

WelWel: Proposal for a Collaborative/Cooperative Learning Model in the Cloud

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Abstract. In the context of the network thought, a change induced by the teacher potentially leads to the formation of social clusterings or to swarming, which can be triggered by what is usually called in the context of the Chaos Theory, by butterfly effect. The teacher as a precursor of this effect distances himself from the traditional approach of key player in the teaching/learning process to become an enhancer of the possibility of learning, thus making it possible for students to make connections within what is apparently chaotic.

Keywords: Chaos, Learning, Conectivism, Cloud, Collaboration

Introduction

Connectivism (SIEMENS, 2004) and the Chaos Theory (LORENZ, 1963) can become tools to be used by teachers in the context of their classes, with gains for students, who encouraged to build their own personal, extrinsic and updatable library, in the form of a network that will allow them to learn without constraints of space or time. In this sense knowledge advances at an unprecedented pace, driven by a "Darwinian Collective Intelligence" (SANTOS, 2012) which is fully visible in the start of the so called Generation Z (HIETBRINK, 2012) (see section 2). In this investigation, a collaborative/cooperative learning model was conceptualized and developed, it was named WelWel (We Link We Learn) and it can be used, regardless of software, by teachers and students in the classroom but also in a virtual environment. This model is intended to a learning that will be, more and more, done by combining classroom and virtual teaching methods which should become part of education in the next two to three years(UE, 2014) with a focus on b-learning environments which, we believe, will support our appropriation of Murphy's law (KIRILENKO & LO, 2013) "what the Digital Generations can learn will learn." In this sense the model will allow the teacher to encourage, directly and indirectly, the building of connections by the students, allow operationalizing the acquisition of new knowledge and skills. Before the changing of the current paradigm in the classroom (UE, 2014) we believe that the image of the Teacher should also be "updated" so as to allow it to keep track of the evolution that the school environment is knowing, for example, in what concerns the Bring Your Own Device (BYOD) (TAURION, 2012), the teacher should also be prepared to manage the implementation of an environment conducive to the teaching/learning process of Generations X, Y and Z (see section 2), using the Cloud, more specifically Facebook, YouTube, Calendar and GDrive, as a space for Collaborative/Cooperative learning designed to respond to immediacy (NORRIS &

SOLOWAY, 2011) and mobility (QUARESMA & GONÇALVES, 2013) inherent to the current generations of students and teachers who, in the context of our investigation, will be named teachers/collaborators.

General conception of the model

The WelWel model incorporates, in each stage, the main tasks to be performed and adds elements to the dynamics and flexibility needed to constantly adjust to emerging and specific needs requiring each process of mixed training (classroom and distance), intending to offer a response to predictions which state that within four to five years, there will be virtual and remote laboratories in schools (UE, 2014). The model proposed in this work should be understood as a generic tool, able to maintain its operationality regardless of the tools and resources used provided that they fall within the parameters defined in its preparation. As such, it is understood that the model should provide properties to ensure its scarcity in different scenarios (PERES & PIMENTA, 2011).

The Welwel model is characterized by being universal, independent and understandable, as shown in Table 1, which contains the properties of that, we believe, should be considered a pillars of the model.

Table 1 - Properties of the WelWel model (adapted from [PERES & PIMENTA, 2011])

Properties	Description
Universal	Should be used regardless of the specific field of education or educational context.
Independent	Should maintain its operationality regardless of the perspective adopted in implementation.
Understandable	Should keep an eminently practical perspective that allows users to be motivated to spontaneous participation.

Description

In addition to collaborative/cooperative learning (RAMOS & CARVALHO, 2007), b-Learning (PERES & PIMENTA, 2011) (see section 3) can be an added value, as intervener in the teaching/learning process, taking advantage of the potentialities offered by the Web, as well as the tools made available by it (AMARO, RAMOS, & OSÓRIO, 2009). In this sense the WelWel model is designed to be a relevant offer, to be operationalized in b-learning environment, enhancing the collaboration/cooperation to happen.

Actors

The actors involved, i.e., teacher and student, can, in principle, seem to keep the traditional roles in the teaching/learning process. The teacher, however, emerges as a teacher/collaborator, someone we want to be focused on the word "us" as being much more powerful than the word "I" (GALLO, 2014). It's up to this one to help students find the knowledge they lack and to actualize their own connections. To help students, the Teacher/Collaborator must, first of all, learn to listen to them, in order to better respond to and meet those which are their fears and expectations (GALLO, 2014).

According to Cubeiro & Gallardo (2011) we learn every day (CUBEIRO & GALLARDO, 2011). Therefore, it is important to better know the figure of the one who

can teach us, in the operationalization of the teaching/learning process, in the School context. We know different teachers, who use different approaches towards the same goals, to send a message to the student, change behavior, cause the student to gain and develop new skills. All styles are good (CUBEIRO & GALLARDO, 2011), thus we think teaching is, first of all, to convince others of what we feel because without that we cannot teach (CUBEIRO & GALLARDO, 2011). The teacher should show his students the passion (GALLO, 2014) for what he does, leading the students to visualize in the figure of the teacher the motivation needed to learn and acquire new skills.

The Teacher/Collaborator should have a teachable point of view (TPV) (CUBEIRO & GALLARDO, 2011), a tool to understand the process and not just the result of his action (LANÇA, 2013). A teacher who only masters his scientific area cannot be a Teacher/Collaborator. There are other areas that can help him in his action and not just the technical skills, the hard-skills (PERES & PIMENTA, 2011), which are nonetheless essential for proper performance of his educational role.

Personal skills, soft-skills (PERES & PIMENTA, 2011)) are essential for the implementation of the action of the Teacher/Collaborator, since collaborating does not mean, in the context of the model, a total lack of autonomy, on the contrary, it is understood as the achieving of an individual and collective autonomy, as it is shown by a simple story (WHITMORE, 1995):

“When I was a child, my parents told me what to do and punished me when I did not obey. When I went to school, my teachers told me what to do and punished me when I did not obey. When I enlisted in the army, the sergeant told me what to do. When I had my first job, my boss told me what to do. So when I reached a position with some authority, what did I do? I told people what to do, because that's what all my models had done.”

Collaborating, although it may be thought of as a joint effort of several individuals, it makes sense if the teacher, starts by valuing the soft-skills (PERES & PIMENTA, 2011) worrying about the individual since each student requires differentiated time and distinct additional work too. In a perspective of inclusion but also differentiation regarding the students, the teacher/collaborator may turn to a GROW strategy (LANÇA, 2013):

- Goals, setting objectives for the teaching learning process, tools, actions and skills to be acquired;
- Reality, check and analyze the reality to be able to explore and enhance each situation;
- Options, strategies and possible and alternative scenarios;
- What should be done or will be done, when, by whom and the will to do it.

The concern for the individual within the group should consider the fact that the group itself be as strong as the weakest of its elements (URBEA & ORO, 2012). This means that connections to create between students will be better and more reliable if the teacher/collaborator has the concern of working the group from the perspective of each individuality, scanning an evolution (STRATHERN, 2001) we intend to sum up with a proposal that defines the scope we want with the model:

$$C=(E \times L)^N$$

In which C means collaboration, E student, L connections and N the teacher's influence. The student will benefit from the added value if the connections performed with other students, have a mediation/influence of the teacher either in a scientific level or as resourcing to the Chaos Theory (LORENZ, 1963), in order to trigger events that the teacher expects, to help students achieving the goals. For this, it is not enough knowing how to teach, the teacher/collaborator has to know how to do it (LANÇA, 2013).

Environment

Experts agree that there are two major upcoming trends: the changing role of teachers (UE, 2014), with the emergence of the Teacher/Collaborator and the impact of social networks like Facebook, which is already finding its way into the classroom (UE, 2014). In fact as we intend to operationalize with WelWel model, researchers (UE, 2014) draw attention to the fact that social networks provide, in schools, feedback and suggestions, allowing the dialogue between students, teachers, parents and the institution in a less formal way.

To enhance the connections that can be created by students in the teaching / learning, decisive part of the proposal $C = (E \times L) N$ and following the analysis of b-learning platforms we set out to study the operationalization of the WelWel model, will be performed taking into account the use of Facebook as a collaborative/cooperative learning environment. The choice of this particular social network assumes its widespread use worldwide as can be assessed by the analysis of Figure 1, which can facilitate adaptation to the environment of the proposed model, either by teachers or by students.

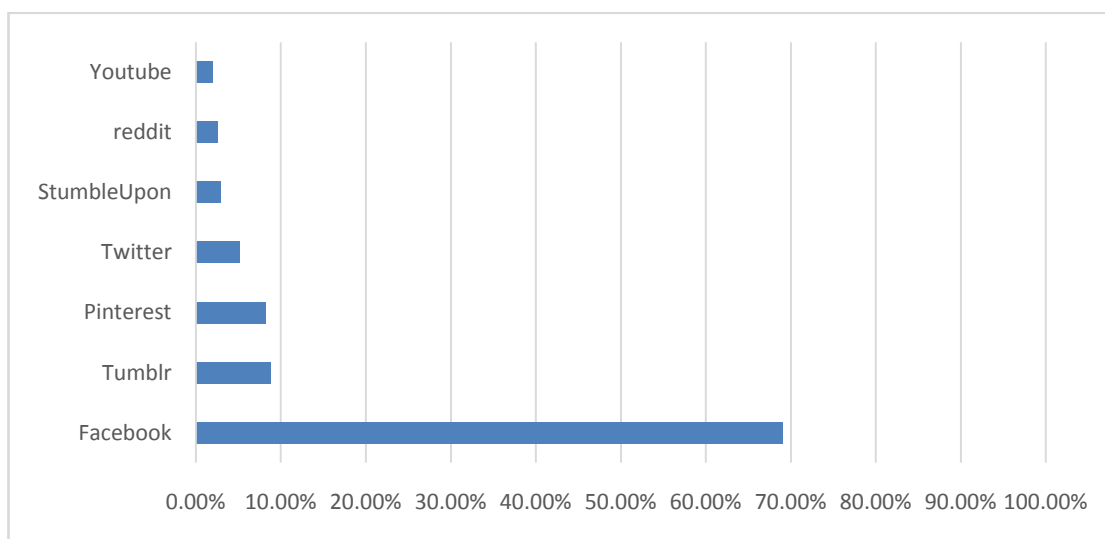


Figure 1 - The 7 worldwide most used social sites (STATCOUNTER, 2014)

This phenomenon inherent to the selection of Facebook as a social environment, is also recurrent when analyzing users' choice in Portugal, as shown in Figure 2.

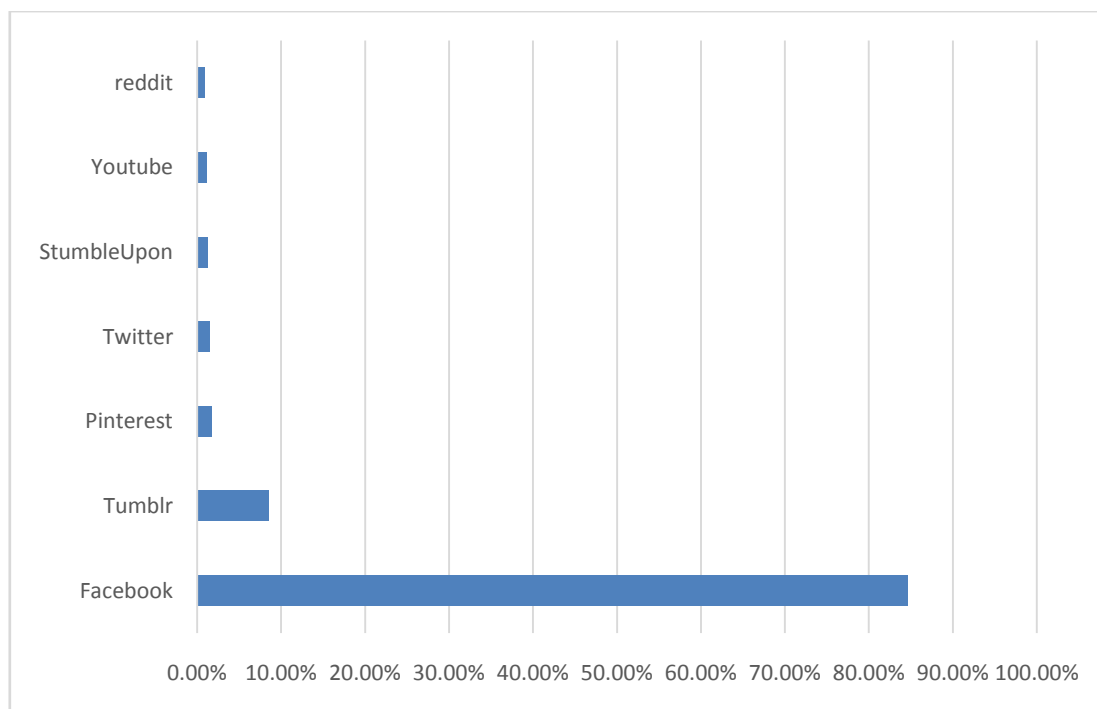


Figure 2 - The 7 most used social sites in Portugal (STATCOUNTER, 2014)

Facebook, created in February 2004 in Palo Alto, California, by Mark Zuckerberg, Dustin Moskovitz and Chris Hughes, was initially a social network only accessible to students of Harvard University (COUSIN, 2008). Since 2006, it has become a social network, open to any user, with the purpose of helping to communicate more efficiently with friends, family and coworkers. Facebook began by developing a technology aimed at facilitating the sharing of information across the network by performing a digital mapping of the relationships of users in real life (CERDÁ & PLANAS, 2011).

Facebook's native tools are the only required immediately to begin creating a community of friends which is based on a sharing concept (CERDÁ & PLANAS, 2011). To use this social network you need to register, which is quite simple, being accessible to any user who wants it, to interact with people you know, not necessarily in a secure environment (FACEBOOK, 2004). In fact, one of the positive aspects of this social network is the initial simplicity of the platform for new users. So from a purely functional point of view, and despite having evolved significantly since its launch, Facebook has not lost its main feature based on its main objective consisting of virtual communication more specifically to share texts, photos and videos links (CERDÁ & PLANAS, 2011).

Tools and resources

As mentioned early we consider Facebook as an environment to the WelWel model, however, we selected what we named as Google ecosystem so as to make use of the tools and resources provided by this search engine. The selection of Google to join the WelWel model is justified when analyzing its widespread worldwide use, as can be assessed by the analysis of figure 3.

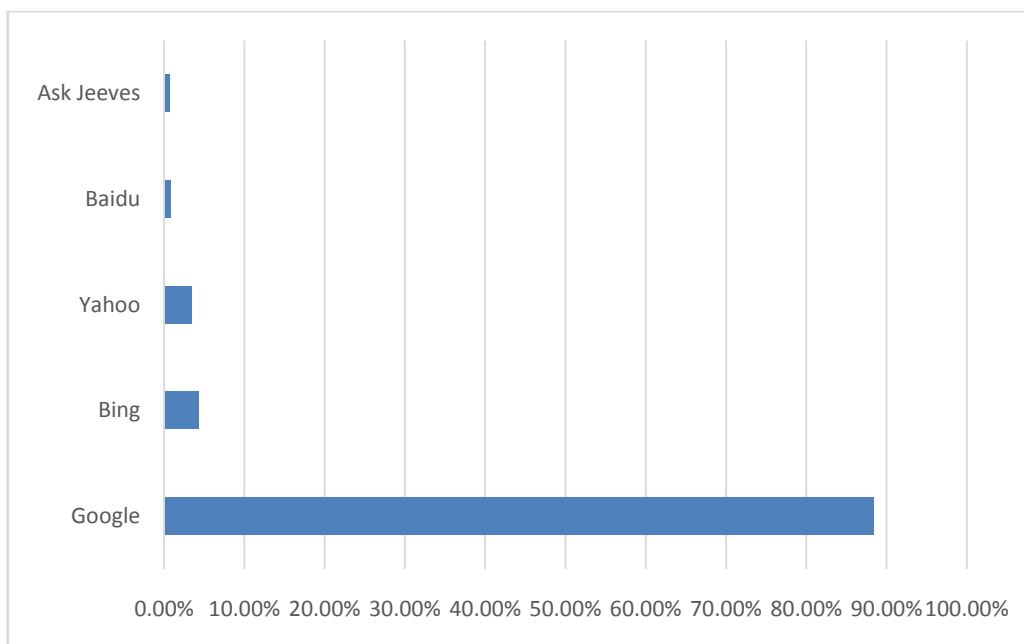


Figure 3 - The 5 most used search engines worldwide (STATCOUNTER, 2014)

The massive use of this search engine is also visible when we analyze the choice of users in Portugal, as we can see in Figure 4.

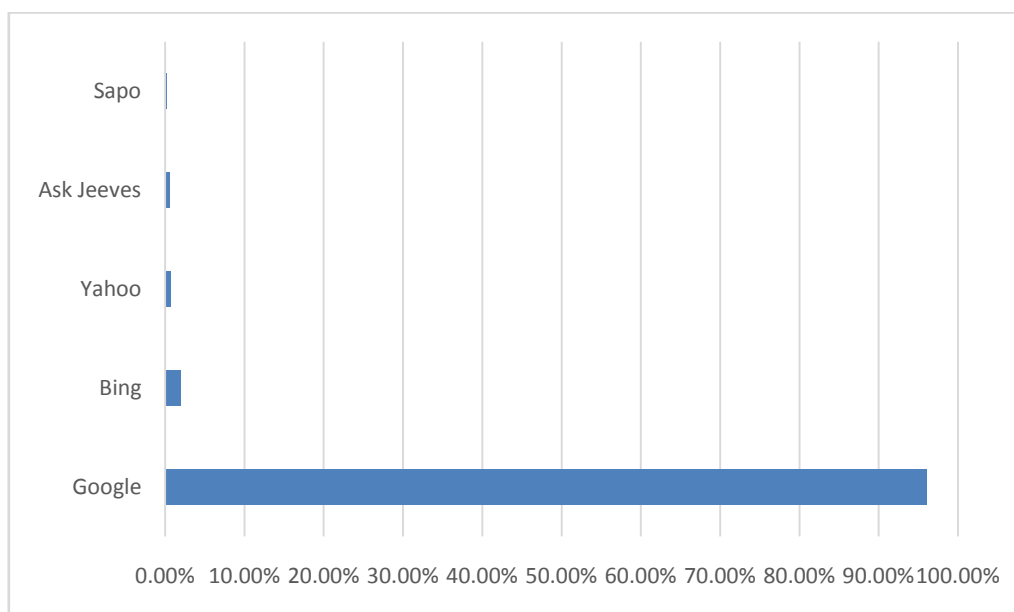


Figure 4 - The 5 most used search engines in Portugal (STATCOUNTER, 2014)

Google is, first of all, a search engine, although currently it is characterized as being combined with a wide range of tools and resources. Several experts point out Google as the most used search engine in the world (STATCOUNTER, 2014), but Google is not only a solution to perform Web searches, it is rather a tool, a method or a tool (MACHADO, 2009). Google tools and resources, in the context of our investigation, intend to enhance the educational possibilities for the construction of a collaborative/cooperative learning environment, favoring interaction, ideas Exchange

and collective text production, contributing to the development of the teaching/learning process. The exchanges can be established in a positive way, allowing for the creativity, critical thinking, responsibility and collaboration, among other features that are intended to be developed in the students (MACHADO, 2009) and that will promote the creation of connections between students, students and teachers, and between them and third parties. In this sense we consider the following tools/resources:

Gmail

In 2004, three webmail services dominated the market, Hotmail, AOL and Yahoo Mail (SENA, 2010). After an intense period of testing Google decides to become more than a research service and launches Gmail. Initially the new service was not considered a serious proposal, in part by offering 1Gb of space for their users, when the average of competition in the market, was only 100Mb. In a decision which did not indicate robustness of the service, this was only available to “beta” users, which later received the ability to invite friends and acquaintances to try Gmail through a system of invitations. This has led, however, to a great interest around the Google mail service, which is currently a top service (SENA, 2010);

Google Calendar

Google Calendar is a web application that lets you create a personal agenda as well as share it with family and friends, you can simultaneously view schedules that others share with us (BUSBY, 2004);

Google Drive (Google Docs)

Google Docs currently integrated into Google Drive cloud solution, is an online application suite, very similar to Microsoft Office. This suite features word processor, spreadsheet, presentation graphics editor and also an application for creating forms (BUSBY, 2004). It was developed from existing applications, but now gathered in an environment provided by Google which allows the construction together, and the socialization of production between users. The Portuguese version was released in 2007 (MACHADO, 2009).

The main potential of this tool is the storage and online editing of files in real-time collaboration with other users and access through the browser, without limitation of platform and cost (free in this case). In addition, it does not require knowledge to install software, since this is not a requirement (MACHADO, 2009).

According to Franklin et al. (2007), this tool has a huge potential when placed in the context of collaborative work on the Web. For example, they refer to the creation of a sales flyer by students of Architecture and Interior Design attending different universities (FRANKLIN & VAN HARNELEN, 2007).

YouTube

The vídeo delivery platform Youtube was created in 2005 by Chad Hurley, Steve Chen e Jawed Karim, and was subsequently acquired by Youtube to quickly become an important element of contemporary culture (BURGESS & GREEN, 2009). The site is crucial to observe and understand important issues, for example, with discussions about the reconfiguration of the role of information communication technologies in

society and about problems such as copyright and copyright in the era of new technologies.

In part, Youtube also repositioned the music industry, given the videoclip's role in contemporary culture and the loss of its TV exclusive status, on the increased participation of the audience in the process of creating media content and the popularization of new social phenomena, such as viral videos and flash mobs (BURGESS & GREEN, 2009).

In the context of the proposed model Youtube enables the transmission of knowledge through image and audio, reinforcing the subjects taught in the classroom environment, or b-Learning based on text. However we must point out that the platform does not offer features that prioritize the relationship between its users. Although the service is presented as a Community platform, we cannot help but to notice that it favors individual participation at the expense of collective (BURGESS & GREEN, 2009).

Contextualization

There is nothing more inspiring than hearing a great communicator defend an innovative idea (GALLO, 2014). The WelWel model should be constituted as an area for the birth and maturation of the ideas of students, which properly filtered by the teacher can instill in the first, the certainty of also contributing to their learning process. With the movement of individual learning action focus to collaborative/cooperative learning process (GONZALEZ, 2005) the whole group consisting of students and teacher should provide a greater value than the sum of the respective parts.

We do not intend to create a platform that is a complement or an alternative to LMS's already available on the market, but rather to offer those involved in the teaching/learning process, inter alia, teachers and students, an environment that favors the occurrence of potentially collaborative/cooperative learning.

With the WelWel model we intend to make it possible for the student to consider "I'm a learning machine and this is the right place to learn" (ROBINS, 2006), referring to himself to fellow students and teachers as well as to the enriched school space, we hope, by the operationalization of the proposed model. Figure 5 shows the overall structure of the model as well as the interactions that occur in its instantiation.

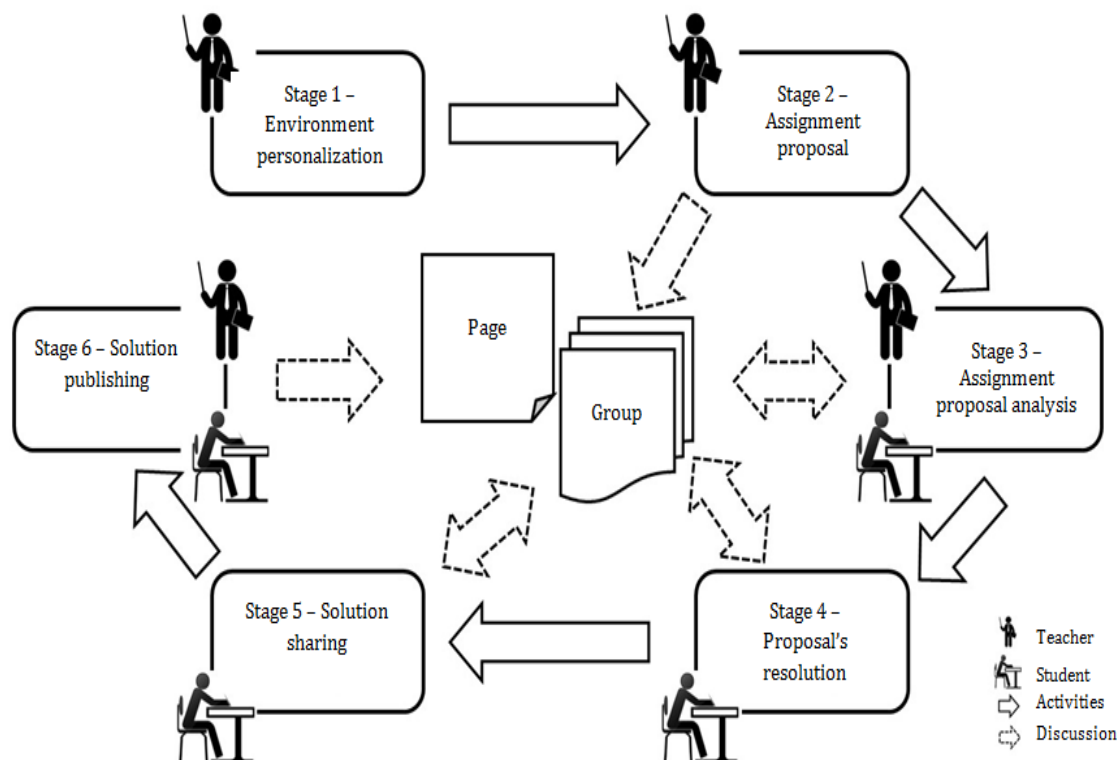


Figure 5 - Stages of the WelWel Model

The influence of social networks has grown, from 2007, among educators and students (LAI & TURBAN, 2008), using the potential of Web 2.0 applications for communication, collaboration, cooperation and creation. In this sense, the use of Facebook in the context of the proposed model is beneficial to users forming a privileged space for communication and information gathering, allowing students and teachers to connect with others who share similar interests, creating communities of interests and values (MANGOLD & J., 2009), the so-called online communities.

In this sense the use of Facebook intends to provide users with an environment suitable for collaboration, involving the actors in a space of common interests sharing. Firstly, the model proposes platform preparation activities, having as its start point the environment, the tools and resources available in Facebook and Google. These activities fall under stage 1 and are operated by the Teacher, and its implementation is only required at the beginning of the training period of a new class.

This stage is characterized essentially by the preparation of the environment which students and teachers will share. This will be the complement to the regular classes and should work as a support to the activities to be carried out at distance, thereby enhancing learning that is to be collaborative/cooperative, characterized by a freedom of choice by students, which may increase their motivation to learn. This freedom does not mean, however, the decrease in the teacher's role, on the contrary, it will force a repositioning by this intervener in the teaching / learning process in order to respond to events that happen to the rhythm of Nowism (SPIVACK, 2013).

Stage 1 will still be characterized by the construction of an environment that aims to provide a comfortable space for three distinct generations: Generation X (GRAIL, 2011),

Generation Y (WILLIAM, 2008) and Generation Z (HIETBRINK, 2012) however, the main actor, as can be verified by the analysis of Figure 6 will be the teacher.

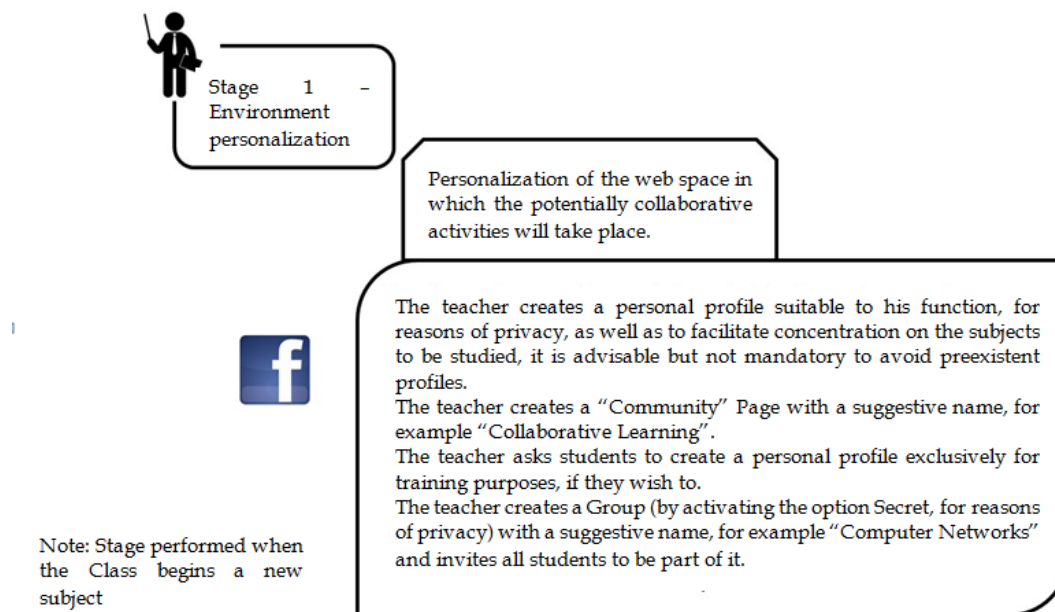


Figure 6 - Stage 1 of the WelWel Model

Stage 2 may eventually become stage 1, if there is only a change of themes and/or work to be done, and not class or group training itself. This stage is characterized by the assignment proposal carried out by the teacher, as well as by its presence component.

Robert Greene (GREENE, 2013) argues that we all have the ability to expand the limits of human potential. Power, intelligence and creativity are forces that we can free if we have the mentality and appropriate skills. People who assume themselves as a reference in their area of expertise have a different way of seeing the world. Greene (GREENE, 2013) believes that the word "genius" must be demystified because we have access to information and knowledge with which the masters of the past wouldn't dare to dream. Using the metaphor of the Library of Alexandria, the ancient knowledge repository, we can consider the Internet, and more specifically the Cloud (TAURION, 2009) in the context of stage 2 of the WelWel model, a set of resources and tools that students and teachers can use in a relationship that should increase the motivational levels of stakeholders in the teaching/learning process (KIAN & YUSOFF, 2012).

Robbins (ROBINS, 2006) states that "effective leaders have the ability to mobilize themselves and those around them because they understand the invisible forces that shape us". A new approach to solve an old problem (GALLO, 2014). Creating this moment, captivating students belonging to different generations, digital natives or not, immersed in a world of technology is a challenge that the teacher cannot escape from. Following the thought of Robbins (ROBINS, 2006) the teacher should mobilize himself and the students and involve them in this invisible force that should be collaboration between all in view of their own learning.

Gmail is used to enhance the communication skills already provided by Facebook, and Google Calendar will allow the timing of tasks proposed by the teacher. Google Drive

and YouTube allow the provision of educational materials, organized by the teacher, who remains, as we can see in Figure 7, the main actor involved in stage 2 of the WelWel model.

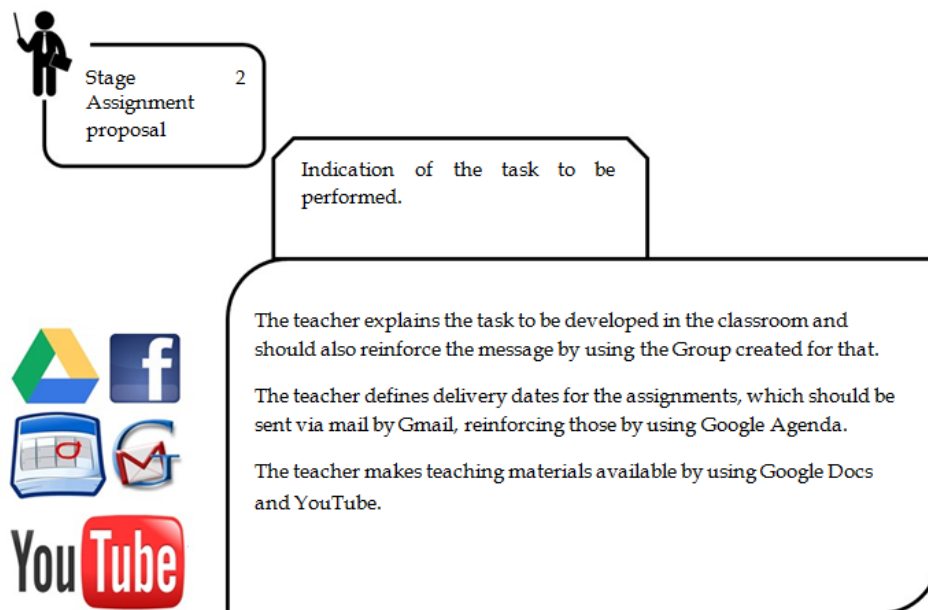


Figure 7 – Stage 2 of the WelWel Model

Although it doesn't truly contain the first task to be performed by students, stage 3 is the one that requires from them a first approach to the assignment proposed by the teacher. In this sense, it provides an environment in which, by establishing connections to the inherent Theory of Connectivism (SIEMENS, 2004) students can discuss within the Group with the participation of all as well as with the mediation of the teacher. It is during this stage that the space for the exchange of ideas among the users of the environment emerges as a socialization feature among students and between students and teachers, allowing to potentially acquire new knowledge and skills by students through the appropriation of Chaos Theory concepts (LORENZ, 1963).

The ability to create connections should be a competence of the students which can certainly lead to a relevant doubt as to whether or not the teacher should step aside from the teaching/learning process. Nothing more clear, the teacher remains the reference in particular assuming the role of guide in the path students follow for the construction of their learning (SIEMENS, 2010).

Having humans to relate themselves with other human beings directly and almost vulnerably (GALLO, 2014) is, in our view, a breakthrough in the search for a collaborative/cooperative learning, where censorship or fear of it, shouldn't exist. All opinions are important and should constitute a brainstorming from which to emerge information to be retained by the students, information which should always count on the teacher's support to ensure its scientific value.

The use of the Group and the Chat inherent to Facebook, aims to build connections that will enable students to acquire new knowledge and skills. Stage 3, as shown in Figure 8 assumes the interaction between teacher and students and it also makes a reference to BYOD (TAURION, 2012), as those involved in the teaching/learning process by

participating in a b-learning environment (PERES & PIMENTA, 2011) can use devices beyond the computer to have access to discussion groups.

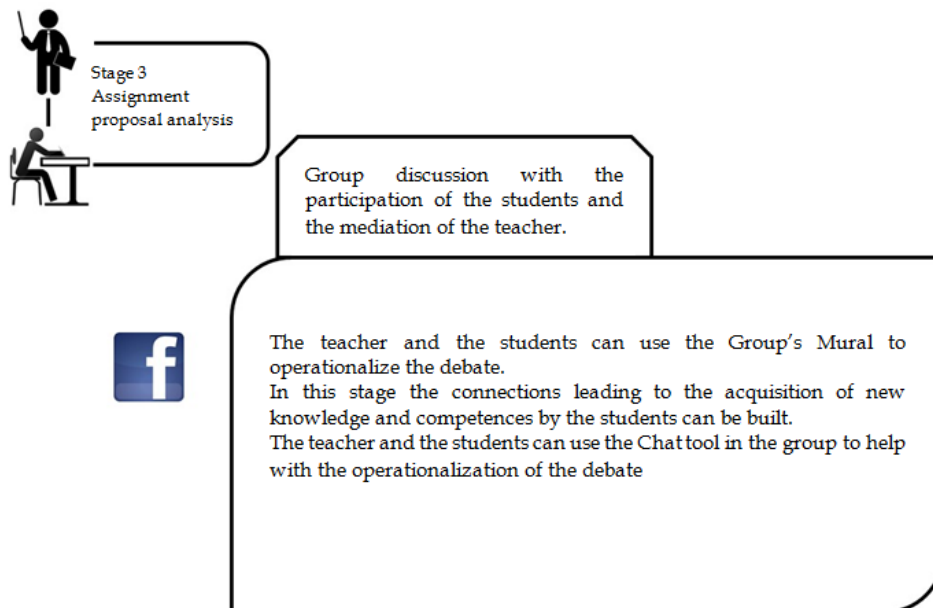


Figure 8 – Stage 3 of the WelWel Model

Stages 4 and 5 are characterized by an enabling freedom of new solutions that students can use in order to make an evolution (STRATHERN, 2001) to build an answer (or several) for the assignment that has been proposed in the stage 2. The space for the exchange of ideas between environment users continues to hold great importance in the execution of these tasks so as to provide an environment prone to the collaboration between stakeholders. So it will be expected that what students can learn will really learn, that is, this is the appropriation of the concepts of Murphy's Law (KIRILENKO & LO, 2013). From stage 5 results a publication the Group's space which is a private space only accessible to the Group's members (only students and teacher).

Originality is the most effective attribute to capture someone's attention (GALLO, 2014). Only those who are truly unique and can stand out because the brain is unable to ignore uniqueness (GALLO, 2014). Stage 4 should enhance the emergence of proposals for the resolution of the activities which should privilege the creative ability of the whole, composed by the students, instead the mere reproduction of the information taught in the classroom.

To facilitate the subsequent holding of information by the students, we can make use of an image or word that tends to prepare the subsequent information. This helps them to more easily access related concepts (KONNIKOVA, 2013). In other words, these concepts become more available and characterized by easier access.

The simultaneous use of Facebook and Google Drive will allow the construction of a document, editable, which can be changed by each of the students, fostering the creation of a collaborative document. As you can see from the analysis of figures 9 and 10, the actors involved will mainly be students, the teacher should refrain from directly intervening at the moment of the operationalization of the WelWel model, so as not to detract from the learning that is being built from the collaboration/cooperation among students. However, this does not mean that the teacher should completely move away

from the process, but must instead show interest and supervisory ability regarding the path chosen by students to solve the proposed activities.

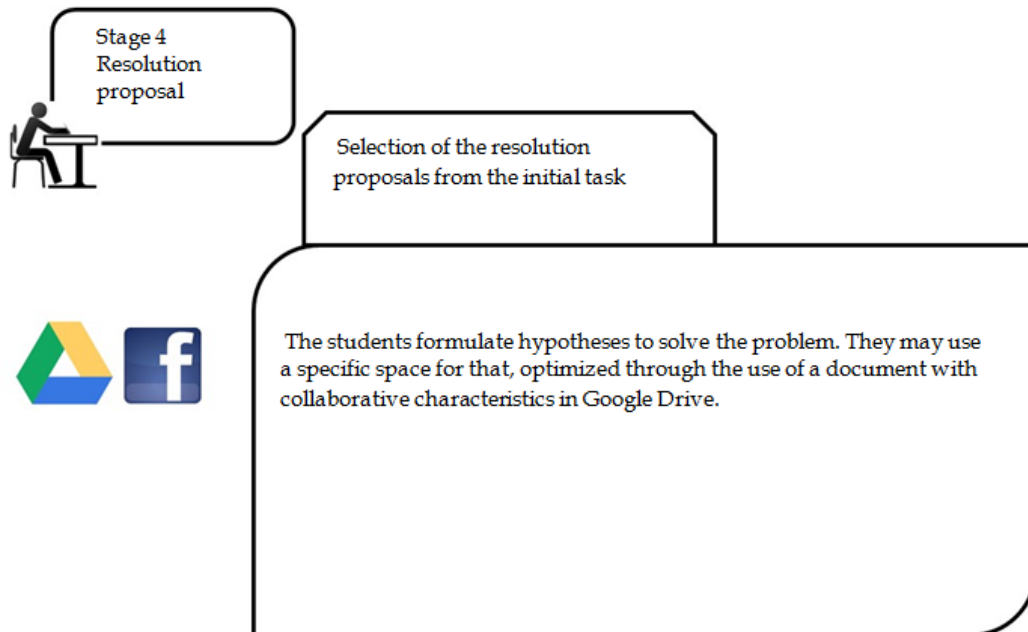


Figure 9 - Stage 4 of the WeiWei Model

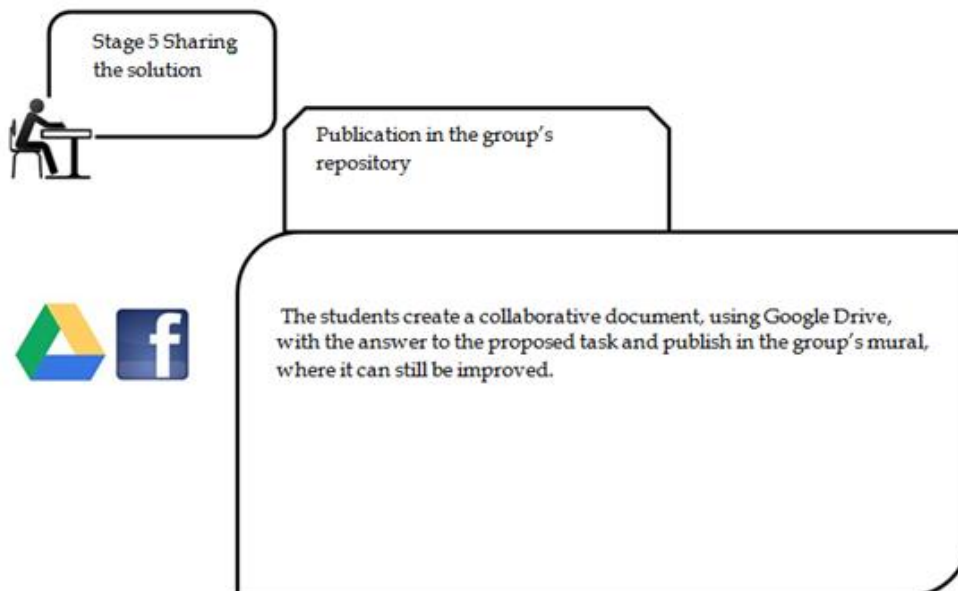


Figure 10 - Stage 5 of the WeiWei Model

Finally in stage 6 the solution is published in public repository, i.e. on the page created for this purpose during stage 1. This publication can be done either by the teacher or by the students, it is the teacher's responsibility to ensure the scientific value of all publications. Stage 6 is characterized by an absence of privacy as far as the publication is concerned which will allow for the spreading of information published there offering third parties the possibility of criticizing and/or collaborating.

In stage 6 we witness a congregation of connectivist theories and Chaos and Murphy's Law that have represented the map that have guided students to this point. The teacher, who has been attentive throughout the whole process, has the duty to ensure the scientific value of the information that emerges from the collaborative/cooperative learning operated.

This stage intends to represent, following Darwin's theory, (STRATHERN, 2001), the emergency of an environment that configures part of the digital evolutionism, in the sense that it represents an environment that we intend to survive to the LMS's evolution (DE FRANCO & LESSA, 2012), constituting an useful answer, potentiating creativity and motivation as well as a collaborative/cooperative learning.

The ability to create pages in Facebook allows the creation of a docking place by the students and teachers, which can be used as a repository. As you can infer from figure 11, stage 6 is characterized by the intervention and interaction between students and teacher that should converge to the publication of the solution found for the activity proposed by the teacher and developed in collaborative interaction between students and teacher.

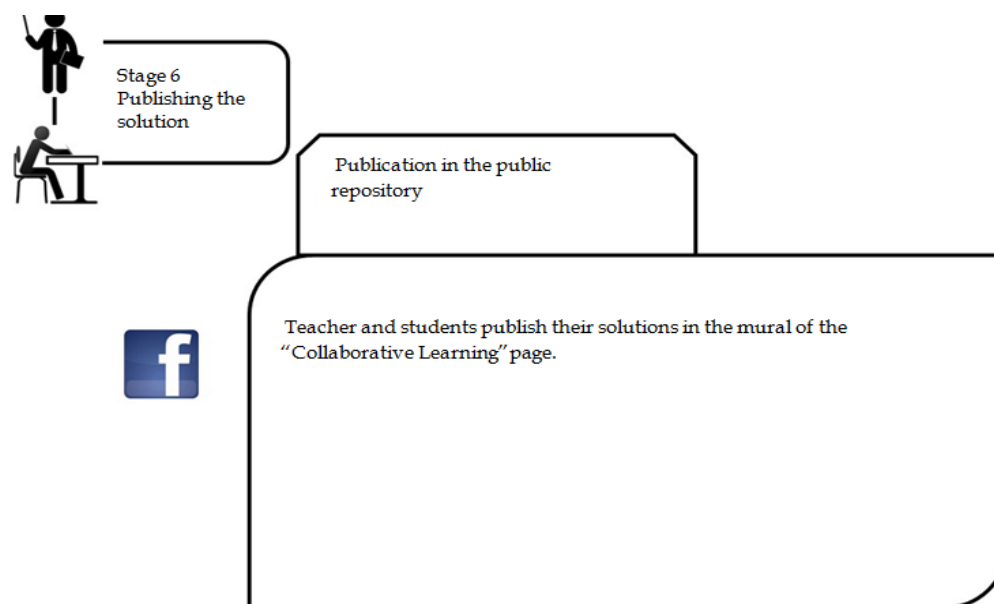


Figure 11 – Stage 6 of the WelWel Model

The structure of the WelWel model implies that the individual knowledge is, in a way, saved on the collective knowledge, as postulated by Siemens (2004) on the network concept in the context of the theory of Connectivism (SIEMENS, 2004). In this sense the WelWel model makes an appropriation of some concepts of the collectivist theory, as we can verify from the observation of Table 2.

Table 2 – Comparison between the Connectivist Theory and the WelWel model

Connectivism	WelWel
The learning and knowledge are based on the diversity of opinions.	Interventions of students and teacher are fundamental to the operationalization of the model.
Learning is a process of connecting sources of information.	The participants in the model use and connect different information sources.
Learning can exist in nonhuman mechanisms.	The environment is the focus of learning.
The ability to learn becomes more important than what we currently know.	One learns in real time (stream-learning).
Promote and maintain connections is critical to aid continuous learning.	The mobility offered by the cloud, allows a permanent connection to the learning environment.
The ability to see connections between areas of knowledge, ideas and concepts;	The SoLoMo (Social Local Mobile) allows you to view connections between students, in particular in relation to their online behavior.
The updated and accurate knowledge is the objective of all the connectivist learning activities;	The BYOD enables a connection to the learning environment, which frees students and teachers from using predefined equipment.
Making decisions is itself a learning process.	Nowism leads to the acceleration of the decision-making process by the teacher.

The introduction of the WelWel model in pedagogical practices aims to make teaching/learning more collaborative and interactive, stimulating the relationship between teacher and students, as well as between them and the knowledge.

Implementation of the model

The WelWel model will be implemented through tools and resources that will be adapted to incorporate the new collaborative learning environment based on Facebook. We intend to contribute to boosting innovation and digital skills in schools and universities, as 63% of children with nine years old (UE, 2014), in the European Union are in schools that are not yet digitally equipped. Considering that schools and universities should be prepared to give an education that responds to the digital skills that 90% of jobs will require by 2020, we think the WelWel model can be an asset to the school space. Thus, for the operationalization of this model the following resources were identified:

1. Content, will allow environmental management at the level of organization of information in files and folders, as well as their availability in internal and external links, through the use of Facebook as well as Google Docs and YouTube;
2. Tools, facilitate group work by using the blog which would be adapted through the use of a Facebook page, the wiki and glossary, supported by Google Drive

(Google Docs), and for better management of time available for the proposed tasks by an optimized schedule by Google Calendar;

3. Test/Questionnaire, will operationalize the evaluation process through the use of Google Docs;
4. Communication, will provide for interaction among students and between students and teacher, chat and forum, through the use of Facebook and email using Gmail;
5. Course, will function as the course management center itself, integrating once again Google Docs on Facebook, while acting as private and public repository;
6. User: will provide the student's or teacher's profile.

Each of the features required by the model is provided by the integrated environment or from an external application that enhances the collaborative/cooperative teaching as can be seen from the analysis shown in table 3.

Table 3 - Description of the functionalities of the WelWel

FUNCTIONALITY	PLATAFORM	DESCRIPTION
Content	FACEBOOK	Use of internal links Use of external links Upload files
	GOOGLE DRIVE (GOOGLE DOCS)	Creation / file management Creation / folder management Use of internal links Use of external links Upload files
	YOU TUBE	Use of audio files Use of video files
Tools	FACEBOOK	Creation/Management of Blog
	GOOGLE DRIVE (GOOGLE DOCS)	Creation/management of Wiki Use of Glossary
	GOOGLE CALENDAR	Schedule management
Test / Questionnaire	GOOGLE DRIVE (GOOGLE DOCS)	Create tests/questionnaires Import/export of tests/questionnaires
Communication	FACEBOOK	Creation/management of forum Chat Use
	GMAIL	Use of mail
Course	FACEBOOK	Posting ads Creation/management of groups and pages
	GOOGLE DRIVE (GOOGLE DOCS)	Use of reports Assessment center
User	FACEBOOK	Profile creation / management

To sum up, the Welwel model consists of six resource base that intend to support a collaborative/cooperative learning with the use of the social network Facebook.

Considering the options that should be integrated into Facebook, the resource Content will provide the homepage for the environment that is intended to support the collaborative/cooperative teaching. This web space will provide quick access to all the features of the WelWel model.

In order to give Facebook a greater number of tools, the resource to the potentialities made available by Google will contribute to a greater robustness of the collaborative/cooperative teaching tool, allowing the scheduling of the activities to be developed through the potentialities of Google Calendar.

In this sense the integration of Google Drive (Google Docs) will not only provide information to students, through manuals, exercises and other documents, but also save the result of work done by the students in what we can call repository.

Via the personalization provided by the Facebook platform, the Forum tool will enable the promotion of discussions in a conducive environment for the development of brainstorming in group. In addition, the Chat tool will provide a space for discussion in smaller groups. Finally the announcement tool will allow, the teacher, the creation of events that can function as time-bound goals, in order to assist the management of the rhythms of student learning.

Implications of the proposed model in the collaborative/cooperative learning

The implications of the WelWel model in the operationalization of the collaborative/cooperative learning revises the image of the teacher who will have to undergo some adjustments to better meet the needs/demands of the implementation of the model and who can win consistency by adding leader characteristics, when in most situations, the teacher is merely seen, by the students, as a chief. According to Farrache (2008) the chief has ten characteristics that can inhibit the smooth running of the projects to which they have proposed, so the chief (FARRACHE, 2008):

Does not decide, does not command; Commands, but does not lead; Is a boastful; Hears but does not listen; Loses control; Places the results above all; Does not release harmful employees; Does not first think of the client; Is afraid; Is unfair.

We consider the WelWel environment, an environment in which the teacher will also have tools that, in addition to propitiating students learning, will also challenge the training of each of these individuals. So we believe appropriate to consider qualities we find in some of the currently most successful coaches (URBEA & ORO, 2012), in order to characterize the teacher/collaborator:

- a) Knowledge of himself;
- b) Knowledge of the group;
- c) Communication;
- d) Emotional intelligence;
- e) Goals and objectives;
- f) Global and personalized planning ability;
- g) Innovation and creativity;
- h) Generosity;
- i) Ability to manage conflicts;
- j) Mental strength; Motivation.

We will carry out an adaptation of the ten characteristics (FARRACHE, 2008) of the chief with the eleven qualities (URBEA & ORO, 2012) of a successful coach creating the soft skills we believe essential for the teacher/collaborator in the context of the WelWel model:

- a) Leadership, knowledge of self.
- b) Credibility, communication.
- c) Empathy, knowledge of the group.
- d) Serenity, emotional intelligence.
- e) Humanity, generosity.
- f) Overview, ability to outline goals and set objectives with innovation and creativity.
- g) Frontness, comprehensive and personalized planning ability.
- h) Focus, mental strength.
- i) Motivation, fundamental ability.
- j) Moderation, ability to manage conflicts.

The figure of the teacher/collaborator implies considering the teacher's responsibility to provide students with skills that allow them to create and validate their own connections, culminating in the construction of a social network, personal, enabling them to learn and maintain a learning that is intended to be continued. In this sense it is also important to stress the Chaos Theory since it is from a sort of chaotic start that the student will begin to create his own learning, in collaboration with other students, always under a non-interventional supervision but interactive with the teacher.

The WelWel model, aims to be more effective in explaining concepts, using methods of diverse sensory stimulus - auditory, visual and kinesthetic (GALLO, 2014). In an investigation (GALLO, 2014) conducted by Richard Mayer at the University of California, students were exposed to multisensory environments - text, images, animation, video - and had, always, not just occasionally, but always, a much more accurate information retention than students who had only had the opportunity to read or hear the same information. When it allows the brain to build two representations of the same explanation, a verbal model and other visual, mental connections are not just a little stronger, they are much stronger (GALLO, 2014).

The use of tools that compose the WelWel enables students to retain concepts via, for example, words and images, rather than just through words, thereby increasing retention ability of those concepts. Excluding video tool, also available in WelWel, the use of an image helps to retain six times more information than only through recourse to words (GALLO, 2014). According to Paivio (1990), visual information and verbal information is stored separately in our memory. Thus they can be stored as words, images, or both (PAIVIO, 1990). In a more general perspective, the images are recorded in our brain more clearly, which makes it easier to retrieve the inherent information.

The WelWel model enhances a strong relationship between the mind and the habit, being this a know-how that is acquired in action. If the teacher really wants his students to act in a certain way, he needs to enhance these behaviors through the teaching/learning process. Tasks undertaken through the WelWel model will be the most effective way to get a strong relationship between the mind and the habit (AZEVEDO, 2011).

Conclusions

In 2013, for the first time in history, the number of mobile devices with internet access - most of which are smartphones - topped the world's population (UNESCO, 2013). However, despite its scope and special types of learning that they can support with these technologies are often banned or ignored in the formal education systems. In the context of the initiative Opening up Education (UE, 2014), the European Commission notes that most of the teachers in primary and secondary education do not consider themselves digitally competent or able to teach digital skills effectively. The application of the WelWel model will thus entail first of all a change in the teacher's role, into a teacher/collaborator. The teacher/collaborator will act in the context of Connectivism relying on the Chaos Theory and Darwin's Theory to operationalize the teaching/learning process in students. In this sense he will act with a focus on emotional aspects and natural (teach something new and memorable and present the content in an unforgettable way). The teacher should therefore: (a) getting to know yourself and your environment; (b) have a capacity of careful and thoughtful observation; (c) imagine, remembering to use spaces which you do not think you need; (d) deduct only from that observed and (e) nothing else and Learn from your mistakes and your successes. Shall also have as a fundamental goal, teaching students to be thinkers and no information repeaters (CURY, 2004), i.e. equip them with the skills so they can use the tools provided by the WelWel model to create their own connections (SIEMENS, 2010) and so they can learn on their own initiative and in collaboration. We intend, with the operationalization of the WelWel model, use the Facebook / Google combination as collaborative/cooperative learning environment, hoping to increase the At the same time we intend to also involve students and teacher in a highly connectivist space (SIEMENS, 2008) that enables the learning to happen, regardless of the area of education, as well as from the perspective of its implementation, to be eminently practical, to motivate users to spontaneous participation.

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