The Use of Technology for EFL Classes in a Brazilian School: Consolidating Education 3.0

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Abstract

It is undeniable that digital technologies have helped in the creation of a new way of sharing knowledge. This is particularly pertinent in the area of English language education if seen as a way of enhancing connectivity and empowering individuals to promote positive changes in society. Bearing in mind that educational institutions worldwide have gradually incorporated successful innovative practices into their teaching lessons, the present paper aims to address the topic of Education 3.0 and the use of technological tools for EFL classes in a school in the south of Brazil. It reports how technology has been incorporated into the classroom to achieve interdisciplinary practices and discuss whether it has contributed to students' learning and linguistic competence. Regarding applicability, the paper brings some examples of technological tools and current existing projects, using different types of technologies, such as Osmo, smartphones, QR codes, apps and the like. Regarding evaluation of language improvement, it seems that these technological tools have mainly fostered students' listening and speaking abilities, which can be seen through positive students' results obtained through Oxford placement tests. Some considerations about the limitations of this study are also made for further improvements.

Keywords: education 3.0; EFL lessons; interdisciplinary practices; linguistic competence teaching apps; technological tools.

Introduction

Technology has played an essential role in education, allowing substantial interaction among teachers, students and the world off school walls. According to Cox (2015, para.1),

> As we sail through the 21st century, technology in the classroom is becoming more and more noticeable. Tablets are slowly replacing textbooks, and students (and teachers) can use their smartphones to research just about anything they wish. Social media has become commonplace, and the way we use technology has completely changed the way we live our lives.

In the Brazilian educational context, both State and private schools have substantially increased the use of technology in the last decades. According to the 2016 Information and Communication Technology in Education survey, conducted by CETIC (Center for ICTs Studies), published on August 3 this year, 52% of basic education institutions use mobile learning in their classroom contexts. The study shows data about the use of the internet and mobile phones both in State and private schools in urban areas throughout the country from August to December, 2016. Interview data from 1,106 schools (fifth to ninth grades and second year of high school) was collected and counted with the participation of 935 Deans, 922 pedagogical coordinators, 1,854 teachers from different subjects, and 11,069 students. Seventy-seven per cent of the students, who have access to the internet, use it through their mobiles; only 9% use a desktop. Additionally, more teachers have bought smartphones: in 2011, only 15% had them whereas in 2016, this number increased to 91%.

Regarding the use of devices in their classroom practices, 61% of the teachers have incorporated them among their fifth graders whereas 42% among their sophomores. The device is more largely used in private schools (61% of learners who use it) than in State schools (46%).

Additional data collected from the survey refers to students' restriction to internet access: in 2015 and 2016, only 10% of the schools informed that the access was available to all students whereas 21% stated that it is restricted and 61% access is not allowed. Both State and private schools have a similar percentage of desktops (98% e 96%, respectively) and portable computers (86% e 92%); as for internet access, it is available in most private (98%) and State (95%) educational institutions in urban areas. Computer laboratories have been gradually replaced by classrooms, libraries and other educational settings, especially in private schools. In State schools, for instance, only 59% out of 81% with labs use them for teaching activities.

The survey also showed that 77% of the professionals improved their communication with their students and 94% state they have access to an array of high quality teaching resources. As for future improvements, school managers and pedagogical coordinators from State and private schools have different opinions. The first group prioritizes the increase of the number of computers per student whereas the second group wishes to develop innovative and meaningful teaching practices.

Data shown above illustrates that there has been some advancement in the use of technology in education in Brazil, somehow reflecting the progress resultant from worldwide contemporary educational practices and, hence, the acceptance that technology is a facilitator and helps develop students' autonomy, self-learning, creativity and problem-solving behavior if properly applied.

This advancement can be shown through an ePals project implemented by Rio (2012)[1] in a State school in the small city of Charqueadas, near Porto Alegre, the capital city of Rio Grande do Sul. His students (aged between six and eight) shared cultural experiences with students from the Netherlands[2], whose main topics addressed were "the five Brazilian region origins and the most popular regional music, art, food from each Brazilian region" (Rio, Delgado & Pasin, 2015, p. 78). As for the Dutch culture, the main topics were their traditional country music, their basic greetings, the country flag and the clothes they wear.

This collaborative project ended up with a Skype chat, which allowed the kids to get in contact with their peers and consolidate what they had learned up to that point. According to the authors (p.81),

> The motivation students of both nationalities shared during the activities was important to show that they assimilated the importance of praising their cultures. Although they are still kids and have little command of English, they showed maturity when exchanging their feelings towards their countries, which contributed to raise awareness of their own culture and the learning of English *per se*.

With respect to private schools located in Porto Alegre, in the south of Brazil, we can affirm that technology has been more systematically present in the classroom since 2012. Broadly speaking, the use of projectors and interactive boards is mainly restricted to show power point presentations and watch videos, and tablets/smartphones to research a topic on the internet. However, one school in particular (*Colégio Israelita Brasileiro*, henceforth CIB) seems to be standing out in the use of technology to enhance learning, becoming the first school, in this region, to implement the concept of Education 3.0.

The approach CIB has adopted corroborates Lengel's (2012) idea of an education that entails a confluence of neuroscience, cognitive psychology, and education technology, using web-based digital and mobile technology, including apps, hardware and software. In other words, Education 3.0 includes a variety of tools to implement positive changes in schools and raise awareness among teachers that it actively embraces new technologies to see how they can help students learn efficiently (Barrett, 2016).

That being said, the present paper aims to address some theoretical and historical elements on the topic of Education 3.0 and the use of technological tools for EFL classes at CIB. It reports how technology has been incorporated into the classroom to achieve interdisciplinary practices and discuss whether it has contributed to students' learning and linguistic competence. Regarding applicability, the paper brings some examples of technological tools and current existing projects, using different types of technologies, such as *Osmo, smartphones, QR codes, apps* and the like. As for evaluation of language improvement, it seems that these technological tools have mainly fostered students' listening and speaking abilities, which can be seen through positive students' results obtained from the application of Oxford placement tests. Some considerations about the limitations of this study are also made for further improvements.

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[1] In Rio, Delgado & Pasin (2015).
[2] For information about the Project with the Dutch school, visit the website www.stlambertus.nl.

Literature Review

The word "technology" was linked, for quite a long time, strictly to the Computer Science domain. However, in the 1960s, the approach named Computer Assisted-Language Learning (CALL) took place in many teaching environments. In fact, it is believed that the first technology created were the stones used to make fire, during the Stone Age (Eisenstein, 2008). During this Age, the humankind used to write in stones. In this sense, it is adequate to affirm that writing is considered a form of technology, once it was developed in order to significantly change the prospects of societies whose knowledge transmission were exclusively oral (Mendes, 2013). It is possible to observe that writing followed, naturally, the expected rhythm of technology: adaptation, improvement and evolution. In order to write, "writing spaces" were necessary, which are described by Bolter (1991, pp. 21–22) as "the physical and visual field defined by a particular technology of writing". In addition, throughout the history of writing, it is possible to notice that these spaces (also considered "technology") evolved. With the evolution of the species, the stones gave space to clay, polished stones, papyrus, paper, computers, etc. (Ryan, 1987). Concerning the evolution of technology in teaching practices, the blackboard is seen as a technological tool, since it supported (and still supports) teaching practices. In the 1960s and 1970s, tape recorders, languages laboratories, videos and televisions took place in classrooms all around the world. In the early 1980s, tools called CALL (Computer-Assisted Language Learning) began to emerge and were defined as "collections of exercises", i.e., tasks that were developed in order to stimulate learners' skills and encourage them to perform different types of duties (Dudeney & Hockly, 2007). Moreover, CALL would give learners automatic feedback, show them their weaknesses and results and point out the areas that would need more attention on their part. These tools would normally come with language learning books and allow students to keep their studies outside the classroom, stimulating an autonomous learning process (Dudeney & Hockly, 2007). The authors affirm that the insertion of technology in the English classroom is an important issue due to the possibilities it brings to education since it can be a source to provide students with authentic tasks and materials.

Desmet and Parente (2013) defend that there is still a huge resistance to technology. They illustrate that this confrontation has happened for many centuries by mentioning the opposition to the introduction of scribbling machines in the woolen industry in the 18th century. It is known that there is still some resistance to computational tools, mainly in the classroom, but it is important to bear in mind that today's educational patterns are dealing with the so-called "Generation Y" and "Generation Z". These generations were born after the massive development and release of a great number of technological resources who are familiar with finding information through multimedia sources and, sometimes, even depending on these assets for several aspects of their lives (Schroer, 2004).

Although young learners are frequently referred to as "digital natives" (Prensky, 2001), research has shown that this is a myth (Hockly, 2016). According to the author, they may be confident with new technologies, but they are not always effective users of new technologies. They use many socially oriented technologies for friendship-driven purposes, but they are less able to search for information online or to evaluate the veracity of that information, which makes them *uncritical*[3] users of technology. She also highlights that a wide range of factors influence students' digital literacies such as parents' educational level and profession, the number of books and the access to ICT resources in the home. In this sense, teachers also play

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[3] Italicized by the author.

an important role, since they can use technology, if carefully designed and thoughtfully applied, to accelerate and expand the impact of learning between the 'digital natives'. For Crompton (2013, p. 47), "technologies enable new affordances to the learner such as learning which is personalized, contextualized and unrestricted by temporal and spatial constraints".

In this perspective, a new trend in teaching called the *heutagogical approach to teaching and learning*. The term was defined as the study of *self-determined learning* (Hase & Kenyon, 2000). It applies a holistic approach to developing learner capabilities, with learning as an active and proactive process, and learners serving as "the major agent in their own learning, which occurs as a result of personal experiences" (Hase & Kenyon, 2007, p. 112).

According to Anderson (2010) in the heutagogical approach emphasis is placed on the development of learner capacity and capability with the goal of producing learners who are well-prepared for the complexities of today's workplace. This is due to the fact that learners are becoming more and more autonomous and self-determined. Bhoryrub et al. (2010) claim that the approach has been proposed as a theory for applying to emerging technologies in distance education and for guiding distance education practice and the ways in which distance educators develop and deliver instruction using newer technologies such as social media.

In North America, the office of Educational Technology, from the Department of Education released, this year, an update of the 2016 National Educational Technology Plan (NEPT) due to rapid changes in the educational technology landscape in the country. Among the reasons the Plan was updated included the number of schools that have access to broadband in their classrooms; the advent of new research on the use of technology by early learners; and an increased emphasis on preparing teachers to lead with technology before they arrive in the classroom (U.S. Department of Education, Office of Educational Technology, 2017).

The NETP (2017) focuses on how technology can help learners unlock the power of some of the most potent learning principles discovered to date. Technology, for instance, can help learners think about an idea in more than one way and in more than one context, reflect on what is learned, and adjust understanding accordingly. The Plan suggests five ways technology can improve and enhance learning, both in formal learning and in informal settings.

1. Technology can enable personalized learning experiences that are more engaging and relevant. Educators might design learning experiences that allow students in a class to choose from a menu of learning experiences assessed via a common rubric to demonstrate their learning (p. 12).
2. Technology can help organize learning around real-world challenges and project-based learning. A student might publish her findings online where she receives feedback from researchers and other members of communities of practice around the country and her colleague might draft, produce, and share an announcement via online video streaming sites, asking his audience for constructive feedback (p. 14).
3. Technology can help learning move beyond the classroom and take advantage of learning opportunities available in museums, libraries, and other out-of-school settings. One interesting initiative is the *Global Read Aloud* that allows classrooms from all over the world to come together through literacy. Participating classrooms have six weeks in which teachers read the book aloud to students and then connect their classrooms to participants across the world. This setting helps support learners through the shared experience of reading and builds a perception of learners as existing within a world of readers. The shared experience of connecting globally to read can lead to deeper

understanding of not only the literature but also of their peers with whom students are learning (p. 15).

4. Technology can help learners pursue passions and personal interests. The ability to learn topics of personal interest teaches students to practice exploration and research that can help instill a mindset of lifelong learning (p. 16). A learner, who is studying Brazilian Portuguese for example, might be willing to read classics of contemporary Brazilian literature written by Jorge Amado. Another one would love to read about Greek cuisine and prepare some recipes combining Greek favorites.

5. Technology access when equitable can help close the digital divide and make transformative learning opportunities available to all learners. An adult learner with limited physical access to continuing education can upskill by taking advantage of online programs to earn new certifications and can accomplish these goals regardless of location (p. 17).

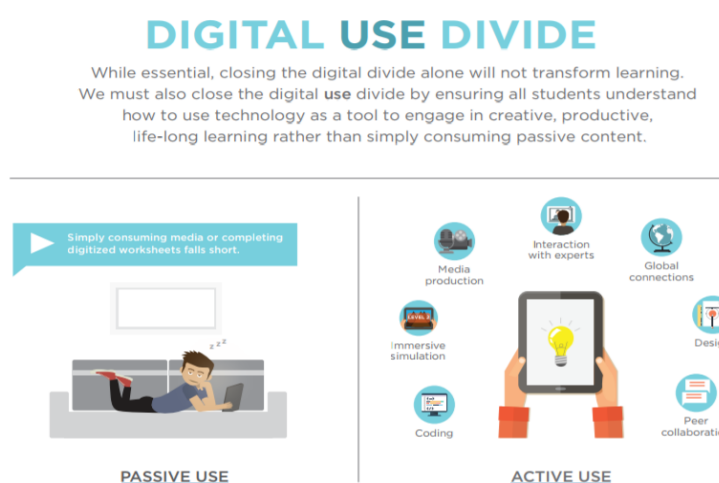Source: 2017 National Education Technology Plan Update

Figure 1: Digital Use Divide.

That being said, we describe in the next section some considerations about the evolution of Education 1.0 towards Education 3.0, highlighting their main characteristics and differences.

Education 1.0, 2.0 and 3.0

It is believed that the era of information technology has represented a watershed in education. Therefore, it is of the utmost importance to understand how the teaching/learning process has changed over the years and how technology has been slowly incorporated into classrooms all over the world. It all started with Education 1.0. According to Lengel (2012), Education 1.0 is a standardized/one-size-fits-all education. It is based on the three Rs – *receiving* by listening to the teacher; *responding* by taking notes, studying text, and doing worksheets; and *regurgitating* by taking the same assessments as all other students in the cohort. Barrett (2016) claims that learners are seen as receptacles of that knowledge and as receptacles, they have no unique characteristics and are all viewed as the same.

At the turn of the 21st century, the web witnessed the birth of the so-called "social web" or "web 2.0". Along with it, tools such as blogs and wikis proliferated in such a rate that millions of blog posts were posted daily. These principles of active production, collaboration, sharing

and publishing were transferred to the educational field, being called "Education 2.0". Gerstein (2014) argues that in Education 2.0, teachers are still the source of knowledge, but more open to adopt the roles of guides and mentors, for instance. Beckingham (2014) states that Education 2.0 takes on the characteristics of a more constructivist teaching orientation where the principles of active, experiential, authentic, relevant, and socially-networked learning experiences are built into the class or course structure. It was with Education 2.0 that teachers started experimenting with technology in their classes.

Similar to Web 2.0, Education 2.0 includes more interaction between the teacher and student, student to student and student to content/expert. Some educators moved into a more connected, creative Education 2.0 through using cooperative learning, global learning projects, shared wikis, blogs and other social networking in the classroom. The renewed interest in heutagogy is partially due to the ubiquitousness of the Web, and the affordances provided by the technology. With its learner-centered design, Web 2.0 offers an environment that supports a heutagogical approach, most importantly by supporting development of learner-generated content and learner self-directedness in information discovery and in defining the learning path, topics to be addressed throughout the paper.

More recently, in 2012, a new trend regarding the integration of technology into teaching emerged, the so-called *Education 3.0*. Education 3.0 is a connectivist, heutagogical approach to teaching and learning. The teachers, learners, networks, connections, media, resources, tools create a unique entity that has the potential to meet individual learners', educators', and even societal needs (Aghaei et al., 2012). Education 3.0, a term originally coined by James G. Lengel (Lengel, 2012), represents the third generation of education that many schools across the United States are currently embracing. It is designed to prepare students for success in whatever future they choose and more specifically, it is designed to help them live and thrive in Society 3.0, which is characterized by advanced technology and communication (Lengel, 2012). Education 3.0 is the combination of a challenging and relevant academic program, using innovative and real-world experiences and technology as a platform. It works best if it is understood, embraced and supported by parents and families at home, as well as the community-at-large.

According to Gerstein (2014), Education 3.0 is a more heutagogical, connectivist approach to teaching and learning. Teachers, learners, networks, connections, media, resources and tools create a unique entity that has the potential to meet individual learners' and educators' needs. It builds on and subsumes Education 2.0. It embraces more directly and comprehensively the idea that learning is personal, social and informal.

For Beckingham (2014), Education 3.0 is characterized by educational designs and opportunities provided by institutions where the learners themselves play a key role as creators of knowledge artefacts that are shared, and where social networking and social benefits play a strong role in learning. The author explains that Education 3.0 subsumes the four Cs of Education 2.0 (communicating, contributing, collaborating and co-creating) and also includes the additional C's of connecting, collectives and curating (the products of collective learning). In other words, it subsumes the constructivist principles of Education 2.0 and adds in the emerging principles of *connectivism*. Learners are pro-active in authoring their own learning lives and in helping their peers author theirs.

Table 1: The differences between Education 1.0, 2.0 and 3.0.

Characteristics	Education 1.0	Education 2.0	Education 3.0
Primary role of professor	Source of knowledge	Guide and source of knowledge	Orchestrator of collaborative knowledge creation
Content arrangements	Traditional copyright materials	Copyright and free/open educational resources *for* students within discipline, sometimes across institutions	Free/open educational resources created and reused *by* students across multiple institutions, disciplines, nations, supplemented by original materials created *for* them
Learning activities	Traditional, essays, assignments, tests, some groupwork within classroom	Traditional assignment approaches transferred to more open technologies; increasing collaboration in learning activities; still largely confined to institutional and classroom boundaries	Open, flexible learning activities that focus on creating room for student creativity; social networking outside traditional boundaries of discipline, institution, nation
Institutional arrangements	Campus-based with fixed boundaries between institutions; teaching, assessment, and accreditation provided by one institution	Increasing (also international) collaboration between universities; still one-to-one affiliation between students and universities	Loose institutional affiliations and relations; entry of new institutions that provide higher education services; regional and institutional boundaries breakdown
Student behaviour	Largely passive absorptive	Passive to active, emerging sense of ownership of the education process	Active, strong sense of ownership of own education, co-creation of resources and opportunities, active choice
Technology	E-learning enabled through an electronic learning management system and limited to participation within one institution	E-learning collaborations involving other universities, largely within the confines of learning management systems but integrating other applications	E-learning driven from the perspective of personal distributed learning environments; consisting of a portfolio of applications

Source: Keats, D., and Schmidt, J. (2007).

Education 3.0, as we can see, is characterized by rich, cross-institutional and cross-cultural educational opportunities. It encourages educators to see the world from the learner's perspective, where formal educational opportunities are but one element of a much richer life wide set of learning experiences and opportunities that are co-created by the educators, learners, institutions and communities. The figure below represents the important continuous connection between technology, tutors and students. "Fitting Pieces Together" exemplifies the cycle inherent to contemporary educational practices through the promotion of students' self-learning, assessment, criticism and autonomy.
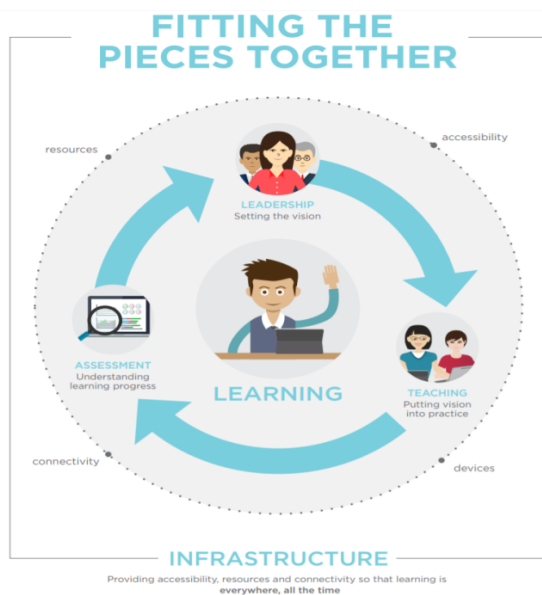
Source: 2017 National Education Technology Plan Update

Figure 2: Fitting the Pieces Together.

With the objective to illustrate some elements of leadership, teaching and assessment towards learning shown above, the next section will present a few examples of technological tools used at CIB as well as interdisciplinary projects carried out by the school. Additionally, we make some considerations about how effective we believe these tools were in this educational context.

Towards Education 3.0 at CIB: Evaluating Our Tech Experiences

At CIB, English is taught through a communicative approach and integrated to other disciplines (Music, Arts and Technology), giving teachers the opportunity to provide students with a chance of using the language in diverse scenarios. Thus, English classes are taught through interdisciplinary practices. Teachers are required to teach topics related to science and technology in English, instead of only covering aspects of the language itself.

The experiences described below were applied with fourth and fifth graders, whose proficiency levels are between B2 and C1, according to the Common European Framework of Reference (CEFR). These students have been studying English since their first school years and most of them were part of an immersion program offered by CIB, in which the students used to stay in the school extra hours every day in order to have English classes. Due to the implementation of the Education 3.0, this program has been extinguished since the system itself covers the immersion in the English language. In addition, the students with whom these tasks were carried out are part of the advanced group (at CIB students are separated into two groups according to their English levels, intermediate and advanced).

Once technology is present in students' lives, teachers have to keep up to date on current and emerging technologies and bring them into the classroom, relating the technology to their disciplinary contents and making use of these tools meaningfully and purposefully. One example of a tech system in which games and apps can be played and downloaded is *Osmo*. *Osmo* is a system that integrates the iPads with a smart base, a camera (which also works as a sensor) and physical pieces (such as dominoes pieces and letter cards) that can be read as instructions and tasks by the camera. Therefore, by creating an expanded space (like a hologram) in front of the iPad, the users can interact with the apps without touching the screen. Students construct things with the physical pieces in front of the iPad and the software recognizes the instructions. More specifically, *Osmo* is an educational game system that creates augmented reality[4] and interactivity between the users and the apps, allowing a more meaningful and hands-on interface between students and the games, instigating their curiosity and improving their learning. Several apps and games can be used with *Osmo*. At CIB, students have access to different platforms and games such as *Words*, which will be shortly explained below.

Words is an app that is used with *Osmo* connected to the iPad and whose main objective is to teach vocabulary. Some different tasks were carried out using *Words* and each one of them worked with different language skills. These activities can be used in different contexts. At CIB, they are normally used to teach vocabulary according to the content that the teacher wants to teach.

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[4] Augmented reality (AR) is a live direct or indirect view of a physical, real-world environment, whose elements are *augmented* (or supplemented) by computer-generated sensory input such as sound, video and graphics.

The game can be played in different modes and with different categories (such as Geography, Family Members, etc.), which allow teachers to develop and work with different types of vocabularies. In addition to working with vocabulary, this game is a great closing game: at the end of each unit or content in which teachers worked with new vocabulary, Words can be used to observe and assess if the students have actually evolved and added different words to their lexicon.

As examples, *Words* was used in some different tasks. In one of them, the app was used in order to teach vocabulary for a market simulation. Before simulating a supermarket, the teacher used *Words* to work with vocabulary related to food and beverages. Once the students needed to interact and know the name of the items to successfully simulate buying food, the app was used to teach new words.

In order to work with communicative skills, the students played the game in pairs. One of the students saw the pictures of the foods that showed up on their screen and had to describe (without saying the name of the food) them to their partners. The classmates, in their turns, had to find out which was the item described and give the letter pieces to the other student (these pieces are used to put words together in front of *Osmo* and once the words are correctly spelled, the app opens a new picture and so on). The student who was trying to find out the food was allowed to ask questions in English.

A similar activity was carried out before an interdisciplinary task between Science and English. This time, *Words* was used to practice words related to animals. There are several benefits of using *Words* as opening or closing tasks. To open contents, the app prepares the students with the vocabulary that they are going to find in texts or videos. Once they are confident about the vocabulary, the students tend to feel more comfortable working with interdisciplinary lessons, because different words are not going to be an extra challenge while trying to learn a new content.

Using Words as a closing activity in class triggers a psychological reaction in the students: once they know the game is going to be played at the end of each unit or content, they pay more attention to vocabulary and try to expand their knowledge by learning new items, so they can excel in the game.

The tasks described above are usually complemented with project-based lessons, which we explain in the next lines.

Traveling around the World with Google Expeditions

In order to work and expand vocabulary about parts of the city and landmarks, as well as carry out an interdisciplinary activity between Geography and English, we used Google Expedition to perform an activity with the fourth graders.

Google Expedition is an app used on smartphones that, together with a device of augmented reality, allows the teacher to be a "tour guide" and show their students places of the world. The device (similar to goggles) creates the sensation of actually being in a specific place, once you are able to walk around, move your head and see different perspectives and angles of the place – which is, in fact, a 360 panoramic picture.

The first step was working with texts about different landmarks and cities in the world, in order to get familiar with the places before "traveling" there with Google Expedition. The second step was working with vocabulary regarding parts of the city and landmarks, identifying and naming important components in a town. After that, the teacher chose some scenarios (the same ones explored with the texts) and students were invited to visit these places using the goggles and Google Expedition. In order to make the experience more realistic, the teacher played on the speakers sounds related to the place they were seeing (sound of a beach, or a busy city, for instance).

The students were required to explore the places and later take notes about parts of the city they may have identified and describe which city they had seen, sharing their experiences with their classmates and discussing each one's feelings and impressions while seeing and exploring the locations.

In a second moment, only one student at time would explore one place using the goggles and simultaneously describe to their classmates the location he/she was sightseeing (without naming it). The other students would then try to guess the location their classmates were describing.

The activity awakened their desire to learn more about Geography and, to conclude the experience, the English teacher talked to them about the importance of learning English – which is a global language – to be able to actually travel to these places and communicate with people there. Also, during the activity the students had the chance of developing skills not only related to the language, but the ones expected by the Education 3.0 by communicating, contributing, and collaborating.

QR Code

QR code is an interesting tool that can be used for different educational purposes. It is basically a bar code, easily created online, that can be scanned through an app installed on a smartphone and that leads quickly (hence the name: Quick Response Code) to a link attributed to it.
At CIB, it has been used in different manners. One of the most common ones is to give the fast finisher students extra activities. When the English teacher prepares handouts to the students, he normally prints one or two QR Codes at the bottom of the page that leads to an online activity, text, song or video that is related to the content that is being studied. So, when a student finishes the original activity, he/she can take his/her smartphone, scan the code and have something extra to work with or to learn from.

One activity that was carried out with 4th graders in English was related to Present Progressive. After studying the structure and practicing the content, a closing activity was conducted using QR Code. The teacher hid some QR Codes around the school that would lead to an online picture or video of someone doing an activity. The students were told that twenty codes were hidden in the school and they had to explore the hallways, library, sport center, labs and other places to find these codes. Once they found them, the pupils had to scan the code, see the picture and write down the activity that the person or people on the image was/were doing. If they saw a picture of a girl singing, for example, they would have to write: "the girl is singing". This way, the students would wrap up the content that had been studied and practice English while having fun.

Figure 3: An example of a QR code used for the activity (you can actually use your QR code app to scan it).

Another activity that used QR code consisted of a challenge in groups with the 5th graders. Some QR codes were placed in the school and students received cards with the directions in English to find them. When they found the QR codes, they had to scan them and perform the activities that were required on the links. It was a complete interdisciplinary task, once the links led to tasks on Math problems, Geography and History questions, Literature and fragments of books, Music, Physical Education and Hebrew (the second foreign language taught at CIB). It was an activity to close a trimester and that required students to use the knowledge they developed in all the disciplines throughout the trimester.

In terms of limitations, it is obvious that technology can never replace real life experiences. In terms of practicing the language, getting in contact with native speakers and daily living the experiences would probably present better development regarding speaking and listening skills. Technology can be used to get the students in touch with native speakers (by using Skype, for example), but it is known that it does not replace daily contact. In addition, classes that are entirely based on technology are strict and depend completely on technology; therefore, any problems related to gadget, systems, internet and even electricity may interfere with the class plans. Thus, teachers must be aware that even tough technology is one of their greatest allies, they cannot become slaves of technology. The systems should not replace their roles as teachers, but serve the purpose of adding to their classes. To sum up, the use of technology in CIB classes has had a great impact on students' learning and motivation to study a foreign language. Parents are also providing positive feedback, saying their children had never been so enthusiastic about learning different contents as they are now.

In addition, since the implementation of the Education 3.0 and its "demand" of using technology in the classroom, the students have shown better results on the placement tests used in the school. Each year, placement tests by Oxford are applied in order to observe students' development and analyze pedagogical strategies based on the results. Since the incorporation of Education 3.0, the results have significantly increased, mainly the ones related to listening and speaking – once technology provides resources and materials that are more realistic, less inauthentic and less casted, like the input given by CDs and DVDs that were the resources teachers normally use to work with these skills in language classes.

It is true that teachers at CIB have to plan their classes more carefully, trying to integrate the four skills with the technological tools presented above. However, having said that, teacher argue that by leaving their comfort zone they could experience a brand new way of preparing lesson, collecting materials and co-constructing knowledge with their peers. According to the teachers, never have they been so thrilled and motivated to teach as they are after the implementation of all those tech tools.

Conclusions

As previously mentioned, it is unquestionable that digital technologies have supported educators and learners alike to develop skills and competencies never thought of before, such as the co-creation and co-construction of knowledge. This is particularly true especially in the field of English language education if seen as a way of enhancing connectivity and fostering communication and collaboration.

This paper aimed to address the topic of Education 3.0 and the use of technological tools for EFL classes in a school in the south of Brazil. It also reported how technology is being incorporated into the classroom to achieve interdisciplinary practices and discuss whether it has contributed to students' learning and linguistic competence. We described examples of technological tools and current existing projects and reflected on the benefits Education 3.0 has promoted and limitations we have experienced.

Regarding the examples, we understand that they can be applied to most contexts, but teachers who wish to use them in their classroom practices, might need to adapt ideas according to their students' needs, levels and interests, as well as their school settings and policies. We corroborate the opinion given by Rio, Delgado and Pasin (2015, p. 82), which highlights that

> The twenty-first century teacher must be qualified in order to transform education into very motivating and successful learning moments. Such professional commitment, aligned with the use of new technologies whenever possible, may highly benefit our students' learning processes by fostering both language skill development and cultural and linguistic awareness, two highly valued aspects in today's globalized and technological societies.

As for learners' feedback, which is part of the formative process of the Education 3.0 approach, we learned that the use of technology at CIB has had a great impact on students' motivation to learn a foreign language. Similarly, parents provided positive feedback, saying their children had never been so enthusiastic about learning different contents as they are now. Teachers at CIB have to plan their classes carefully to integrate the practice of listening, speaking, reading and writing with a diverse range of technological tools. The teachers state that, by leaving their comfort zone, they can experience brand new ways of preparing lessons, collecting materials and co-constructing knowledge with their peers and students. According to them, never have they been so thrilled and motivated to teach as they are after the implementation of the Education 3.0 approach.

As for language improvement, we assume that these technological tools have fostered students' listening and speaking abilities. Compared to the previous school year, students obtained better grades in the Oxford placement tests, explained in an earlier section. As far as limitations are concerned, quantitative and/or qualitative instruments should also support results from our practices. We suppose they would fill the lack of explaining the positive phenomena technology has on learning and report on possible drawbacks from it. In a near future, we intend to apply research instruments such as semi-structured questionnaires and interviews to account for the multiple facets of using technology in educational settings.

We strongly believe that technology should be used parsimoniously along with educational trends, which means to take into consideration elements like the institutional context, the learners' reality, the teachers' theoretical background and motivation to change, to name a few.

If educational spheres are not open to rethink their pedagogy and attitude towards contemporary views, it will be probably difficult to either change or rethink outdated paradigms. There is a strong tendency today to conceive education as a combination of rich, cross-institutional, cross-cultural opportunities within which the learners themselves play a key role as creators of knowledge artifacts that are shared with others. The main characteristics of Education 3.0 (communicating, contributing, collaborating, co-creating and connecting), highlighted in the tasks conducted at CIB, seem to have contributed to the students' overall improvement.

We believe that technology should work in concert with teaching challenges of the 21st century. The challenges involve the promotion of critical citizens, the raise of cultural awareness, the development of healthy solutions to problem-solving situations and the solid and consistent growth of ethical values. Technology, seen as transformative, is an ally of good practices and for the birth of life-changing leaders no matter their color, religion, gender orientation, age and national origin.

We finish our paper by quoting the U.S. Secretary of Education, John King (2017 National Education Technology Plan Update), whose words summarize and subsume our way of perceiving education:

> Technology can be a powerful tool for transforming learning. It can help affirm and advance relationships between educators and students, reinvent our approaches to learning and collaboration, shrink long-standing equity and accessibility gaps, and adapt learning experiences to meet the needs of all learners. Our schools, community colleges, adult learning centers and universities should be incubators of exploration and invention. Educators should be collaborators in learning, seeking new knowledge and constantly acquiring new skills alongside their students. Education leaders should set a vision for creating learning experiences that provide the right tools and supports for all learners to thrive.

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