach the research goals. The methodology introduced five stages to organize the performance and analysis of every instrument of the project in a more, according to the advancement of the student teachers throughout their

teaching experience. The focus group was 22 student teachers of the secondary practicum of the ELT program at Universidad Surcolombiana in the same period.

It is expected that this research project could be consulted and/or strengthened by future research studies in the domain of ICT in foreign language educational settings.

1. Problem Statement

In the last two decades, ICT resources have helped to build up worldwide societies and have improved every single aspect of human life. Also, in teaching and educational fields, where its impacts have grown at such a high speed, the emerging society of knowledge needs continuous and active research.

Education and ICT are thus a matter of ongoing research and government involvement through effective policies. In this sense, the Colombian Ministry of Education (2013) implemented its own framework to reach national goals and standards. The “ICT competences for the professional teaching development” (Competencias TIC para el Desarrollo Profesional Docente), in which there is a detailed description of the competences and levels in each competence to be acquired by teachers in terms of technology for teaching purposes. In this manner, the government from 2000 and on developed a series of governmental programs such as “Colombia Aprende”, “Vive Digital”, “En TIC Confío” and “Computadores para Educar” as national strategies to train teachers in ICT management, strengthen the technological infrastructure in schools and improve connectivity in all regions. In Huila the ongoing program “Neiva speaks English” has been implemented since 2009, which aims to form citizens capable of communicating in English in pro of the country’s development.

At Universidad Surcolombiana among the educational programs, the implementation of ICT resources has been constantly explored with research studies such as “las tecnologías de la información y la comunicación en la enseñanza del inglés en las instituciones educativas públicas del municipio de Neiva – Estudio diagnóstico”. This study was carried out in 2012 by the researchers Salazar and Durán from the research group Comuniquémonos with a diagnosis of the English teachers’ ICT knowledge and use in the teaching process in public schools of Neiva.

They concluded that even if half of the English teachers know and make use of ICT resources for personal purposes, a less percentage use them for academic purposes due to their low level of knowledge. However, teachers are aware of ICT benefits for classroom environments and are keen to be trained. They also found that schools are not backing or leading initiatives in this strand yet.

Universidad Surcolombiana offers their students the chance to be active users of technology in their courses. The university Online Platform USCOVIRTUAL, is based on the LMS Moodle to administrate different virtual courses, which are taken by the students. In addition, the curricula contains a set of subjects such as CALL (for the EFL program only), HIPPI or AUDIOVISUAL MEDIA to strengthen the students' ICT skills in order to enrich their pedagogical uses and contribute to their professional development in the current and future contexts. For instance, Muñoz, Salazar, Zuñiga, Jaime and Durán, (2015) from the ELT program at Universidad Surcolombiana, carried out the research study "Empowerment of essential English teaching-learning practices and ICT use in Neiva's public schools" which sheds lights on the degree of incorporation in the public educational apparatus of ICT in local contexts.

Despite all the research studies and efforts done at the university, particularly in the EFL program, the outlook is still blurred as more research and the implementation of new strategies is necessary especially in practicum processes. It is unknown whether the students of the ELT program implement ICT mediated practices in their practicum processes, even if they carry out innovation projects and complementary activities as part of the requirement of their practicum experience.

According to an informal interview (See appendix A) carried out by the student teachers from the first term of 2015, it was shown that only 5% of them used ICT resources and incorporated

them to their teaching practices. This informal interview was applied to the 50% of student teachers out of 22 doing their practicum in previous terms, to make a diagnosis of the ICT application in their practicum experiences. That result led the researchers to wonder if EFL student teachers counted on ICT competences for teaching purposes and if they were aware of their potential; also, if they used digital resources effectively according to the guidelines proposed by the Ministry of Education in this regard.

In this sense, the researchers were interested in knowing *which is the level of the technological and pedagogical competence that student teachers demonstrated in their practicum experience?*

2. Justification

Currently, the information and communication technologies (ICT) are immersed in all aspects of our daily life and undoubtedly they have also permeated education and the way it is been conducted. The need of incorporating ICT into educational fields is getting stronger and the Colombian government is aware of it. This is why the Ministry of Education has created different strategies to link technology and education; for instance, “ICT competences for the professional teaching development” issued in 2013. The document discusses the competences teachers have or should acquire to cope with the current demands from society and globalization dynamics.

Universidad Surcolombiana has lately conducted some research studies inside its faculties upon the usage and implementation of ICTs; for instance “Uso de las TIC`s como herramienta metodológica para el desarrollo de las competencias matemáticas en los educandos de grado noveno” (Carvajal; Gonzalez; Perdomo; corredor; 2006); or “Niveles de apropiación de las tecnologías de la información y de la comunicación (TICs) en el aula de clase, por parte de los docentes de básica primaria de la I.E. Juan de Cabrera” (Gonzales; Lizcano; Lozano; Cortés; 2013) which refer to the ICT resources implementation in the educational environments and its efficiency. Therefore, to contribute to their professional development, the university is taking ICT`s as a strong strategy student teachers can count on to innovate and improve classroom environments and have an effective teaching.

Knowing this, although there is a lot of information and research studies about the level of competence teachers have in the use of ICT resources, as evidenced in the research study conducted by professors Salazar & Muñoz (2012), it is clear that there is not still enough information about the pedagogical Competence (PC) and the Technological Competence (TC) that student teachers in the ELT program demonstrate in their teaching practices.

In this sense, this project provides the necessary diagnosis of the level of technological and pedagogical competence of student teachers in their practicum process in the city of Neiva. It will as well, serve as a reliable source of literacy on the current practicum dynamics in the ELT Program for future applied research studies on ICT strands.

3. Research Objectives

3.1. General Objective

To determine the levels of technological and pedagogical competences student teachers of the ELT Program demonstrate in their practicum process during the period 2015-B.

3.2. Specific Objectives

To describe the profiles that student teachers had in terms of technological and pedagogical competences.

To define the percentage of EFL student teachers trained in the use of ICT resources for pedagogical environments.

To establish which language skills were reinforced by resorting to ICT resources in their teaching processes.

4. Literature Review

In this literature review researchers explained the topics in the field of English education, inclusion of technology in classroom environments, practicum courses, ICT classroom strategies, teachers and student teachers' ICT profiles and similar research studies, necessary for a better contextualization of this research project.

4.1. UNESCO ICT Action Guidelines

In terms of governmental awareness, UNESCO (2011) has a “holistic and comprehensive approach to promote ICT in education. Access, inclusion and quality are the main challenges they address among many others.”

According to the UNESCO (2011), ICT competence framework for teachers, the integration of ICT resources in education is enclosed in “three successive stages of a teacher’s development” which are under the basis of three main approaches to teaching:

“The first is “Technology Literacy” which refers to enabling students to use ICT in order to learn more efficiently. The second is “Knowledge Deepening”, enabling students to acquire in-depth knowledge of their school subjects and apply it to complex, real-world problems. The third is “Knowledge Creation”, enabling students, citizens and the workforce creators of new knowledge required for more harmonious, fulfilling and prosperous societies.” UNESCO (2011)

UNESCO from its principles of education, science and communication has supported the idea of integrating technological resources in educational environments, establishing the standards of ICT competence for teachers (Organización de Naciones Unidas para la Educación, la Ciencia y la Cultura, 2008), which serves as an aid to empower teachers in the efficient and appropriate use of ICT resources for teaching environments worldwide.

“Teachers need to be trained to have students empower with the advantages that ICT may give them. Schools and classrooms - either face-to-face or virtual- should count on teachers that have the competence and resources needed upon the ICT domain who are able to teach efficiently the subjects demanded, integrating at the same time concepts and abilities of these ones.” (Trans.) (UNESCO 2011)

4.2. Practicum Course

The foundations for practicum courses are at the core of the previous concepts and theoretical developments. It gives the student teachers the chance to use what they have learnt in real situations and controlled environments; they gradually have the responsibility to create innovative and original classes always with the guidance of experimented teachers.

In the teaching practicum, it does not only give trainee teachers teaching experience in different educational environments through the application of theory and teaching courses, but also it enhances student teachers' skills in selecting, adapting and developing course materials for their lesson planning (Crookes, 2003).

At Universidad Surcolombiana, the English teaching practicum is applied in the two last semesters which are divided into primary and secondary levels, in public and private schools of the city. The student teachers have the accompaniment of a supervisor teacher and a cooperating teacher, who are in their whole practicum process. They also attend to regular monthly follow-ups with the practicum coordinator to tighten and improve the teaching experience.

4.3. ICT Resources in the Educational Purposes: EFL Teaching in Secondary Levels

Today's global society is making many of us face the challenges of learning a foreign language for global communication, specifically English and this is the reason why schools

around the world have started to define strategies to incorporate it into their classroom activities. Colombia is not the exception to this trend. (Altbach, Reisberg, & Rumbley, 2009)

Nowadays, the trend of ICT management for all kinds of purposes has made it one of the best strategies for academic environments, making it much more interesting for students and more independent for teachers. This has made schools incorporate technology in their daily activities to link the learning environment with the use of ICT resources. As suggested by Wang (2008)

In terms of pedagogical design, a learning environment ought to support and satisfy the needs and learning intentions of students with different backgrounds. It should also involve using various learning resources and activities that support students' learning, and allow teachers to facilitate learning.

Technology and pedagogy has now a very close relation, in the sense that both of them are basis of social interaction and personal growth; pedagogical designs are currently likely to focus on the use of these handy technological resources to make classes more dynamic and student-centered.

However, the primary factor that influences the effectiveness of learning is based in the pedagogical design based on the students' social environment and blended into technology (Wang, 2008). Accordingly, pedagogical and technological competences should be developed and enhanced in the teacher's performance so as to be able to manage and create a technology-enhanced learning environment for students.

Consequently, teachers and school administrators are aware of the importance of the use of ICT resources for their teaching goals and have started initiatives to strengthen their own performance integrating ICT tools and investing in infrastructure, as well as the government does all across the country.

4.4. ICT Profiles in Higher Education

According to the Ministry of Education of Colombia, institutions must be provided with ICT resources for the improvement and enhancement of the classes. Also, teachers must be ICT qualified; nevertheless some of the teachers do not feel comfortable and feel frustrated when it comes to using technology in classroom environments and some others misuse these tools.

Aparici (2001) divided teacher's attitudes, frustrations, and skills into three main categories: "*tecnófilos, tecnófobos* and *docentes críticos*". The first category is characterized by the inclusion of the ICT resources in every process and class up to the point of creating dependency on them. On the contrary, the teachers who are classified as "*tecnófobos*" are portrayed by the antipathy, resilience or lack of knowledge about the use of technology in pedagogical environments. Finally the last profile of teachers suggested by the author; "*críticos*", are the ones who know the benefits, limitations and implications of implementing ICT resources in their classes, this group of teachers try to find the best way to promote a meaningful learning by using the correct strategies and tools for the right skills.

However the profiles mentioned above do not classify all the different nuances and possibilities in the educational environments thus Lorenzo García Aretio (2007) redefines the profiles in categories and subcategories as follows:

"*Innovadores*": Is the first category adapted by Aretio (2007) delineates it by the passion that exist for the ICT resources, the quality, advantages and disadvantages that the use of these resources may have in the educational settings. He proposed the following subcategories:

"*Incondicionales*": This group of teachers is always looking the way to use and implement technology in their teaching processes and curricular environments. Nevertheless, contradictory

to the sought for a meaningful infusion of technology in the classes, this group of teachers may overuse technology due to the vehemence they feel for it.

“Críticos”: Is the group of teachers who are continuously questioning themselves about the best way to use and improve ICT resources, the possible advantages and disadvantages in their processes as well as the methods and procedures that may be significant and appropriate for their teaching.

“Pragmáticos”: Is the group of teachers who are experts in the knowledge, use and implementation of the ICT resources in the classroom processes. They know the characteristics and the correct strategies; this is the reason why they prefer to be in these environments.

“Desencantados”: different from the other profiles, this one is marked out by the lack of ICT resources in the institution, the planning, accessibility or disappointment of the teachers who cannot implement them in their classes even if they want to.

“Resistentes”: This category can be identified by the resistance presented by the teachers in which there are the subsequent profiles:

“Sin razones”: They abstain themselves of implementing ICT resources with no evident reason.

“Críticos”: Is the group of teachers who reject and discard the use and implementation of ICT resources with weak arguments and stubborn attitudes.

“Desconfiados”: This profile includes a group of teachers that could have badly experienced ICT resources and may have continued having concerns about implementing them.

“Indiferentes”: This group shows indifference and a lack of interest in using technology in educational environments.

“*Ignorantes*”: This profile shows teachers’ negative attitudes in the incorporation of technology in their teaching processes based on the lack of knowledge or ignorance of the possible advantages of ICT approaches.

4.5. Definition of Competence

Different definitions have been given to the term competence; for instance Dell Hymes (1972) who defined it as the ability to use knowledge and skills in situations, different from the learning context. Other definition of competence is given by Barnett and Gunn (2002) who defined it as the capacity of acquiring and using a skill as a way of problem solving.

In aspects of theory of syntax (1965), by Chomsky, he defined competence as “the capacity and willingness to development and interpretation” what means that competence is the ability of dealing with different situations making use of your own knowledge.

In terms of technology The Ministry of Education (2009). Defined the term as “the intrinsic characteristic of an individual (and therefore is not directly observable), which is manifested in his/her particular performance in accordance with certain contexts.” (Trans.)

4.6. ICT Competences for the professional teaching development

In Colombia, the Ministry of education established five core competences in the use of ICT resources, from these five ICT competences, the researchers decided to take the pedagogical and technological competences as the basis for the research project, taking into account that it was implemented on student teachers to determine to what extent they used and managed technology for educational settings.

* *Technological competence*: It makes reference to the ability of using and selecting the technology in the proper way for specific objectives.

* *Communicative competence*: Can be defined as the ability to express themselves, make contact and engage in virtual and audiovisual spaces.

* *Pedagogical competence*: It is the ability to use ICT to strengthen the teaching and learning processes by recognizing the achievements and the limitations of including these technologies in the comprehensive training of students and in their own professional development.

* *Administrative competence*: According to the document edited by the ministry of education, is the ability to use ICT in planning, organizing, managing and evaluating educational processes.

* *Research competence*: is defined as the ability to use ICT for the transformation of knowledge into new ideas.

The previous competences are ranged in turn into three sequential levels: (a) ***Exploration level***, which is the first approach to an unknown world; The teacher gradually becomes familiar to the range of possibilities offered by the implementation of ICT in education (b) ***Integration level***, the teacher introduces new technologies in planning, assessing and generally in teaching and learning processes. (c) ***Innovation Level***, the teacher uses ICT to create, to express ideas and to build new knowledge. This is the principal characteristic of the level. (Ministerio de Educación Nacional; competencias TIC para el desarrollo profesional docente 2013).

5. Research Methodology

5.1. Research Design

For the research purposes, this research study was attached to the exploratory research view suggested by Brown, which according to the online magazine *Exploratory Research (n.d.)*, “tends to tackle new problems on which little or no previous research has been done”. In this sense, this study was framed under the basis of a longitudinal exploratory research as it provided reliable literacy for future research studies by depicting a diagnosis of the level of technological and pedagogical competences that student teachers of Universidad Surcolombiana in the ELT program in the 2015-B term had in the use of ICT resources in secondary practicum courses from public and private schools of Neiva. Also, the researchers considered it pertinent to carry out this research study under the basis of a *mixed sequential explanatory design* (Brown, 2006, as cited in *Exploratory Research, n.d.*) as it incorporated qualitative and quantitative data for a broader analysis.

The research study was based on concurrent timing where we implemented an ending cross-sectional survey to the whole group of student teachers of secondary practicum, as well as open-ended questions in semi-structured interviews and observations of the student teachers’ development inside the classroom; all the 22 EFL student teachers in secondary practicum at Universidad Surcolombiana in schools of Neiva in 2015-B were our focus group.

For the data analysis the researchers made use of the triangulation technique addressed by Given (2008) which allowed them to use more than one instrument to collect data on the same topic to get reliable information; “*The basic idea underpinning the concept of triangulation is that the phenomena under study can be understood best when approached with a variety or a combination of research methods*” (Given, 2008).

To triangulate the data, we implemented an axial framing coding technique (Benaquisto, 2008, as cited in Given, 2008) to reassembled data so that the researchers were able to identify different relationships faster in the research study; these relationships gave light on categories and concepts (Strauss and Corbin, 1990) which were assigned to specific clusters of information from the different instruments conceived.

5.2. Stages of the Research

Stage 1: Implementation of informal interviews to student teachers from the previous term 2015-A, in order to collect information for the diagnosis of the ICT implementation in the practicum experience. (See appendix A)

Stage 2: Design and implementation of observations and interviews (see appendix B, C). The researchers made use of *semi-structured interviews* which according to Bryman (2004), “often involve a list of questions to be covered, but the interviewee has a great deal of leeway in how to reply”. In terms of Observation, Fraenkel, Wallen, and Hyun (2012) suggested in their book “*How to design and evaluate research in education*” four types of observation; the first is the *participant observation*, the *non-participant observation*, the *simulation* and finally the type of observation applied in this research study that was the *naturalistic observation* which involves observing individuals in their natural setting, without participating only observing how things naturally occur.

Stage 3: Analyze lesson plans from weeks one to fifteen, complementary activities and innovation plans from the sample group.(see appendix D, E, F).

Stage 4: Application of the ending cross-sectional survey, to the EFL student teachers in order to measure the perception they had about the use and the implementation of ICTs during their

practicum. (See appendix G). According to Fraenkel, Wallen, and Hyun (2012) in their book *“How to design and evaluate research in education”*.

“A cross-sectional survey collects information from a sample that has been drawn from a predetermined population. Furthermore, the information is collected at just one point in time, although the time it takes to collect all of the data may take anywhere from a day to a few weeks or more.” (p.394)

Stage 5: Triangulate all the instruments and redact the results found along the research study.

5.3. The Participants

The participants of this research study were 22 student teachers who carried out their secondary practicum in schools of Neiva in the second term of 2015. There were 08 men and 14 women among the ages of 19 and 24 who had already completed their DIPDI courses (didactics for English teaching) and English class up to 7th semester as well as all their curriculum courses up to 6th semester minimum, and who mostly were not working at the time. The stages included all participants of the group.

6. Results and Discussion

The instruments used for this research were triangulated backed on an axial coding (Strauss, 1990) which facilitated the analysis and interpretation of the information, as explained in the following chart.

Chart 1. Axial coding

Interviews	INT
Observations	OBS
Lesson plans	LSP
Questions	ALPHABET
Journals	JRL
Students	S+#
Innovation Plans	IP
Complementary activity	CA
Ending Questionnaire	EQ

6.1. Level of Technological and Pedagogical Competences and ST Profiles

Chart 2 shows the final percentages collected throughout the project including the student teachers' profiles modified by the researchers and determines the level of Pedagogical (PC) and

Technological Competence (TC) shown by student teachers from the second term of 2015, which was made in accordance with the Colombian ministry of education guidelines.

However, to understand the following chart it is important to get to know the profiles. These profiles were adapted by the researchers based on the categories designed by Lorenzo Aretio (2007):

Chart 2. Technological and pedagogical competence in student teacher's profiles

Level of Technological and Pedagogical Competence of the ELT Student Teachers	
ICT Competences and Profiles	
Tc and Pc level	Student Teacher's Profiles
INTEGRATOR	<i>Balanced (35,5%)</i>
EXPLORER	<i>Discouraged (21,7%)</i>
UNCATEGORIZED	<i>Indifferent (48,53%)</i>

The results of this study research showed that the 35,5% of the STs were classified as *Balanced*, having an integrator level of TC and PC. *Balanced* STs were enthusiastic and skilful in

terms of technological management for pedagogical environments, they combined traditional teaching with technological tools and did not overuse technology but did not leave it aside either. Instead were reflexive about when and how to implement them; for instance, S6-LP who included ICT resources in the 50% of the lesson plans during the practicum course, likewise half of student teachers (52%) applied ICT resources in their innovation plans.

Different examples were collected in this profile, as S18-INT who manifested that:

“...By my own experience and in spite of having seen subjects such as HIPPI. I try to reinforce that knowledge using video tutorials. I try to improve it. I consider my ICT competence is an 8 in computers...” (S18, personal communication, September, 2015)

Although, this type of STs did not propose or innovate in technological classroom environments and projects, they did know when and how to use ICT tools for teaching as shown by S18-INT:

“I think that we have to take advantage of every technological resource we have. Why not? I think that with ICT resources students can have a higher motivation level. So we as teachers can approach students to learn something different. Anyway no all students feel motivated with ICT resources.” (S18, personal communication, September, 2015).

Another example of *balanced* STs was S11 who using complex technological platforms and technological environments intended to encourage the significant learning and boost students' learning process by using the Online Learning Platform EDMODO in order to reinforce writing production and speaking interaction in the innovation plan. S11-INT commented:

“Yeah I always try to use the ICT because I always try to show my students some videos and listening songs and now I'm working in my innovation plan and it's a project with Edmodo and also some blogs. I give my students some homework to do and they have to make use of the

Internet at home and instead of using their time to do other stuff they make use of it improving their skills.” (S11, personal communication, September, 2015)

In addition, 21.7% were disposed to slightly minimize the use of technology at the first sight of problems, these student teachers were categorized as *discouraged*, that according to the profiles, were the student teachers who did not know how to use ICT resources completely or correctly or whose institutions did not provide them with the technological resources, getting easily disappointed to the point of minimizing their use to the least. The *discouraged* STs showed an Explorer level in technological competence and also an Explorer level in pedagogical competence.

For instance, S15-INT who expressed in a first moment:

“When I started to plan my lesson plans I wanted to use ICT for improving reading comprehension and listening comprehension because in this institution there are some tablets that could motivate students to read. Because there are so many websites with simple colourful stories so then it is a good way of improve reading comprehension.”

However in a second moment the student teacher also commented:

“...I have to be honest. I am not good at using ICT resources because I am not interested in using these resources. I know that it is quite important to use technology nowadays...” (S15, personal communication, September, 2015).

Also the (S4-INT) answered:

“mi asesora me ha dicho lo del computador pues para mostrarles algunas imágenes pues para que ellos entiendan mejor el tema, pero pues como le digo, no hay un enchufe, entonces como hago para conectar un video beam o algo asi.”

On the other hand, the results concluded that 48.53% of the STs did not demonstrate any of the levels of the Technological and Pedagogical competence during their practicum experience. (See chart 2). Thus, these STs could not be categorized even in the Explorer level due to the low frequency use or nonexistence usage of ICT resources. These student teachers were described as *indifferent* being the ones who did not realize the importance or advantages of implementing ICT resources in classroom environments or sharply denied using ICTs for pedagogical purposes looking for excuses to avoid the incorporation of technology into their teaching practices to the extent of becoming apathetic towards them. These STs usually showed to have neither a TC nor a PC level of ICT management due to the fact that they completely rejected the possibility of implementing technology or simply did not implement ICT in the classroom along their practicum course, complementary activity or innovation plan. As student teacher 22 (See appendix H) who did not use ICT resources in any of the 15 lessons plans designed along the practicum experience (S22-LSP).

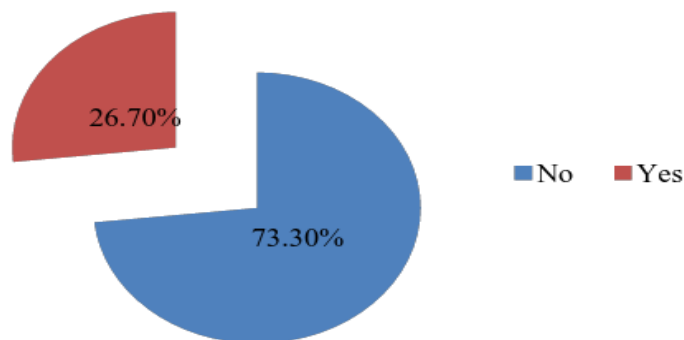
Another example of an *indifferent* student teacher was S4 who demonstrated a lack of competence implementing ICT resources in the class (S4-OBS).

The results above can also be supported in the observations done by the researchers to a sample of student teachers, in which it was seen that they were not really motivated to the use ICT tools for pedagogical purposes. All student teachers observed, counted on a variety of ICT resources provided by the different institutions they were performing their practicum in; however less than 30% of them took advantage of technology to include it in their classes. For example the student teacher 22 (S22) and student teacher 10 (S10) counted on English laboratories, televisions and computers available in their educational institutions but did not use them at all.

Finally, other worthwhile results of this study research were related to the innovation plans (IP) where more than 50% of student teachers used ICT resources in their IP and complementary activities (CP) in which 31.8% used them as a tool for their projects.

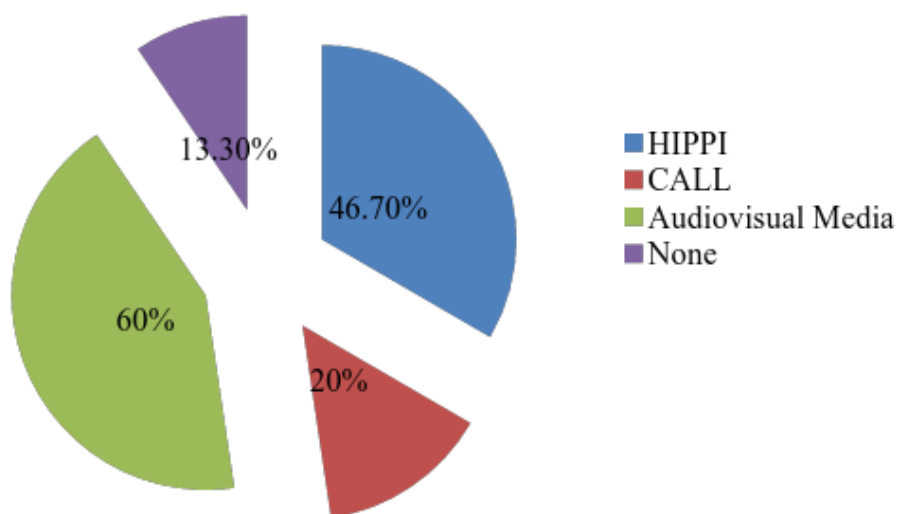
On the contrary, when asked about the document “ICT competences for the Professional Teaching Development” edited by the ministry of education, only 26.7% of STs were aware of the existence of it and the 73.3% of STs admitted not knowing the document. The result led the researchers to conclude that either there was a lack of information and successful introduction of the document in the courses taken at the university or there was still not enough empowerment from student teachers towards technology.

Graph 1. Percentage of Student Teachers who knew the document “ICT competences for the professional teaching development”.



6.2. EFL student teachers trained in the use of ICT resources for pedagogical environments

Graph 2. Percentage of Student Teachers trained in ICT resources management

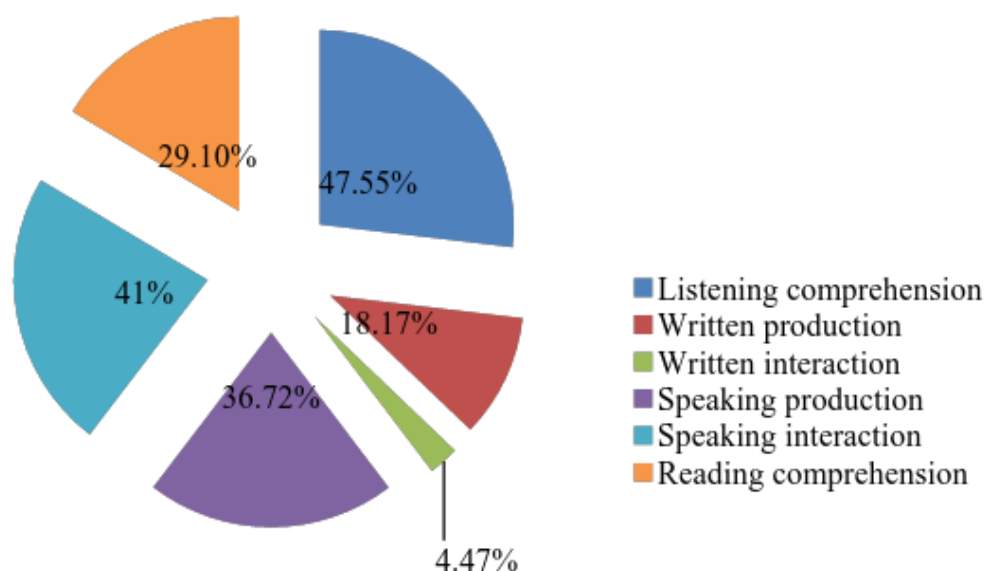


The chart above presents the percentages of student teachers trained in the use of ICTs resources. (See Graph1). It shows that 60% of student teachers took *audiovisual media*, which is a course required by the program curriculum. Also, the 46.70% of them took HIPPI and only the 20% did CALL which are elective courses focused on the implementation of technological resources in the teaching and learning processes; however, there was a 13,30% of them who never took any of the courses offered by the program in the use of ICT resources for pedagogical purposes

Interestingly, STs apart from having taken required subjects on ICT management also took elective subjects, which indicate there is some interest in learning how to use technology for their professional life, but most of them did not demonstrate it in their practicum experience.

6.3. L2 Communicative competences reinforced by the use of ICT resources in the teaching processes

Graph 3. L2 communicative skills reinforced by ICT resources



The results showed that most of the STs did not reinforce the written interaction and written comprehension in the same level they did with the other communicative skills. As a matter of fact, the written interaction reached only the 4.47% of the skills reinforced and the written production, the 18.17%. Besides, the ST showed a preference for speaking production, speaking interaction and listening comprehension, with the listening comprehension having the highest percentage (47.55%). Moreover the speaking skills were also likely to be reinforced as the Speaking production ranged the 36.72% and the Speaking Interaction, the 41%. (See Graph 2).

In addition, the strategies that STs were prone to implement in their classes were linked to the skills preferred. Watching videos, listening files and songs, and displaying pictures were the

favorite ones to be used in the classroom. For instance, S5-IP made use of ICT resources in all the sessions through songs; *how to learn new vocabulary through song and games* aimed to promote the acquisition of new vocabulary making use of technological resources.

With regard to the CA and IP in both of them, the two most frequent strategies implemented in the practicum process were songs and videos; these were used by more than 50% of the student teachers. Also, listening comprehension and speaking interaction were the preferred skills chosen to be reinforced along their IP and CA. As an example of it, innovation plans and complementary activities showed a high percentage of preference for the videos (IP 37%, CA 14.3%) and songs (IP 21.4% and CA 100%) respectively.

7. Conclusions

The researchers were able to conclude that around 50% of student teachers were defined as *indifferent*, having a non-existent level of competence. Due to their lack of interest in using ICT tools or creating ICT mediated environment inside the classrooms, they could not be categorized in any of the levels of technological competence (Tc) and pedagogical competence (Pc). Thus, *indifferent* student teachers showed a very low interest in using ICT resources in their teaching experience.

Moreover, *Discouraged* student teachers who were only the 21%, showed an explorer level of technological and pedagogical competence due to the fact that even if they were a bit motivated about learning and trying to implement ICT mediated classes, their knowledge and attitude towards it was still not enough to move forward from just using some ICT tools to starting creating a complete ICT class.

And, *balanced* student teachers (35%), demonstrated an Integrator level in pedagogical and technological competence, being the only ones capable and interested on not only using ICT tools in their classes, but also including in their classes and out of them technological environments, but still having a long path to take in order to manage technology and fit it in properly into the English teaching classes.

At the end of this study research, none of the student teachers were classified as having an Innovator level of competence, letting the researchers conclude that in the English Teaching Program there is not appropriation into the technology for English teaching environments yet, even when there are different courses such as CALL (computer assisted language learning), HIPPI (ICT resources used into teaching environments) which are elective courses (courses students take by their own choice) or AUDIO VISUAL MEDIA which is a required course (a

course students must take in order to fulfill their academic plan), the Program still has a long way to go in terms of courses supplies in technological resources for the teaching practice.

However, there were some students who decided to implement ICTs by themselves and others who decided not to use them despite their supervisor/ cooperator's advice which led to the conclusion that even if student teachers were or were not encouraged towards using ICT tools, they would only use them when feeling comfortable and that is, closely attached to the conclusion above, that student teachers do not feel prepared enough to manage technology and introduce it to their classes.

An additional conclusion is that according to the analysis, in the Complementary activity (CA), more than the third part of STs used technological resources for their class development and in the Innovation Plans (IP) more than half of them implemented ICT tools in their projects. In this sense, it was clear that the encouragement from supervisors and cooperator teachers does play an important role in the implementation of this technological resources as in the Innovation plans and Complementary activities are more closely guided and tested from their supervisor teachers than the lesson plans.

Related to the document "ICT competences for the Professional Teaching Development", published by the Ministry of education(2013), it did not receive the importance that it should have had. Considering that it is a national guideline which seeks to improve not only education but also teaching development, it was only known and discussed among the fourth part of the total of student teachers and even if supervisor teachers encouraged them to incorporate technology in their classes, they did not socialize the document among the student teachers.

Finally, researchers could determine that the elected skills reinforced during the practicum experience were speaking production, speaking interaction and listening comprehension, also

student teachers incorporated ICT tools to boost speaking interaction and production. Likewise, student teachers chose to use videos, songs, pictures and listening activities as the most common strategies in their classes. Yet, written production and written interaction were completely left aside.

8. Recommendations

Through this research study, it is expected that in following practicum experiences supervisor teachers and professors in charge of the practicum organization socialize the document issued by the Colombian Ministry of education (2013), called “ICT competences guideline for the Teachers’ Professional Development” accurately with the entire group of student teachers who attempt to do their practicum at Universidad Surcolombiana.

Consequently, considering the importance that ICT skillfulness has for the student teachers ongoing professional development, both supervisor teachers and student teachers should know the document for them to be able to encourage and guide students to use technology for pedagogical purposes during their teaching experience.

The researchers suggest that the EFL program professors and researchers take into consideration the EFL ICT profiles for future professionals and student teachers herein proposed as a starting point to make student teachers empower technology for educational purposes from now on. Thus, the support of supervisors may contribute to the reaching of technology integration in the teaching practices.

An important recommendation for future studies is to implement a higher number of naturalistic observation visits and in general terms, to keep a closer track to the STs’ process to have broader and closer information about technology usage in classroom environments.

Finally, this research study seeks to serve as a source of literacy for future similar studies within the Faculty of Education research strands of: technology in education, learning and cognition and education and specific knowledge as it shows the diagnosis of EFL students teachers in the Technological and Pedagogical competence according to the guideline proposed by the Ministry of Education.

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Appendix A

Entrevista inicial dirigida a estudiantes practicantes 2015-A

UNIVERSIDAD SURCOLOMBIANA
FACULTAD DE EDUCACIÓN
LICENCIATURA EN LENGUA EXTRANJERA - INGLÉS

Cuestionario dirigido a estudiantes practicantes de periodos anteriores quienes ya han realizado practica en secundaria.

Objetivo: hacer un diagnóstico del uso y la aplicación de las Tics por los estudiantes practicantes.

Diagnosis survey

1. Did you implement ICT resources during your practicum process?
 - Yes
 - No

1. If so, in which moment of the practicum did you implement ICTs resources?
 - Innovation plan
 - Complementary activity

 - Weekly Lesson plans

 - All the above mentioned

*Appendix B***Observación dirigida a estudiantes practicantes**

UNIVERSIDAD SURCOLOMBIANA
FACULTAD DE EDUCACIÓN
LICENCIATURA EN LENGUA EXTRANJERA - INGLÉS

ICT Pedagogical and Technological Competences of Student Teachers from Secondary Schools.

Cuestionario dirigido a estudiantes practicantes de periodos anteriores quienes ya han realizado practica en secundaria.

Objetivo: Determinar el nivel de competencia pedagógica y tecnológica de los estudiantes practicantes durante el periodo 2015-B

1. Did the student teacher make use of ICT resources?
2. Which type of ICT resources did the student teacher implement?
3. Describe the level of knowledge that the student teacher showed managing ICT resources (1-10)
4. Was there any technological problem which affected the normal process of the class?
5. Were the students motivated to use ICT resources?
6. Which skill was strengthened by the use of ICT resources?

*Appendix C***Entrevista dirigida a estudiantes practicantes**

UNIVERSIDAD SURCOLOMBIAAN
FACULTAD DE EDUCACIÓN
LICENCIATURA EN LENGUA EXTRANJERA - INGLÉS

ICT Pedagogical and Technological Competences of Student Teachers from Secondary Schools.

Objetivo: Determinar el nivel de competencia pedagógica y tecnológica de los estudiantes practicantes durante el periodo 2015-B

1. Does the institution where your practicum take place counts on ICT resources and can you make use of them? Which ones?
2. Are you planning to implement the ICT resources in your practicum? Why? Which ones?
3. In a scale from 0 to 10, to what extent of your practicum are you planning to Implement ICT resources in the following stages?
Lesson planning
Innovation plan
Complementary activity
Other
4. In case, which communicative skills do you want to enhance with the use of ICT resources? (listening comprehension, writing production, writing interaction, speaking production, speaking interaction, reading comprehension).
5. Does you cooperator teacher and/ or supervisor teacher motivates you to implement ICT resources in your classes? How?

6. How often do you make use of the ICT resources for personal aims? (Education, social life, work, others)

Always _____

Usually _____

Sometimes _____

Rarely _____

Never _____

7. In a scale from 0 to 10, what is your experience in the use of ICT resources for pedagogical environments?

Appendix E

Formato de recolección de datos de la actividad complementaria.

UNIVERSIDAD SURCOLOMBIANA

FACULTAD DE EDUCACIÓN

LICENCIATURA EN LENGUA EXTRANJERA - INGLÉS

Objetivo: Determinar el nivel de competencia pedagógica y tecnológica percibido por los estudiantes practicantes durante su práctica en el periodo 2015-B

ST						
Did you implement ICTs in your Complementary activity?	NO			SI		
Which ICTs resources did you implement?	0	1	2	3	4	5
Tape recorders						
Video beam						
Computers						
Computer labs						
Television						
Internet						
Tablets						
which strategies?						
Videos						
Songs						
Listening Activities						
Movies						
Story Telings						
Pictures						
Presentations						
Reading Activities						
Writing activities						
Which skills?						
listening comprehension						
writing production						
writing interaction						
speaking production						
speaking interaction						
reading comprehension						

Appendix F

Formato de recolección de datos del plan de innovación.
UNIVERSIDAD SURCOLOMBIANA
FACULTAD DE EDUCACIÓN
LICENCIATURA EN LENGUA EXTRANJERA - INGLÉS

Objetivo: Determinar el nivel de competencia pedagógica y tecnológica percibido por los estudiantes practicantes durante su práctica en el periodo 2015-B

ST						
Did you implement ICTs in your Innovation plan?	NO		SI			
Which ICTs resources did you implement?	0	1	2	3	4	5
Tape recorders						
Video beam						
Computers						
Computer labs						
Television						
Internet						
Tablets						
which strategies?						
Videos						
Songs						
Listening Activities						
Movies						
Story Telings						
Pictures						
Presentations						
Reading Activities						
Writing activities						
Which skills?						
listening comprehension						
writing production						
writing interaction						
speaking production						
speaking interaction						
reading comprehension						

*Appendix G***Cuestionario dirigido a estudiantes practicantes – periodo 2015 - B**

UNIVERSIDAD SURCOLOMBIANA
FACULTAD DE EDUCACIÓN
LICENCIATURA EN LENGUA EXTRANJERA - INGLÉS

ICT Pedagogical and Technological Competences of Student Teachers from Secondary Schools.

Objetivo: Determinar el nivel de competencia pedagógica y tecnológica percibido por los estudiantes practicantes durante su práctica en el periodo 2015-B

Cross-sectional Survey - Secondary practicum 2015-B

**Degree Project: ICT Pedagogical and Technological Competences of Student Teachers from Secondary Schools.
Universidad Surcolombiana.**

1. You did your practicum at:
 - Private
 - Public
2. In your personal opinion, what is the level of ICT resources management you had during the practicum?

__1 __2 __3 __4 __5 __6 __7 __8 __9 __10

3. Which of the following courses given at the university you have taken enhanced and/or encouraged your ICT management during your practicum?
 - HIPPI
 - CALL
 - Audiovisual media

- Diplomado en tic para estudiantes
 - All of them
4. Why do you think the subjects above are important for your professional development?
- because they gave us a broad set of tools to implement in our classes
 - because with their help we could create a more modern environment for the class
 - because the university wanted this new generation of English teachers to be broad minded
 - because it was necessary for us as future teachers to be able to approach to students in better ways
 - other _____
5. During your practicum, did you get to know the document: "Competencias TIC para el desarrollo Profesional Docente" created by the Ministry of Education?
- Yes
 - No
6. If so, which of the following Competences are mentioned in the document? :
- Empathy Competence
 - Didactics Competence
 - Communicative Competence
 - Financial Competence
 - Citizenship Competence
 - Research Competence
 - Pedagogical Competence
 - Technological Competence
7. Which of the competences mentioned above served the most to your practicum course and future professional life?
- Pedagogical Competence, Didactics Competence, Empathy Competence.
 - Communicative Competence, Technological Competence, Financial Competence.
 - Technological Competence, Research Competence, Pedagogical Competence.
 - Research Competence, Didactics Competence, Pedagogical Competence.
 - Citizenship Competence, Financial Competence, Pedagogical Competence.

- Financial Competence, Technological Competence, Didactics Competence.
- Empathy Competence, Citizenship Competence
- Didactics Competence, Technological Competence, Citizenship Competence.
- Other _____

8. How often did you implement ICT centered classes in your practicum?

- in one class per month
- in two to four classes per month
- in the complementary activity
- in the innovation plan
- never
- other _____

9. Which communicative competences did you strengthen with the use of ICT resources?

- Speaking production
- Writing production
- Writing interaction
- Speaking interaction
- Listening comprehension
- Reading comprehension

Appendix H

Enlace a instrumentos y respuestas

UNIVERSIDAD SURCOLOMBIANA
FACULTAD DE EDUCACIÓN
LICENCIATURA EN LENGUA EXTRANJERA - INGLÉS

ICT Pedagogical and Technological Competences of Student Teachers from Secondary Schools.

Objetivo: Determinar el nivel de competencia pedagógica y tecnológica percibido por los estudiantes practicantes durante su práctica en el periodo 2015-B

Degree Project: ICT Pedagogical and Technological Competences of Student Teachers from Secondary Schools.

Universidad Surcolombiana.

<https://drive.google.com/drive/u/0/folders/0BwlDT1VT6BiQWmFiUm83YTgzblU>