AFFORDANCES OF WEB 2.0 INTERFACES FOR THE TEACHING/LEARNING OF L2 IN THE FLIPPED CLASSROOM

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Abstract

The aim of this study is to analyze affordances and limitations of some web 2.0 interfaces for the teaching and learning of English as foreign, second or additional language (hereafter L2) in the flipped classroom format. With that aim, the study analyzed four digital interfaces with web 2.0 tools for L2 teaching/learning in regards to their potential to the flipped classroom approach to develop both linguistic and digital literacy. The four online spaces analyzed were the Edmodo (https://www.edmodo.com), the Socrative (http://www.socrative.com), the Edcanvas (http://www.web2teachingtools.com/edcanvas.html) and the Screencast (https://www.screencast.com). Preliminary results of the study suggest that the interfaces analyzed are relevant possibilities for the development of both L2 and digital literacy skills that can be used in the traditional class format as well as in hybrid or blended approaches such as in the flipped/inverted classroom format.

Keywords: Web 2.0 tools; inverted classrooms; digital literacy; L2 teaching/learning.

1 INTRODUCTION

Technological innovations have been changing the way we think and act, shaping both our personal and social habits. The use of the internet has afforded new possibilities for communication and also for education, and in this scenario schools can no longer circumvent this reality and must adapt to it through the creation of multiple approaches and environments for learning. Though the way students access information to produce knowledge has changed in the 21st century, the way they are taught has not, and that is why we see a gap between learners' and teachers' expectations and educational goals and achievements nowadays. So as to bridge this gap, educational practices should incorporate technological innovations with the personal and social habits they engender to propose teaching approaches that are more aligned with the reality and expectations of students. In regards to the social practices permeated by foreign or additional languages (hereafter L2), [1] claim that internet is here to change the way we use, learn and teach L2, especially after the advent of the web 2.0 with its possibilities for access and production of contents online.

Because of the multidirectional nature of interaction in the web 2.0 networks (student-student, student-teacher, student-teacher-world-knowledge) and the reality of heterogeneous groups or homogeneous groups with different students' expectations, a challenge exists for teaching practices to be more effective in the sense that they reach each and all the students in a given group. The cooperation among various spaces and teaching approaches may be a key to open school doors, lifting up their ceilings and walls in an extended school paradigm [2] to open students' minds and possibilities to access information. The web 2.0 offers a myriad of tools that, if appropriately used with well-defined purposes, can foster more autonomous learning. In the case of L2 teaching/learning, these tools also have the added benefit of providing access to a wider range of authentic materials and contents not to mention the extended contact with and in the target language.

The search for new teaching approaches that could meet teachers' and students' expectations motivated the proposal of the inverted classroom or flipped classroom approach put forward by J. Wesley Baker in the 11th International Conference on School of Teaching and Learning in Florida in 2000. In the seminal article on the concept of inverted classroom, [3] claim that there is a mismatch between teachers' and students' aims and styles, often resulting in learning performances that fall short of their expectations. The flipped classroom approach is characterized by an inversion of the way certain activities are done in that activities that traditionally take place inside the classroom take place outside it in the flipped classroom approach and vice-versa.

Regarding the use of the flipped classroom approach to L2 teaching/learning, [4] studied the possibility of using an online course in the flipped classroom approach and results of their study suggest that the flipped classroom approach affords great potential to L2 teaching/learning, regardless of the course analysed. In face of the many possibilities of tools for L2 teaching/learning available in the web 2.0 nowadays (for example [5]), we agree with these authors and would like to explore some of these possibilities as a contribution to L2 teaching/learning in the flipped classroom format.

2 FLIPPED CLASSROOM

In the flipped classroom approach, lectures are removed from the collective learning space to make room for students' individual needs and to enable more engagement and active learning, without sacrificing content. As it is, a flipped classroom is a student-centered classroom where teachers move away from lectures to the whole group to work more on students' individual needs. In this approach teachers can devote more time for the knowledge application and integration through learning strategies, classroom interactions, thus maximizing class time to check students' understanding or to consolidate content. Another benefit of this approach is the development of student autonomy since students become the agents of their own learning rather than the object of instruction. Students' learning styles are taken into consideration and they can pace and monitor their own learning thus becoming more engaged with the process of learning and more self-reliant as a consequence.

This makes the flipped classroom approach a new asynchronous pedagogical model that represents a unique combination of teaching/learning approaches such as the active learning, the problem-based learning and the direct teaching instruction, based on both constructivist and behaviorist principles. Some authors (for example [6]), claim that active learning in the flipped classroom approach could foster the use of higher forms of cognition such as knowledge application, analysis, synthesis, and evaluation. The longer students remain in the higher level of thinking and problem solving, the more they feel engaged with authentic learning, and the greater the perceived quality and result are. That is why problem-solving is key in the design of this teaching approach.

Another characteristic of the flipped classroom approach is the use and integration of learning technologies, particularly multimedia and the internet with its vast range of possibilities for both traditional teaching approaches or those of blended learning. [7] points out that teachers who are willing to use the flipped classroom approach should highlight the goals to be reached in the course as well as propose coherent activities (hands-on, group discussion, problem-solving, for instance) to encourage knowledge construction and feedback for the students. The author also recommends the basic rules of the flipped classroom as set in the Flipped Classroom Field Guide, namely: 1) the in-class activities must involve a significant number of questioning, problem resolution and other active learning activities, allowing the learner to recover, apply and amplify what was learned online; 2) learners must receive feedback immediately after in-class activities; 3) learners must be motivated to participate both online an in-class activities, and they should be assessed in both; 4) online and class materials must be highly structured and well planned. In the same line, the Flipped Learning Network [8] together with the Pearson's School Achievement Services defined four main pillars for the Flipped Classroom Approach and not by chance associated to the acronym FLIP: **f**lexibe environment, **l**earning culture, **i**ntentional content, and **p**rofessional educator. In addition to that, [9] remind us of the need for adequate infrastructure and teacher support for any innovative pedagogical action.

As with other approaches, the flipped classroom approach does not go without some caveats. [10], for example, reminds us that this approach relies on technology integration, and so students experience different outcomes because of the unequal access to technologies. Another concern is put forward by [11] who claims that if students feel confident with the materials used, stakeholders may hire less qualified teachers/instructors to simply evaluate learning, and that would certainly invert important aspects of education. Moreover, [12] emphasize that not all students complete all outside work especially if it is not assessed or counted for the final grade and [13] claim that if students realize they are over-worked, gains in motivation and engagement may be reversed. All in all, although there is still a lack of empirical research on students' achievement in the flipped classroom approach, it seems that this approach has the potential to positively impact students' motivation, which is already promising.

2.1 Web 2.0 interfaces for the teaching/learning of L2 in the flipped classroom

Given that the aim of this study is to analyze affordances and limitations of some web 2.0 interfaces[1] for L2 teaching/learning in the flipped classroom format, the study analyzed four digital spaces with different web 2.0 tools for L2 teaching/learning in regards to their potential to the flipped classroom approach to develop both linguistic and digital literacy. In what follows these interfaces will be described and analyzed.

2.1.1 Edmodo: for teachers, learners and parents (http://www.edmodo.com)

Founded by Nicolas Borg, Jeff O'Hara & Crystal Hutter on 2 September 2008, Edmodo's mission is "to connect all learners with the people and resources they need to reach their full potential". On Edmodo, teachers are at the center of a dynamic and engaging network that connects them to students, administrators and parents. Teachers are in charge of proposing formative resources and assessment tools that contribute to better learning outcomes. Edmondo is a mix of educational learning management system (LMS) and an academic social media network, and as such it is a relevant space to transform traditional classes into blended learning environments.

Edmodo is organized around connections—not friends—and students can only post to classes. In addition to connections, Edmodo supports groups, which can be classes, communities, or broader subject-area groups organized by various publishers. Educators can filter posts by social proximity (connections as opposed to connections of connections), author (themselves or their students), or type of post. Students, teachers, and parents can create free accounts (though Edmodo recently launched a premium package which is not free), and they can connect, share and collaborate in groups for class discussions, where teachers can post assignments and other daily classroom activities. Parents are seen as teachers' partners by creating accounts through which they can monitor everything that flows to and from their children, which can be very useful in the flipped format if you teach children who need to be reminded by someone to get engaged in homework activities.

Edmondo offers an extensive electronic knowledge base called Spotlight, with resources for different grades and subject areas, including "English Language Arts" and "Foreign Languages", which can be downloaded for free, bought or even sold. There is an educational app store (Edmodo Store) with a series of micro-assessment tools that may help monitoring in the flipped classroom format. Posts take a variety of forms, including notes with attachments such as links or files. Educators can also use the stream to post assignments, complete with descriptions, deadlines and attachments. There are also quizzes, which can be saved to and loaded from the educator's library (Collection), or created on the fly.

Alongside these core features, Edmodo enables teachers to track students' progress by logging their grades, award students badges for achievements, track assignments via planners, and build a hierarchical library with folders. With Snapshot, educators can gather data about their students' progress. Edmodo will automatically reassign Snapshot to students who are behind and/or borderline, and it will also offer recommendations for free resources that students can use outside the class. For file sharing, a teacher can synchronize her/his library with Google Drive. One con of this digital interface is that there are no additional integrations with third-party platforms such as DropBox. Notwithstanding this limitation, overall the tools and features of Edmodo seem to lender themselves for the use in the flipped classroom format, especially because of their possibility of content sharing and student performance/progress monitoring.

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[1] We understand *interface* as an online space for interaction and communication between two or more faces. It gathers a set of hardware and software elements that allow exchange, intervention, agregation, association and authorship, and may integrate various languages (sound, text, image, video) on the same screen which allow interactivity (technology-technology; user-technology) and interaction [user-user(s)].

2.1.2 Socrative: students, bring your own device! (http://www.socrative.com)

Socrative is an interface (also app) that allows teachers to evaluate learners in educational activities in tablets, laptops or smartphones, which is why its slogan is "bring your own device". With the application of real-time questions, and instant visualization of results, it helps teachers access the level of class comprehension and, thus, focus on what students need. To get started, there is Socrative Teacher account where all the activities are created, and that can work with other Socrative Apps. That is, learners download the Student Socrative app, join the teacher's room through a code and then they can all connect.

Among its features, Socrative can instantly grade, aggregate and provide visuals of results to help educators identify opportunities for further instruction, which saves time and helps educators visualize individual student understanding by asking multiple choice and true/false questions, asking open-ended questions, and asking them to vote and getting anonymous results too. One can also use it to create (instantly graded) quizzes, share quizzes with other teachers, give end of class exit tickets, play assessment games and create group competitions.

Socrative is an interface that serves mostly to send feedback from students to teacher, and when the other way around needs to be done, teachers can also send reports back to them through download, email or sharing them through Google Drive. Although it was basically created to be used in class for instant feedback, it can be relevant support for assessment out of class too, as part of the questioning in a flipped format approach. However, in both situations, having an app device or signing up for a free account on Socrative website is mandatory. Overall this digital space seems to present a possibility for sharing and monitoring in the flipped classroom format though the fact that most information goes from students to teacher may be considered a limitation.

2.1.3 Edcanvas/Blendspace: Blend your classroom! (http://www.web2teachingtools.com/edcanvas.html) x (https://www.blendspace.com/)

Edcanvas is a relevant interface to organize collections that support instruction, helping teachers to share educational materials in a visual lesson format, in a "canvas", where one could arrange videos, links, images, and files. It has built-in search tools so that it is not necessary to leave the account to locate resources. In order to get connected with students, the educator can create a code for his/her canvas and invite students to see it.

Once materials are shared with students in the canvas, the learners can see them and give each lesson "thumbs-up" to show that they saw it, that they understood it or they can also ask questions leaving comments about them. If they are not responsive, there is the possibility to check if each student actually looked at all the materials through the "lesson tracker", where one can see the views, likes and comments left by them, and then keep track of students learning pace, giving them some feedback on that. In this sense, this interface focuses mostly on delivering content, and not much in the interactivity, which is why we think it could be used for outside class actitvities in the flipped format.

However, recent modifications in Edcanvas, now called Blendspace, with the slogan "Blend your classroom", promise a platform for the creation of multimedia lessons that learners can access online, but it is still focused in lessons that students can view at home, as a bonus. It uses a drag-and-drop interface, where the educator can organize videos, text, links, images, and quizzes into a set of cubes, then organize them to create lessons that can be private or shared, or "canvases, " for students to complete independently. Then, they can move through the content in a linear fashion, responding to prompts in a sidebar comment area or taking quizzes along the way. Content can be pulled from YouTube, Google, Flickr, and other online sources, as well as from one's own computer, Dropbox, or Google Drive, thus saving teachers' planning and designing time. There's also a bookmarking tool to add websites to a Blendspace collection, and it can be linked to a Learning Management Systems like Edmodo by using an embedded code and shareable links provided by Blendspace for each canvas.

The teacher account is free and it is possible to create unlimited classes of up to 35 students, which can be limiting for classes in some public educational contexts where there might be more than 35 students (Brazilian context, for instance), but school accounts, also free, allow for unlimited classes with an unlimited number of students. To join a class, students use a join code that the website

provides the teacher. There is a paid premium account that provides an extra layer of technical support for the school, and allows students to collaborate with each other on lessons, allows users to record audio and collaborate on lessons in a Google Docs-like fashion. This tool would be possible to be used in class for projects and group work in the flipped classroom format. Regarding its use for L2 teaching/learning specifically, the fact that students can record audio with this tool is a very relevant feature since oral skills (comprehension and production) are very difficult to develop in large classes given the need for individual feedback, enabled by this tool.

Teachers can ask students to remix canvases or create their own, and share with the rest of the class for feedback or for homework review purposes, which can be risky once there is no content regulation by the teacher. Another aspect to take into careful consideration in relation to this tool is that these canvases may not be valid forms of assessment, since a lesson can be mended together from online content or copied without student having to know much about the topic.Thus, Blendspace can be used to focus mostly on direct instruction and sharing of information in a lecture-style format, and the educator can quiz students as they move through material using Blendspace's multiple-choice quiz builder, which can be useful to check student comprehension. All in all, this digital environment can be a partly relevant addition to the flipped classroom: when it comes to the receptive lecturing part of the model a free account would suffice, but for the in-class activities, a paid account would be necessary. In regards to its use in the L2 flipped classroom specifically, we highlight its potential for oral skills development.

2.1.4 Screencast: Your content, your way (https://www.screencast.com/)

Screencast is a screen capture of the action that is on screen in video of many formats, that is, a digital recording of the computer screen output which can also contain audio narration, and can be used to demonstrate procedures, functionalities and interface features. The time duration of a screencast is not limited, but it is advisable for attention matters (specially for the flipped format) that the videos last less than 30 minutes in a topic, task or both.

In order to develop screencasts to be hosted externally from the website, Screencast provides the audience with a link to content, MediaRoll widget or an RSS feed. There should be careful planning, and if the intention is to develop multiple screencasts, one can create a storyboard template containing narrations (spoken contents) and corresponding visual contents and media. To help plan and review those, the creator can split the template into numbered segments. Presentations to be done inside the website may not require as much amount of planning, though. For classes, the educator can make a public folder visible to everyone, or choose the viewers authorized to see it, or protect it with a password. And to understand how many people are interacting with the content, the teacher can add the Google Analytics key or use the screencast's “view count” metric.

This tool can also be used in the flipped classroom when it comes to making instructions for the students on how to follow the lesson or program created by the educator, and also for the creation of lectures, or for the students to create their own videos for in-class projects. For the inverted teaching model, though, it lacks on the interaction and comprehension checking, though it is still partially useful.

3 DISCUSSION

Digital interfaces such as the ones reviewed here are usually rich in resources and tools to allow diverse experiences, according to the teacher’s educational purpose, focusing on thinking, expressing, problem-solving and decision-making skills, and developing learners’ autonomy, creativity and investigative spirit. This increase in interaction modalities has created a new learning phenomenon known as digital literacy, defined as a type of literacy that incorporates the ability to understand relations and discourses mediated by electronic devices and which is related to the levels of interaction skills the user has.

In this study, in order to raise the reflection on the tools reviewed, we take the concept of digital literacy in [14] cited in [15] wherein digital literacy would comprise the exercise of literate, effective and meaningful digital practices that involve the use of different and varied tools as means of information searching, distance communication and entertainment. Thus, the level of digital literacy can be

analyzed through the different reading capacities and competencies through text and language production, involved in the reception and production of different genres that circulate in diverse contexts, supports and media [14].

Other than that, it is important to consider that digital literacy also implies the mastering of cognitive processes and specific skills related to reading and writing of different languages and digital genres to navigate on the internet and understand interaction dynamics of these diverse spaces. The use of the digital spaces analyzed in this study involve a lot of literacy practices along with additional language practice, since the websites can be all used in the target language (English as L2). Some of the digital literacy events that can occur in the process of applying the tools reviewed in this study for the flipped classroom format include but are not limited to: recognizing key functions, decoding signs and symbols, reading words and icons, executing commands, understanding virtual space and time, hypertext reading, recognizing digital text supports, getting to know (synchronous and asynchronous) interaction tools, recognizing and using/producing different digital genres, sharing and producing information obeying rules of interaction.

The cyberspace has many advantages for educational purposes. Interaction on the internet is potentialized by synchronous or asynchronous resources, anytime, anywhere, in many forms, and with unlimited participation. It is also worth highlighting what [16] cited in [15] has to say about the dialogic and collaborative dynamics of online interaction, in which the user is guided not only by his/her own wishes, but also by the reaction of the interlocutor on what is shared, and that is an important issue on authorship during knowledge production.

On the other hand, some aspects of online interaction may also be disadvantageous: in asynchronous interactions, feedback waiting time may generate anxiety, and there is also the possibility of not getting any feedback from the student on the flipped format, either because s/he is not committed to the activity or because s/he does not know how the digital space works; functionality may also be a down when the digital space presents limitation such as incompatibility of formats, for instance, just to name a few.

With the evolution of information and communication technologies and the use of internet, the digital contexts for educational purposes need to be readdressed and reshaped, and the implications of digital literacy must be considered so that the specificities of this modality may offer real conditions for the learning and teaching processes. And for such, both interactivity (action between participant and machine) and interaction (action between participants) must be taken into consideration, so that the teacher/instructor knows if the learner did not access some material or did not produced what was requested because either one did not know the language subject or how to use the digital interface. It means, then, that the quality of interaction is related to the cognitive comprehension of ideas developed from the information given, and the bigger the level of the learner's digital literacy, the more possibilities of interactivity there will be.

4 CONCLUSIONS

The flipped teaching approach can be used not only to set a learner-centered classroom environment with more student motivation and engagement but also to guarantee more contact with and in the target language in the case of L2 teaching/learning, not to mention that this approach is in line with the requirements of the 21st century education. It might be a relevant way to enable individual progress check and also an important opportunity for knowledge production, collaborative work and development of digital literacy.

It is not our intention to suggest that the flipped classroom approach is a one-fits-all solution for educational problems, but we do think it is a relevant possibility for L2 teaching/learning specially if it is coupled with careful design and planning of web 2.0 tools that enable more access and interaction with and in the target language. In that sense, the present study hopes to have provided a consistent contribution for teachers with the review of some tools that can partially fit this approach, specially in what concerns the creation/sharing of material for the students to practice at home and the monitor of students' performance/progress.

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