

Students' Insights on E-Portfolios in English for Specific Purposes¹

(Percepciones estudiantiles sobre los portafolios
digitales en Inglés con Fines Específicos)

*Patricia López Estrada*²

Instituto Tecnológico de Costa Rica, Costa Rica

*Oscar Chaves Jiménez*³

Instituto Tecnológico de Costa Rica, Costa Rica

ABSTRACT

A description is provided of the constructivist insights of four student populations using digital portfolios in a reading comprehension course. The results highlight the use of *Google Docs* as a digital platform to create two digital portfolios: a Reading Comprehension Portfolio (specific techniques) and a Vocabulary Portfolio (technical glossaries with agronomic jargon). They served as pedagogical tool to challenge students to participate in their own learning process and interact dynamically in a technological setting.

RESUMEN

Se describen las perspectivas constructivistas de cuatro poblaciones de estudiantes en el uso de portafolios digitales, en un curso de comprensión de lectura. Los hallazgos se centran en el uso de *Google Docs* como plataforma digital para la creación de dos portafolios digitales: uno de comprensión de lectura (técnicas específicas) y otro de vocabulario (glosarios de jerga

1 Recibido: 3 de setiembre de 2018; aceptado: 25 de enero de 2019. An initial version of this study was presented at the III Congreso Internacional de Lingüística Aplicada (CONLAUNA), held on September 25-27, 2017 (Universidad Nacional, Campus Pérez Zeledón, Pérez Zeledón, Costa Rica).

2 Escuela de Idiomas y Ciencias Sociales, plopez@itcr.ac.cr

3 Escuela de Idiomas y Ciencias Sociales, ochaves@itcr.ac.cr

agronómica). Se emplearon en clase como recurso pedagógico, para promover en los estudiantes la participación en su proceso de aprendizaje y la interacción dinámica en un contexto tecnológico.

Keywords: constructivism, reading comprehension, glossaries, digital portfolios

Palabras claves constructivismo, comprensión de lectura, glosarios, portafolio digital

Introduction

Traditional teaching has changed with the introduction of technology, allowing instructors to create and use digital materials and learning techniques in the classroom. The advantages of digital technology include the improvement of equity and access to higher education, along with the efficiency of distribution and personalization of learning processes. Digital technologies are vital to the future of university education.⁴ Information and Communication Technology (ICT) helps strengthen effective teaching and learning processes since it provides opportunities to make teaching more attractive and productive in terms of academic improvement.⁵ The introduction of new technologies provides opportunities to modify methods and make teaching dynamic for the students. Teaching through the use of technology has been growing due to innovative alternatives, easy access to Internet, and the diverse digital resources teachers have at hand.⁶ English teaching benefits from the use of interactive platforms that encourage active participation, student autonomy, and empowerment in a technology context.

4 Michael Henderson, Neil Selwyn and Rachel Aston, "What Works and Why? Student Perceptions of 'Useful' Digital Technology in University Teaching and Learning," *Studies in Higher Education* 42, 8 (2017): 1567-1579. DOI: <https://doi.org/10.1080/03075079.2015.1007946>.

5 Chirag Patel, "Use of Multimedia Technology in Teaching and Learning Communication Skill: An Analysis," *International Journal of Advancements in Research and Technology* 2, 7 (2013): 116-123.

6 Min Pun, "The Use of Multimedia Technology in English Language Teaching: A Global Perspective," *International Journal of Interdisciplinary Studies* 1, 1, (2013): 29-38.

However, if we address technology in education, we must refer to the concept of *normalization*,⁷ which implies that technology must contribute positively and add meaning to the process of language education, and must not be seen as an isolated agent. Instead, it must be presented as an activity that enhances a cultural and social process where effective communication, contextualized settings, and ongoing assistance are pillar components in language teaching.⁸ The normalization of technology in language education is a benefit because it helps the teacher implement technologies and standardize their use in the classroom. Indeed, technologies should be studied to understand how they are developed in social interactions in the classroom.⁹ In addition, a needs assessment is essential prior to implementing technology, as is designing a learning plan to increase the use of technology in the learning-teaching process.¹⁰

This study examines the students' experiences and insights in creating two digital portfolios as an empowerment pedagogy tool in the Agronomy major at the San Carlos campus of the *Instituto Tecnológico* in Costa Rica.

Empowerment Pedagogy

Empowerment pedagogy aims at letting students take initiative in their own learning process. It seeks to encourage students to control what and how they learn. Students are challenged to become dynamically conscious creators of their own knowledge.¹¹ Empowerment pedagogy's purpose emphasizes strengthening students' skills in terms of creativity and self-awareness. In education, the students'

7 Stephen Bax, "Normalisation Revisited: The Effective Use of Technology in Language Education," *International Journal of Computer-Assisted Language Learning and Teaching* 1, 2 (2011): 1-15. DOI: <http://hdl.handle.net/10547/224999>.

8 Bax, 7

9 Bax, 8.

10 Bax, 11.

11 Paulo Freire, *Pedagogy of the Oppressed* (New York: Herder and Herder, 1970) 51.

context must be meaningful for them to fully engage and commit. Freire¹² asserts that empowerment implies change, and entails thinking differently, accepting new perceptions, and opening up to new possibilities. One of these possibilities suggests using ICTs to promote active interaction and encourage students to reach for their maximum potential in order to co-construct knowledge and become protagonists of their learning through the use of technology.

Bax¹³ argues that to normalize technology as an effective method in the language teaching process, there are five central components that consolidate the use of technology and work as mediating agents when teaching a language: 1. access to and interaction with as many sources as possible; 2. involvement and collaboration with other participants taking into account social and emotional aspects; 3. expert scaffolding where an expert gives constant feedback during the process; 4. expert modelling in which an expert provides illustrations based on approaches dealing with knowledge and expression to communicate knowledge; and 5. challenge and contradiction, used to activate the participants' reflective and critical skills as a way of examining their thinking and learning processes.

Digital Portfolios

In education, digital portfolios are used in self- and peer-assessment, giving feedback, creating evidence of competences in shared platforms, and using different digital applications. In addition, digital portfolios allow students to select and personalize, and to help themselves to find their voice and passions.¹⁴ Thus, the students' feeling of competence, empathy and autonomy—all of which are essential

12 Freire, 68.

13 Bax, 10.

14 Marja Laurikainen and Irma Kunnari, "ePortfolios as a Way to Empower Students and Bridge Them to Future Work Places," *Journal of Finnish Universities of Applied Science*, June 27, 2018; <<https://uasjournal.fi/in-english/eportfolios-way-to-empower-students>>.

for creating motivation and wellbeing in learning—increases.¹⁵ Research shows that ePortfolios are used in education programs as an empowerment and reflection tool.¹⁶

A digital portfolio (also known as an electronic portfolio, e-portfolio, or online portfolio) is an important tool for the teaching-learning process in higher education. Yao and others¹⁷ define a portfolio as “a systematic and purposeful collection of work samples that document student achievement or progress over a period of time.”¹⁸ An electronic portfolio can also be defined as “a digital container capable of storing visual and auditory content including text, images, video, and sound.”¹⁹ The information in the e-portfolio is the same as that contained in the paper portfolio except that the former is “collected, stored, and managed electronically.”²⁰

Instructors should see digital portfolios as opportunities for a better organization of files, and as a way to improve the student's skills in technology and increase reflective skills.²¹ Teachers can motivate students to use portfolios and share their knowledge with others demonstrating what they have acquired through different class resources. Teachers can follow up the students' work and provide feedback to support their learning and encourage them to improve.²²

Digital portfolios have a vital role in teaching and learning approaches because they encourage students' self-reflection, enable

15 Irma Kunnari and Lasse Lipponen, “Building Teacher-Student Relationship for Wellbeing,” *Lifelong Learning in Europe*, 2 (2010): 63-71.

16 Henderson, Selwyn, and Aston.

17 Yuankun Yao, Matt Thomas, Nicole Nickens, Joyce Anderson Downing, Ruth S. Burkett and Sharon Lamson, “Validity Evidence of an Electronic Portfolio for Preservice Teachers,” *Educational Measurement: Issues and Practice* 27, 1 (2008): 10-24.

18 Yao and others, 10.

19 Philip Abrami and Helen Barrett, “Directions for Research and Development on Electronic Portfolios,” *Canadian Journal of Learning and Technology* 31, 3 (2005): 2. DOI: <https://doi.org/10.21432/t2rk5k>.

20 Connie Lambert, Jim DePaepe, Larry Lambert and Denise Anderson, “E-Portfolios in Action,” *Kappa Delta Pi Record* 43, 2 (2007): 76-83.

21 Neal Strudler and Keith Wetzel, “Costs and Benefits of Electronic Portfolios in Teacher Education: Student Voices,” *Journal of Computing in Teacher Education* 22, 3 (2006): 99-108.

22 Lucia Morales and Amparo Soler-Dominguez, “A Reflection on the Use of ePortfolios in Business Studies Programmes,” *Irish Journal of Academic Practice* 5 (2016): 1-2.

them to verify feedback, and increase their independence and innovative ways of studying.²³ A high percentage of students (88%) who developed electronic portfolios stated that this kind of instruments helped them think over their learning,²⁴ and graduate students referred to the experience of making portfolios as an effective learning tool.²⁵ Furthermore, in mixed or distance classes, the e-portfolio has served to improve students' monitoring.²⁶

Digital portfolios allow students to learn by themselves, become more independent in the learning process, and encourage decision-making with the teacher's supervision. Students are the center of the teaching-learning and assessment process; therefore, they become aware of their improvement, and identify what they control and what they must improve. When students are working on e-portfolios, they must provide evidence of their learning process. This lets the students know about what and how they are learning.

Digital portfolios have been used and validated widely in education. They can make significant contributions to the learning process, and technology makes it possible. Together, education and technology facilitate and improve the teaching-learning processes.

23 Siti Rashidah Hanum, Adi Irfan Che-Ani, Suhana Johar, Khaidzir Ismail, and Mohd Zulhanif Abd Razak, "ePortfolio: A Descriptive Survey for Contents and Challenges," *International Journal of Emerging Technologies in Learning* 11, 1 (2016): 4-10; and Gail Ring and Barbara Ramirez, "Implementing ePortfolios for the Assessment of General Education Competencies," *International Journal of ePortfolio* 2 (2012): 87-97.

24 Nicole Buzzetto-More, "Assessing the Efficacy and Effectiveness of an E-Portfolio Used for Summative Assessment", *Interdisciplinary Journal of ELearning and Learning Objectives* 6 (2010): 61-85. DOI: <https://doi.org/10.28945/1164>.

25 Steven Janosik and Tara Elizabeth Frank, "Using ePortfolios to Measure Student Learning in a Graduate Preparation Program in Higher Education," *International Journal of ePortfolio* 3 (2013): 13-20.

26 Pablo Amaya, Enrique Agudo, Héctor Sánchez, Mercedes Rico and Remedios Hernández-Linares, "Educational e-portfolios: uses and tools," *Procedia—Social and Behavioral Sciences* 93 (2013): 1169-1173.

Implementing ICTs in an ESP Class

An English for Specific Purposes (ESP) reading comprehension course, Technical English for Agronomy (*Inglés Técnico para Agronomía*), offered by the Instituto Tecnológico de Costa Rica, San Carlos Campus, was redesigned in 2015. This reform sought to provide an innovative methodology, based on empowerment pedagogy principles. In the past, the course was more traditionalistic and emphasized banking.²⁷ The purpose of the new methodology was to empower students and provide a meaningful context for their learning environment through the use of ICTs from different sources such as digital access to the course anthology, online magazines and searching sites, and through the creation of digital portfolios. The course methodology challenged customary instruction by promoting the use of technology in an ESP class and promoting the students' distinctive linguistic and academic skills.

There were four student populations in the Agronomy major, with a total of 53 participants in the first and second semesters in 2017. The populations corresponded to four different classes: two in the first semester (with 14 and 12 students, respectively), and two in the second semester (with 10 and 17, respectively). Twenty-four of those students were taught by one instructor and the remaining twenty-nine were taught by another instructor. The same content was co-taught by both instructors who worked together planning the classes, designing the activities, and assessing the students during the entire academic year.

The introduction of ICTs was first presented to the students at the beginning of each course for all four student populations. They were instructed on the use of *Google docs* as a digital platform and as a way to collect documents systematically in e-portfolios. The first class was devoted solely to presenting the methodology and the role of technology in the course; the students were guided step-by-step

²⁷ Freire, 53.

on how to create a *Google doc*, and were encouraged to make comments and ask questions both during and after the class. In addition, they were given tutorials about digital portfolios and *Google Docs*.

The students had to develop two different digital portfolios: one for reading comprehension strategies and the other for vocabulary. They were also given information about the assessment rubrics. The main objective was not to assess skills learned or competencies, but rather to assess the e-portfolio process as a whole, along with their creativity and self-reflection as an on-going process during the year. The portfolio process lasted for 16 weeks; they were assessed five times each semester, and the students wrote a reflective entry at the end of each period.

Both e-portfolios had to be created by every individual student, and accounted for 60% of the final course grade (30% for reading comprehension; and 30% for vocabulary). The other 40% corresponded to two midterm exams in the eighth and sixteenth weeks (20% each). For the reading comprehension portfolio, students were presented reading strategies every week (i.e., scanning or skimming) and then they had to apply the strategies in student-selected readings. The objective of students selecting the readings is linked to empowerment pedagogy in which readings are not necessarily teacher-imposed. Instead, they are chosen by the students taking into consideration their interests and reading preferences. For the vocabulary portfolio, students were encouraged to select a minimum of five examples of unknown agromomic jargon each week in order to compile a glossary. It varied from student to student since the words had to be new for the student. This process of word selections also aimed at empowering students to be accountable for their learning process, and to become aware of vocabulary unknown specifically to them instead of that chosen by the instructor.

Collecting Data

Data were collected mainly through the students' reflective entries (written the last week of the course) and a *Google Forms* semi-structured questionnaire consisting of 6 questions, answered by all 53 students:

1. Do you consider *Google Docs* to have been an effective tool in your learning process (reading comprehension and vocabulary acquisition)?
2. Based on previous question, justify your answer.
3. Do you consider that the course methodology (design and creation of digital portfolios and use of ICTs) contributed effectively to the course content acquisition?
4. Based on previous question, justify your answer.
5. Do you consider that the technological context of the course methodology (*Google Docs*, *Google*, online library, online magazines and journals, dictionaries and encyclopedias, digital course anthology) facilitated your learning content process?
6. Based on previous question, justify your answer.

Questions 1, 3, and 5 were *yes* or *no* questions. For questions 2, 4, and 6, the students were expected to elaborate on their answers and provide their constructivist insights about the use of ICTs in the class as ways of facilitating their learning process. For the final reflection, the students had to reflect freely on the course and offer their insights about the use of ICTs (e-portfolios, online magazines and journals, online library services, digital anthologies, and others) during the course, and its methodology.

Both data collection tools aimed at extracting students' distinctive constructivist perceptions. From an ontological and epistemological standpoint, constructivism considers knowledge and perception as being constructed and determined by social exposure. Thus, *realities* may

differ from one another and are “inherently unique because they are constructed by individuals who experience the world from their own vantage points.”²⁸ This qualitative study seeks to highlight the students’ views about the use of ICTs—digital portfolios in particular—in an ESP class. The main idea is to construct meaning from the students’ perspectives; that is, their unique meaning-making constructions.

Analysis of the Data

As part of the qualitative research, the study used an inductive approach adapted from Hatch,²⁹ in the form of content analysis (domain analysis). Inductive analysis was used to extract meaning from the data set. Domain analysis provided an orderly way to analyze data to account for descriptive categories. All data were analyzed through critical readings and content coding. The coding looked for specific meanings for more generic terms, and then for the creation of semantic findings.

Domain analysis seeks semantic relationships that form categories that include other categories.³⁰ Domain analysis moves from minor elements to major conclusions (from specific to general), within an exhaustive systematic process of constant identifying, summarizing, and revising domains. This process is conducted so that the most salient domains of the study become explicitly evident.

To begin the data analysis, “frames of analysis”³¹ were identified. They are the most meaningful semantic units that can begin to recreate certain ideas from the data set. Identifying the frames of analysis was carried out by an overall reading of the data set, where all frames were color-coded.

28 John Amos Hatch, *Doing Qualitative Research in Education Settings* (Albany: State University of New York Press, 2002) 15.

29 Hatch, 161.

30 Hatch, 161; and James Phillip Spradley, *The Ethnographic Interview* (New York: Holt, Rinehart & Winston, 1979).

31 Hatch, 163.

After the frames of analysis, the included terms (the names of the specific elements) were created to express the essence of the meaningful units; the cover term sought to capture the meaning of the terms. The included terms were those induced from the meaningful units (the members of the category), and the cover terms (the names of the categories) served as umbrella terms that captured the categories corresponding to the included terms. Included terms and cover terms become essential for establishing the semantic relationships of a particular domain. From nine possible semantic relationships,³² the most common turned out to be the semantic relationship of strict inclusion (X is a kind of Y). For this qualitative study, this remained the case.

The final step in the data analysis was to put together “a whole that makes sense,”³³ from the specific parts of the analysis. After the semantic relationships were established, four salient domains that directly answered the purpose of the study remained. These domains became the themes as explained below, where a summary is provided of the students' constructivist insights on the use of e-portfolios as an empowerment pedagogy strategy, and on the results of using ICTs in an ESP course in higher education.

Students' Constructivist Insights about Using ICTs in an ESP Class

For the first set of data corresponding to the first semester of 2017, some students showed some resistance towards the use of ICTs and the e-portfolios. They considered the class methodology to be tedious and complex. Although these students' perceptions were not a salient domain in the overall analysis (the entire data set from the academic year), some context must be provided for a better overview of the dynamics of technology-oriented ESP classes. Some students indicated that the use of ICTs, more specifically the creation of e-portfolios was difficult for them in various ways. They said that it was time-consuming and demanding;

³² Spradley.

³³ Hatch, 175.

they found the work complex and confusing. The students argued that it was their first time ever designing a portfolio (an e-portfolio through the use of *Google docs*). They also agreed that working on the digital portfolios was very tedious due to university's internet connection and speed. Their progress with the portfolios was affected by other technology and logistics issues, which made it difficult for them to progress smoothly on the digital portfolios, particularly in the initial weeks of the first semester in 2017. They struggled to understand how to create the portfolios at the beginning, how to implement creative aspects, and how to work on them systematically. The students suggested that spending more time in the first classes to provide a preparation phase to introduce the technological and empowerment methodology would have helped them become acquainted with the dynamics of digital portfolios and *Google Docs*.

The results from the data set corresponding to both semesters for the questions from *Google Forms* can be summarized as follows:

- Question 1: 94.3% of students agreed that *Google docs* was an efficient tool.
- Question 3: 92.5% concurred that the course methodology was effective.
- Question 5: 92.5% considered the use of technology to have facilitated student learning.

The following findings are drawn from the students' constructivist comments taken from questions 2, 4, and 6, and from their written reflections at the end of each semester. They include perceptions of ICTs providing an accessible approach to content acquisition and student learning, ICTs as a resourceful, meaningful source of information, students' sense of accountability through systematic and empowered methodology, and the need and awareness of digital learning. These main themes do not have a certain order of importance; they are simply the salient domains in the study.

An Accessible Approach to Content Acquisition and Student Learning

One of the most prominent words used by the students was *access*. Students considered accessibility to be of great value for the ESP class. The fact that they could work everywhere, anytime in real time had a significant impact on the development of the course. They coincided that having the freedom to access the digital portfolios anywhere made a significant difference in the practicality of the course, and in how they acquire knowledge. Students wrote that they always have their computers with them, so designing and keeping track of the digital portfolios became part of their immediate academic work. Students concurred that all information was easy to access; one student indicated the following: “Having all the information at hand, online papers, and other resources was easy and I had no difficulty. It allowed me to work at any place at any time; it was very practical due to the quick access to different websites in real time.” Given that access to the web was practical and quick, it was simple to consult databases and other sources, not only to search for information, but also to compile the digital portfolios.

Students reflected on the importance of using *Google docs* since they could access other documents while working on the digital portfolios. That included digital anthologies, online articles, digital dictionaries, images, and charts from the internet, among others. Having a digital portfolio contributed to accessibility of other digital resources. They agreed on how pivotal it was to have all the required knowledge at hand, making their learning easier, more effective, and even more productive. Students praised the use of the internet to access information to create and complement their portfolios.

They emphasized how access was key since they could design, read, work, and check any aspect of the e-portfolios at any moment. Another essential aspect mentioned was that with the use of *Google Docs*, all the information was automatically saved in the document without the necessity to look constantly for alternative mechanisms to keep the information updated. One student wrote: “First, I consider

Google docs of great help; it facilitated many things such as correcting in real time, it is faster, and everything is saved automatically.”

Resourceful, Meaningful Source of Information

They also indicated that digital portfolios were very interactive tools in which students put into practice what they learned during the class. For them, e-portfolios were meaningful to their learning, and even became an entertaining way to recreate a portfolio with the inclusion of imagery, videos, and other digital tools, which added meaning to their learning and enhanced the learning process in dynamic ways. One student stated, “I could visualize the portfolio by adding images and graphics to information that seemed boring and theoretical.” Another asserted, “I like the dynamics of the portfolio, how interactive it was, how entertaining too. I could add charts and drawings.”

ICTs worked as effective tools since students had abundance of resources and endless online tools for them to have updated information and present it in innovative and interactive ways. As one student indicated, “All information that we compiled was through the use of internet and the computer. We also used digital dictionaries facilitating learning vocabulary.” Students highlighted how the dynamics of creating the portfolios became meaningful since they could upload videos and paste images and photographs that help them better internalize concepts for both portfolios (reading comprehension and vocabulary). Having a plethora of digital resources at their hands made a significant difference in their learning.

Students’ Sense of Accountability Through Systematic and Empowered Methodology

Students concurred that the digital portfolios represented an orderly way to compile information and keep it in a chronological order. They stated that the digital portfolios helped them witness progress every time they worked since they were in control of changes, deleting or adding new information. They could also witness change

over time since they realized that the digital portfolio is an online orderly mechanism in which students can see their work in progress week-by-week. It is through the systematic collection of works that they see an online continuum of progress. A student stated, "It is in this digitalization that you can see and document your progress week after week."

Student's reflections indicated that the amount of commitment, discipline, and work in designing the digital portfolios was entirely their responsibility. One student emphasized, "What this portfolio has taught me was to be very disciplined when I needed to do the assignments because if you wait until the last minute, then all work accumulates and it seems impossible to finish on time, which in a way, it forces you to be constantly, week after week, interacting with the language." Another concurred, "The portfolio represents content and language learning because the student is the one who has the biggest participation in the portfolio." Students dedicated substantial time to the portfolios, and they were aware of it.

The student-centered methodology of the class encouraged students to *own* their learning process. Students agreed that the portfolios require more effort on their part. They felt empowered throughout the different phases of the portfolio, including research, reading and writing, looking for vocabulary, and identifying reading comprehension strategies. Regarding feeling empowered, one aspect on which students agreed was the selection of articles; the students chose their own articles with no prescribed limit. The selection criteria were based on the students' personal and professional interests; that resulted in meaningful reading selection. There was a shared *Google drive* folder with all readings for all students to read about other topics if needed or desired. By choosing articles of their own interest, students discovered the applicability of the portfolios in real life since they selected the literature that was directly appealing to them for academic and individual reasons. For them, it was an eye-opening experience to feel empowered to choose their own material for the portfolios. They had

to self-reflect and become critical thinkers since they were required to be protagonists in the creation of their portfolios. Students celebrated the decisions about the selection of materials, jargon and exercises were made by them using technological means; that empowered them to make their own decisions and embrace their learning as an individual process.

Students also expressed a sense of accountability, but on behalf of the instructors. They indicated that *Google docs* was a very effective tool since assessment also became an easier task for the instructors. It is easy in the sense that they could spot mistakes, correct, and provide timely feedback. Instructors could check e-portfolios everywhere at any time, and that became practical. *Google docs* provided a historical record to keep track of changes made by both the students and the instructors. In general, their constant revision was done simply and automatically saved.

Need and Awareness of Digital Learning

Students explicitly addressed the importance of becoming familiar with ICTs in a learning scenario. They concurred that the use of technology facilitated learning for them because of accessibility, how interactive and innovative it was, and because of the amount of resources that can be found. A student stressed, “I remember that the first day of class I thought that I wanted more interactive classes, and they were indeed interactive. The portfolios are very effective ways to teach technology based on real life; they not only make you accountable for learning English, but also for learning technology.” Students argued that the acquisition, internalization, and use of technologies in ESP classes must be mandatory in education. They concurred that fully internalizing the importance of ICTs in learning processes is indispensable nowadays. One student wrote: “Putting together these portfolios helped me to be more aware of technology. I personally knew nothing about *Google Drive*. I had zero knowledge about how to use *Google docs* and I learned about English, about portfolios, and about technology.”

Even when some students struggled with technology at first, once they became familiar with it, they came to realize how important it is to use technological tools in an ESP class. They emphasized digital learning as something required; as a pedagogical practice that works not only to motivate students in a technological world, but also to strengthen their individual and academic learning experience.

Conclusions

At the beginning of the first semester, some students were reluctant to change because the methodology was so new for them that they found it difficult to create the digital portfolios. Even though most of their insight in regards to ICTs was positive and constructive, some students' attitudes toward the class turned into rejection and frustration, but that changed during the semester. Students felt at ease and began to embrace the experience with the help of weekly practices and collaboration among students and the instructors. This was the first time that students learned about portfolios, the first chance they had to create an e-portfolio, and their first opportunity to use a digital platform such as *Google docs*. The process was challenging for the students since they had to become true learners with a methodology that was unknown to them. They had to learn how to work dynamically by themselves throughout an empowerment process of creating digital portfolios.

The findings from the salient domains showed positive aspects. The digital portfolio was a valuable tool to collect and keep information at hand. It allowed students to organize all the materials in chronological order. The digital portfolio followed an on-going online process that showed the students' progress step-by-step, week-by-week. This kind of digital tool allowed students to access other digital resources, making the process interactive and enjoyable for them. The activities that the students needed to carry out empowered them through the selection of their own portfolio materials, to commit and follow rules

individually. Making their own decisions in the selection of materials encouraged students to feel empowered and take ownership of their learning and. For questions 1, 3, and 5 of *Google forms*, more than 90% of the students concurred that the creation of both digital portfolios, the course methodology, and the use of ICTs within the technological context (*Google docs*, *Google*, online library, online magazines and journals, dictionaries and encyclopedias, a digital course anthology) effectively facilitated their learning and meaningfully contributed to their learning process.

Thus, it can be argued that the components highlighted by Bax³⁴ for effective education play an important role in creating and designing the portfolio and embracing the use of technology for learning skills in reading comprehension and language acquisition. The level of interaction, participation, and accessibility was also highlighted by the students. They also concurred that they were challenged by many aspects including dealing with internalizing the concept of the portfolios, being a protagonist in the learning process, using *Google docs* as a technological platform, and having a high level of accountability. Expert intervention, in the sense of scaffolding and modelling, was also decisive in students taking advantage of the pedagogical practice of digital portfolios.

The students' constructivist perceptions suggest how the use of ICTs provided a conducive approach to content acquisition and student learning. They also showed how using ICTs promoted the use of online resources and interactive sources of information with which the students increased their creativity and their awareness of self-reflection. Their sense of accountability through a systematic and empowered pedagogical approach was highlighted as an effective mechanism for assessment practices. *Google docs* was an effective tool to witness change in order to improve and move forward, to be constantly working and refining the portfolios.

³⁴ Bax, 10.

In the first few classes, requesting students to select their own reading materials and instructing them to become active protagonists in their learning process was challenging, yet in time they became more and more confident, thus showing that it was their decision-making process and creativity that had to be taken into account.

The students highlighted the importance and need to become aware of digital learning. Their perceptions included internalizing the significance of ICTs to comprehend learning processes better. The students were more motivated using ICT tools because it allowed them to learn in a more attractive and entertaining way, as well as interacting and exchanging ideas with their peers for an enhanced educational process.

Using ICTs and empowerment pedagogy demanded change and ownership on behalf of the students. Challenging them to be the owners of their own learning process resulted in a combination of self-awareness and reluctance, both of which are necessary for reflective educational processes. The findings indicated that ESP instructors must pay attention to pedagogical practices to increase their students' level of awareness regarding technology use and empowerment practices since students and today's world demand those skills.

