DysFacebook: Dyslexic students learning of digital literacy through Facebook at school

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ABSTRACT

Through this small scale study, students and researcher co-build a Facebook group page using scaffolding method to learn about science topics. The study focuses on how they learnt through Facebook, a class of four students with dyslexia. Since reading and writing is a barrier for students with dyslexia, this project seeks to integrate the new technologies in a class to overcome their literacy issues. The study proposes to answer two interrelated questions. Firstly, how students interact and socialize through Facebook, and secondly, as active they are, promoting in an environment that promotes collaboration, control of their learning and support of and by peers. The study shows Facebook as a multimodal space of cooperative learning and, questions if it can be an educational tool to be taken into account in the educational context.

Key words: Dyslexia, critical theory, critical literacies pedagogy, scaffolding, ZPD, Facebook.

INTRODUCTION

The study addresses dyslexia and how new technologies can help dyslexic students overcome the problems of literacy in the school stage. The reason for the choice responds to the needs for people suffering from this syndrome, to find alternative methods that meet their different learning style and allow them to learn (Rello, 2012).

The relation of Dyslexia and new technologies has been a motivating research due to its impact on current school communities. Recent studies in the area conclude that in today's society, 10% of people worldwide have some degree of dyslexia and statistics show an increasing number of people diagnosed with dyslexia every year (British Dyslexia Association, 2013). During this study, I tried to find out if the use of new technologies can help students with dyslexia learn literacy and compensate for their difficulties more easily. Dyslexia is a specific difficulty in reading and written language. According to leading authors, it is advisable to use multisensory methods to compensate for the lack of ability in the reading-writing of dyslexic individuals (NLG, 1996). A multi-sensory teaching is a way of teaching in which the sensorial channels are stimulated simultaneously, optimizing and enriching the learning process of the students. That is, activities in which students have to watch, listen and manipulate the presented stimuli (Barden, 2014).

Today, Information and Communication Technologies (ICTs) are part of our day-to-day life, transforming society and traditional reading and writing processes (NLG, 1996). To face this technological advance, education should adapt, since students are digital natives because they have been in contact with ICT since birth. Besides, thanks to ICT, teachers now have access to a large amount of resources to improve teaching-learning processes, but they need to be properly selected (BDA, 2013).

Students have different characteristics and needs, with their own strengths, weaknesses and tastes, for this reason, it is necessary for teachers to be trained and adapt to facilitate the acquisition of competencies and skills of their students. This is fundamental, even more so, in students with learning difficulties, such as dyslexia (Edgerton and Roberts, 2014). This project is based on the topic of dyslexia because I think it is a very relevant issue amongst the learning problems.
Dyslexia is a specific learning difficulty present in most of the classrooms, however, at present, schools do not place importance on dyslexia as they should due to the number of students that are not diagnosed and that are labelled as lazy or problematic; it is a subject to which we must dedicate effort and time. It is important that all teachers know the impact of this problem and others that hinder learning such as reading and writing. In addition, all educators should have adequate training to detect dyslexia when it becomes apparent and put in place the most effective educational interventions.

The reasons why I chose this topic for my study is because throughout my career as a teacher, I have been able to realize the many difficulties that students face at school and specifically the lack of knowledge that exists around dyslexia. For this reason, I wanted to increase my knowledge of it to be able to work on the challenges that these cases present on a daily basis.

The classroom is a very complex work framework in which different problematic situations can occur, among them, we must take special care of learning difficulties. In the classroom, the troublesome cases constantly increase, so that teachers are not able to identify and address the problem. The vast majority of these educators do not have enough resources to be able to face the problem once the difficulty becomes apparent. Because the different difficulties that students present are not treated in time or from early stages, the problem worsens throughout the school stage and the more advanced they go in their school stages the harder it is to improve the difficulties that children have. At the same time we found another problem, deeply rooted in the classroom; educators face another internal problem, their apprehension at dealing with dyslexic students because they lack adequate preparation, hence they do not know how to carry out tasks to improve the educational performance of these students. Dyslexia is a special educational need whose diagnosis is usually very late, which can greatly affect learning performance of the student and even in the daily life of those who suffer from it, causing problems for their educational development.

The complexity that surrounds the issue of dyslexia is what attracted me to base my study on this kind of difficulty. By delving into its contents and real cases, I was able to learn about the learning issues faced by the dyslexic students and the problems in diagnosing this special educational need.

Specifically, my interest focuses on dyslexic students learning through new technologies. González (2012) states that the educational context of the 21st century is characterized by new means of communication, new ways of socialising, as well as new ways of distributing information and access to it. Villalba (2009), in fact, states that students are totally immersed in a lifestyle where the use of computers, mobile phones, video game consoles and the use of the Internet is a regular and daily practice. Moreover, Méndez (2011) draws attention to the fact that new computer resources offer the possibility of reaching all those skills that are normally less engaged in class; for this reason, Facebook was chosen as an educational tool for this study.

We all know that Facebook is a fantastic tool to maintain contact with old friends, meet new people or receive the information shared on the pages of our followers. In my study, I did an investigation on how Facebook can be used to help children with dyslexia. Why have I chosen Facebook and not another social network? This is because the Facebook group is currently being used in some schools to share the Syllabus or didactic unit plan, the class agenda, the obligatory readings, the internal group discussions, for example, those related to the evaluation, as well as the e-mail addresses of students (Twitter, blog, social healing platform, etc.). All these information are online and accessible with a single click, including mandatory readings. Students can participate in the writing of mini-wikis within the Facebook group on topics of their choice, they are invited to suggest interesting readings related to the subject of the course by adding commented links. I used Facebook, because almost all the students are already subscribed to it and because the group functionality of the platform is very much filmed. But could I have used any other collaborative group management support, such as Slack or the LinkedIn groups?

The objective of this study is to investigate how cooperative learning through a social network such as Facebook can help dyslexic students can be carried out, and to assess the advantages and disadvantages involved (Barden, 2012). Facebook is the most popular social network worldwide nowadays and my students already use personal accounts on this network.

The primary objective of this study is to investigate if cooperative learning through a social network such as Facebook can help students improve literacy skills, help in building mini wikis spaces related to different science topics.

**REVIEW OF THE LITERATURE**

The word ‘dyslexia’ comes from the Greek ‘dys-‘, meaning difficulty with, and ‘-lexia’, meaning words or language. There are many reasons why people find it difficult to learn to read, write, or spell. For many of such people, those difficulties can be explained by the normal range of opportunity and experience. For others, however, those difficulties do not seem so easily explainable. Such learners may be what is termed ‘dyslexic’. We understand dyslexia to be a specific difficulty, typically characterised by an unusual balance of skills. Dyslexia affects information processing (receiving, holding, retrieving and structuring information) and the speed of processing information. It therefore has an impact on skills such as reading, writing, using symbols and carrying out calculations. However,
there are many differing definitions; dyslexia is an umbrella term. It is important to recognise that: dyslexia is not related to intelligence and can occur in severe, moderate, or mild forms. People with dyslexia have their own individual profiles of strengths and weaknesses; no two people are exactly the same and the impact of dyslexia on each individual is different.

Writing and reading comprise a whole series of processes that are directed by an intentionality printed by the same writer in order to represent an object. For this reason, Ivanić (2004) suggests that writing is not only a psychomotor function nor a perceptive learning of ascending order, but rather responds to a socio-cultural approach (Vygotsky, 1979). In children, this symbolic object can be given through informal or formal writing, but in any case, it is a natural process of the human being: the child approaches writing as a natural stage of his development and not as training from the outside (Vygotsky, 1979). At first, the child, indeed, approaches writing through scribbles and other symbols full of meaning for themselves, but within the writing system do not comply with the rules themselves (Karpov, 2014). Later, writing is as such, a structured set of rules made so that code be shared collectively. Both formal and informal forms of writing are systems addressed by children in their initial process of access to alphabetic writing (Vygotsky, 1979).

The study of dyslexia is complicated to undertake. According to Cosenza (2014), the difficulty of studying problems related to dyslexia is such that nowadays it still divides educational professionals; is a complex subject and is even more complex when the study is practiced in the classroom. This is one of the main reasons that led me to carry out an investigation on dyslexia because it is a confusing and complex area that keeps professionals divided.

The aforementioned leads me to raise the following questions:

(1) How can ICT help dyslexic students to address literacy issues?

(2) How to integrate ICT in schools to develop communicative skills that facilitate the reading-writing process of dyslexic students?

I am particularly interested in the study of students with dyslexia who are often identified by their failures at the school (Falzon and Camilleri, 2010) mostly when the current estimate is that dyslexia is affecting more than 10% of the world’s population (Rello, 2012).

My key texts draw on publications from two different fields. Firstly, research projects that have been done in the dyslexia field (BDA, 2013) and, secondly, the methodological framework to be able to have theoretical foundations that explains the problem (Allen, 2012; Falzon and Camilleri, 2010).

Among the methodology articles, I chose Allen’s (2012) study, where the author analyses the key concepts of Foucault’s (Foucault and Gordon, 1980) thought (examples, “power and knowledge”) that I would perfectly be able to transfer to the educational context of my work (Allen, 2012). This article could be a starting point for a better understanding of concepts related to Foucault’s thought (Foucault and Gordon, 1980) and could be a useful source to support any educational research.

Related to methodology, I decided to choose the authors Ercikan and Roth (2006), who introduced the concept of “generalizability”. In the field of research, there has been a “confrontation” between theories and practices that defend a qualitative approach, and a quantitative approach (Ercikan and Roth, 2006). A new current has appeared that integrates the benefits of both methods and tries to minimize their limitations. It is called Mixed Research Methods and although it makes use of the contents associated with qualitative and quantitative methods, generates its own theoretical domain, its own designs and proposals for the collection, processing and analysis of data. (Ercikan and Roth, 2006).

In my context, I will use the mixed method because it is more personal and I can mould it better if I only focus on research from the qualitative or quantitative point of view (Ercikan and Roth, 2006).

To broaden the knowledge of dyslexia, I selected Falzon and Camilleri (2010) which I found particularly instructive because there was an analysis of the actual situation. This case study shows the negative impact of not being able to read or write, not only on academic results, but also emotionally, because dyslexia affects self-concept and self-esteem (Falzon and Camilleri, 2010).

To clarify and focus the problem to investigate is within the scope of the literature. This led me to the choice of texts that contributed relevant information in the field of study: dyslexia and new technologies. The British Dyslexia Association (BDA, 2013) sets out a series of guidelines to follow in order to implement the new technologies in the classroom as a “key tool” to help students with dyslexia in the teaching-learning process. Just as beneficial to the dyslexic students, the implementation of new technologies in the classroom can have a positive impact on the rest of the students, benefiting all of the new technologies for the improvement of skills and competences.

The BDA’s (2013) study puts the focus on the use of ICT, for example, if today there is an opportunity to teach students content in an entertaining and contextualized way, why not do it in a creative way with the help of new technologies? (BDA, 2013).

The increasing relevance of new technologies in education has drawn my attention to this topic and to these studies. I selected authors who analyzed the use of new technologies applied to dyslexia that can provide the inspiration for new research (Barden, 2014), for example, creativity and the
creative use of new technologies in the classroom (BDA, 2013). I chose the key texts for many reasons; one of them is the theoretical frameworks to be consistent and clear, to explain the methodology applied to carry out the study.

British dyslexia Association (BDA) and British Educational Research Association (BERA) are two of UK’s leading scientific research and outreach associations, so I was inclined to use publications from these associations. In turn, these texts were published mostly within a period of 10 years (Allen, 2012; BDA, 2013). Therefore, they are up-to-date and realistic in their study, that is, the feasibility of being observed in reality in a particular context.

Barden (2014) in his study dealt with the daily use of technology through social networks (Facebook in this case) with a group of students diagnosed with dyslexia. The studies of Rello (2012) and Barden (2014) agree on the need for technology as a relevant element to improve society and the need for technology as an increasingly significant in the classroom and that ICTs can help dyslexic students overcome literacy issues creatively and flexibly.

Recently, interest has grown in this field and an example is the article by Obradović et al. (2015). This text claims the importance of creativity in the classroom and that the use of new technologies enhances skills in all students in general.

Following Falzon and Camilleri (2010), I think they were heavily influenced by having dyslexic children and have a particularly personal approach to the subject of study. These authors provided us with interesting arguments, however, in my research, I tried to be more unbiased, although I was aware of ontological view. Similarly, the methodology of the study does not seem appropriate to me because it lacks human contact; the world and its interpretation are through our senses, so I think the study loses a bit of realism.

On the other hand, if we look at the study of Barden (2014) and compare it with that of Falzon and Camilleri (2010), when the author asks questions to the students in class, he is conditioning them, since the questions are very guiding, losing essence. The social relations that occur seem more natural in Barden’s study, because unlike the study by Falzon and Camilleri (2010), who used surveys and forms made only by email, Barden (2014) collected data by participating personally in the class with the students, observing them, recording them and asking them questions. However, I doubt whether these relations between researcher and students are authentic or not, because of the control exercised by the author when conducting the research in the classroom (Barden, 2014).

Rello (2012), adopts a committed perspective, as a dyslexic person herself, in her study on the use of software as a tool to improve the education of dyslexic students. This implies recognizing the intimate relationship between interest and knowledge, and the deformations and limitations that we have as a consequence of our conceptions. Thus, it is also the consequence of our particular interests as individual, age group, sex, race, professional group and social class.

Barden (2014) points out that "dyslexia remains a controversial topic". Even with no consensus on its definition, there have been significant advances in dyslexia research over the last twenty years. This has aided explanations of dyslexia and supported policy and practice. The impact has been considerable, but there is still no clear explanation that is universally accepted of what exactly dyslexia is. Identification is still riddled with controversies despite the emergence of a number of new tests to identify dyslexia, or sub-components of dyslexia (Barden, 2014).

In spite of the difficulties in their definition, the research works presented in these articles show interesting findings and they explain how the use of new technologies has specific applications that are currently being put into practice to help the educational community. For example, the use of the “Dyswebsia” application is very useful for the early detection of dyslexia at early ages (Rello, 2012). This tool could be implanted in a number of educational contexts, including mine, since it is easy to use and has free access.

Just as it is beneficial to the dyslexic students, the implementation of new technologies in the classroom can have a positive impact on the rest of the students, benefiting all of the new technologies for the improvement of skills and competences, making the school a more inclusive place (BDA, 2013).

Especially interesting is the research site included in the study of Barden (2014) but also the context of this study, for being in a college, approaching the daily reality of classrooms and students, interactions teacher-students-technology and especially the use of multimodality in the classroom. It is thought-provoking the use of such popular tools among students as social networks in this case the use of Facebook and its impact on college students (Barden, 2014).

The increasing relevance of new technologies in education has drawn my attention to this topic and to these studies. When I did the literature review, I selected authors who analyzed the use of new technologies applied to dyslexia that can provide the inspiration for new research works. For example, creativity and the creative use of new technologies in the classroom (Obradović et al., 2015).

The studies mentioned above allowed us to find theoretical frameworks, to be consistent and clear, to explain the methodology applied to carry out this study.

The authors mentioned above as the literature used to undertake this study, have an extensive and interesting bibliography that underpins their research work. Noting that these authors have an average number of publications of more than twenty in the field of research, which guarantees the quality of their publications and expertise in the field (Costley et al., 2010). This is particularly important with a subject such as dyslexia where there is so much information available online and much of it invalidated.
The main objective in this study is related to inclusive practice based on the ideas of several authors. Inclusive education implies that all young people and adults in a given community can learn together independently of their origin, personal, social or cultural conditions, including those with any learning or disability problem. Obradović et al. (2015) and BDA (2013) claim some guidelines for inclusive practice in education. Authors such as Barden (2014), Cosenza (2014) and Rello (2012), among others, have a common view in inclusive practice reflected in their studies. They introduce the idea that the school needs to have no entry requirements or selection mechanisms of any kind, to really make equal opportunities effective in education. The study of Obradović et al. (2015) is a clear example of the inclusive school model in which all students benefit from a teaching tailored to their needs and not just to those with special educational needs.

The article published by the BDA (2013) includes the definition of Inclusive Education understood as personalized education, adapted to all children in homogeneous age groups, with a diversity of needs, skills and levels of competence. It is based on providing the necessary support to assist each other, understanding that, the students are similar, but not identical and their needs should be considered from a plural and diverse perspective. In addition, the text delves into some guidelines for the application of new technologies in the classroom to support students with dyslexia.

Ercikan and Roth (2014) introduced the idea that there is a wrong approach to research when polarising it into qualitative and quantitative. The resolution of the problem passes for future collaborations between researchers looking at the research as continuity and not as a dichotomy that prevents us from going in depth into the investigation.

Cosenza (2014) in his article tried to look for an alternative answer to the traditional approach to dyslexia, to delve deeply into its methodology. The author challenges the educational system for what is regarded as wrong and right, opting for legitimising dyslexia in the academic context, giving cause for new forms of knowledge. For example, in the written essays, the author claims that they have an "archaic" structure.

Nowadays, the use of digital resources in the educational response of students with dyslexia is almost indispensable, since they represent an essential methodological change so that these students can: compensate their difficulties, access learning and curriculum, open new channels of information and access a "multisensory-environment" teaching that many students with dyslexia need (BDA, 2013). Obradović et al. (2015) and Rello (2012) studies advice the use of multisensory methods to compensate for the lack of ability in reading-writing.

Based on the work of Edgerton and Roberts (2014), in postmodern society there are attempts to generate recognition for the values of difference, plurality and tolerance. Framed in a more open society where we recognize in the difference within a cultural plurality, within the limits of tolerance, that creates the possibility for a more dignified and supportive existence. Thus, diversity should be a social value and not an obstacle to overcome or something to be treated differently. The mainstream in education is designed for a homogeneous population, in terms of ages, school level, cognitive level and social groups that have equivalent cultural capital, in order to constitute groups that do not hinder the work of the teacher. However, we should learn to value the different, the richness to recognize the different; appreciate it as an opportunity and not as a rarity (Edgerton and Roberts, 2014).

The school context has been studied by many theorists. Among them, Bourdieu (1986) in his studies highlights how important it is to study the individual in that context because the educational institutions is where people are built and where they create ways of thinking and acting in direct relationship with families. We cannot study the society comprehensively if we do not study this institution along with the formation of the people educated by them. According to Bourdieu (1986), today, schools copies social structures (Edgerton and Roberts, 2014). Consequently, the school context generates processes of exclusion caused, on the one hand, by students who do not meet the expectations set to be considered the ideal student, but also, and in an interrelated way, by the system that builds the conditions that make it possible to be included or excluded from the school and its teaching-learning processes (Power, 2011).

The literature review led me to narrow down my initial research questions, and, thus, to revise them to see if they were well formulated. My research, in the beginning was focused on the study of the use of new technologies in the classroom with dyslexic students. The studies by authors such as Barden (2014), Cosenza (2014) and Obradović et al. (2015) led me to rethink the initial question and include, for example, the teacher as a variable and object of study within the research.

**METHODOLOGY/RESEARCH DESIGN**

The objective of this study is to investigate how cooperative learning through a social network such as Facebook can help dyslexic students can be carried out, and to assess the advantages and disadvantages involved (Barden, 2012). Facebook is the most popular social network worldwide nowadays and my students already use personal accounts on this network.

The project was be carried out in a secondary school with more than 1,500 students between 11 and 18 years old located in the UK. For this research project, I have selected 4 students of 15 years; 2 boys and two girls labelled with Dyslexia from Year 10. Throughout the research, from my
role as an insider-researcher, I sought that the students collaborate to build a Facebook group on a subject that had previously been agreed on by all the project participants. To this end, during this investigation, I proposed creating a secret Facebook group and monitored by the researcher, in which information can be shared and which helps dyslexic students with their school work in a daily basis. As an insider-researcher I proposed that the subject on which the study is based on, is Science, however it was agreed by the group of students, as well as the name of the group within the social network.

The study included three different phases. The first one was an introduction for the students to the aim of the study as well as an initial questionnaire completion. Secondly, the five sessions that made up the development phase of the project, when the researcher proposed a problem related to the subject for students to investigate and collaborate to try to make it out. Then the students learnt autonomously so that they can build the contents of the Facebook group by working cooperatively and posting all their material on the group page trying to solve the problems proposed by the insider-researcher. Finally, for the third phase of the study an individual interview was conducted to gather the opinions of the participant students.

I used the questionnaire during the first phase because it is the most commonly used source of information in the regulated education observation because it provides information on a bigger number of people in a fairly short period as well as the ease of obtaining, quantifying, analysing and interpreting the data. The questionnaire was completed individually on Google Forms by the students in the first phase as quantitative data collection.

Throughout the duration of the project, as a teacher-researcher, I monitored the work group and answered any questions that came up during the session. On the other hand, my role, also as a member of the group, included coordination of tasks, that is, to manage and propose activities and to act as a unifying thread for all the students to progress correctly (Gee, 2003).

It was taken into account that within this social network there are three types of groups based on privacy: open, private and secret, a secret group is one in which the contents will not appear as a result of any search or on the profiles of its members. The only way to access a secret group is through a prior invitation and only group members can see the information and content. I chose the option of creating a secret group since this is the only way privacy of the participants is guaranteed and there is a tight control over the users accessing the group.

Good practices for using Facebook groups as a learning tool were observed during the development of the sessions. I created a profile on Facebook for professional use only. This personal profile is completely separate from my personal profile and was configured with all privacy parameters. The professional profile contains the contact information (corporate email) that the students need along with the personalization with photos so that the students recognize it. It is very important to maintain a level of professionalism that does not cross the limit of a relation between student and teacher, establishing certain rules of etiquette.

As a teacher does not become "Friend" of students on Facebook. To connect with students on Facebook, I informed them on the creation of a secret group on Facebook sharing the instructions to follow to access the group. The students requested to join the group by simply clicking on the web link without having to be "friends" of the teacher previously. As administrator of the group, I gave the students access to the group, after seeing their request. It is important that in case the student uses a pseudonym on Facebook and the teacher does not identify the student's name, the student sent a message to ensure I allowed the right person to enter the group.

As a teacher and group administrator, I published a list of rules of conduct that were added to the group's description and was explained to the students before the start of the first development session. Some aspects to highlight were the obligation to be respectful with others, the prohibition of passing answers to tests or posting any commercial material or those not related to the objective of the course. With the use of an analytical tool for Facebook groups such as Grytics, being an administrator, I had the possibility to measure the activity of the group, identify the users that contribute the most with publications, number of likes of each publication, etc. The group metrics that are available through the tool are:

- Basic statistics, such as message type, message top, group activity, comments and likes.

**Member statistics**

Identifies who the users are most related to the group and who have the most impact when they publish. Here there are two possibilities of the analysis:

- **Global**: Identifying the most committed members, the most influential; the most commented the most likers, etc.

- **Individual**: Through the search of members, obtaining statistics of a particular member.

This type of tools also entails the responsibility in terms of using the privacy of the participants, so when selecting software for the analysis of a social network such as Facebook, I thought it would be very important to guarantee the privacy of the students and of the study. In the Grytics website, this privacy is guaranteed. For the final phase of the study, I used a semi-structured type of interview which does not necessarily need to follow a previously fixed sequence, but a sequence conditioned by the responses of the person interviewed. The questions
were posed to elicit the discursive flow of the interviewee. For example, instead of asking, do you consider that Facebook helps you in a positive way in your homework?, to which they would surely answered with a monosyllabic, I asked the question in the following terms: What do you think of Facebook as an educational tool? (Barden, 2014).

The interaction space that a social network can provide in the classroom should be leveraged for a common, collaborative, cooperative and interdisciplinary learning model by the students and the teachers. Thus, objectives could be established with the use of social networks in the classroom, than can were also assessed for this study:

(1) Space for interaction, individuality and multiculturalism. That is, as a place for shared knowledge and collaborative learning.
(2) Metacognition space. Through activities or tasks that involve self-evaluation or reflection on the work carried out.
(3) Argumentative space. Posing forums or interactions on topics where they let out the communicative strategies of each student, their search strategies, selection of information and reasoning, but also where their response speed, interaction and communication are motivated. This search for response capacity is part of the same conception of social network.

Under the autonomous model, writing is considered an independent variable, and literacy as a concept associated with progress, civilization, individual freedom, social mobility. This model ignores the student's context and is interested only in logical principles of its internal coherence. This model prevails in the education system and makes dyslexic students, even pushing themselves, cannot keep pace with learning during the course. It is not rare that dyslexic students feel out of place. It is the model commonly associated with school practice that, traditionally, is based on the formal, sometimes mechanical, aspects of writing and reading. Unlike this model that considers individual development independently of the socio-cultural context, Vygotsky's development model (on which I have based my project) explains the individual development in complex terms of interaction of individual, cultural, social and historical.

The objective of the study is focused on the creation of a secret group in the social network to investigate the interaction amongst the members of the group while they undertake recreational activities on a subject. To that effect, I used the theory of Vygotsky (1978) the concepts of Zone of Proximal Development (ZPD) and scaffolding. The scaffolding is a concept widely used in education; it is based on the constructivist vision of Vygotsky (1978) and his concept zone of proximal development (ZPD). Vygotsky (1978) defines the ZPD as the distance between the actual level of development, given by the ability to independently solve a problem and the level of potential development, given by the solution of a problem under the guidance of an adult or in collaboration with another more capable partner Vygotsky (1978).

The concept of scaffolding in Education was introduced by Bruner (1976) who defined scaffolding to be a situation of interaction between an expert or a more experienced subject and an inexperienced one, in which the interaction is aimed at the subject less expert gradually gains expert's knowledge. The idea of scaffolding refers to the fact that the activity is solved "collaboratively", where the expert has almost total control at the beginning, but delegating it gradually to the inexperienced one (Bruner, 1976).

To put this theory into practice, I selected a series of problems whose level of difficulty is within the student's ZPD (Year 10) that are a challenge for the students. I was able to guide the students, using the scaffolding, to provide them with the resources so they can solve the problems in a cooperative way. It can lead to collective scaffolding among all students participating in the project (Bruner, 1976).

I think that scaffolding is an ideal methodology to carry out this project, because of its social nature and because of the importance it gives to teacher-student interactions in cooperative learning for solving problems (Bruner, 1976).

Being an insider in the research brings a set of advantages such as the option of directly and personally observing the phenomena under study. The greatest advantage of being an insider is the ease to collect data, since by interacting directly with the students, the information gathered on students data, documents, evaluations, would not be received by any outside observer (Costley, 2010). Despite the advantages, the participant observation also finds setbacks in its applicability since it can imply loss of objectivity.

In the last decade, there has been a significant change in the methodological conception, understanding in many cases that the use and integration of the two methodologies, qualitative and quantitative, can bring a lot of benefits when it comes to data analysis and the discussion of the results (Bryman, 2006). This led me to choose the mixed methodology that complements traditional research with a more integrating approach and that allowed me to analyse more variables from a broader and more flexible perspective (Ercikan and Roth, 2006).

For example, being able to use multiple methods such as group semi-structured interviews, observations, screenshots and analysis of existing data helped me better understand the complexity of the connection between students and Facebook online and outside of school (Bryman, 2006). The screenshots helped me study the contents posted by the students, when, how and with whom they interact most. The mixed methodology provided more rigour to the research, it is not a methodology that by itself solves certain limiting aspects of the research, but raised and structured from a clear and consistent work procedure can delve into a large number of variables. (Bryman, 2006).

The main idea in my project is to take advantage of the strengths of both quantitative and qualitative methodology.
and minimize their weaknesses, being able to obtain a complete “picture” of the phenomenon avoiding dogmatism (Erckican and Roth, 2006).

This is an approach that helped me support each set of data collected by a methodology. For example, I used a questionnaire (quantitative) to collect statistical data about social media habits of the participants, in addition, to delve into the research, I conducted semi-structured and group interviews (qualitative), (Erckican and Roth, 2006). I also used screenshots on the group’s website to find out how the students socialize, if they participate and cooperate.

In my research project I tried to pose challenges to the dyslexic students and empower them. These changes should be reflected in the design of inclusive programmes that consider the social, historical and political contexts of the students, as well as their language and culture.

As a researcher I have followed the ethical code proposed by BERA (2004) in educational research. According to BERA (2004), the ethical acceptability of a research project is achieved following five ethical principles as long as human beings or animals are involved. My project follows some principles that govern the research activity such as: Human dignity and human rights. The person in every research is the end and not the means, therefore they need a certain degree of protection, which was determined according to the risk they incur and the probability of obtaining a benefit. In fields where research involves people, human dignity, identity, diversity, confidentiality and privacy must be fully respected (SRA, 2003).

At the time of the study, I was a school teacher, but I did not teach any of the students. The senior management team approved the project; with the head master signing the documents to carry out the research at the school as shown in Appendix 1. In the selection of participants, I had the support of the Special Educational Needs (SEN) department of the school, and they provided me with a list of eight names. I discussed with the SEN department’s head who were the most convenient students for the project and we agreed that the participants should have the wider experiences and knowledge about dyslexia. The students expressed their enthusiasm although they were immersed in full revision of the GCSE, this could affect the development of the research due to fatigue, since the sessions were after lunch time. As dyslexics, they represent a minority within a minority. This has to be taken into account when evaluating the data and drawing the conclusions.

The students who participated in the investigation were under 18 years of age. They were all identified as having special educational needs. Both factors indicate them as potentially vulnerable and high risk, but I did not see a risk of how the study could cause any harm to the students. Conversely, I thought that participating was something that would motivate them and they will enjoy. However, before starting the research I warned students about the simple rules of respect when they access social networks, in this case Facebook.

In my study I guaranteed the privacy of the students by choosing a secret Facebook group. Also, within the study documentation, the names of the students were omitted and numbers were assigned to identify them. The results of this study will be shared with the participants in the school according to what the Head Master establishes (Costley, 2010).

Integrating ethics into the entire research process, from selecting the research problem to carrying out research goals and interpretation and reporting research findings, is critical to ensuring that the research process is guided by ethical principles beyond informed consent.

Benefit and harm. The welfare of the people participating in the investigations must be ensured. In that sense, the behaviour of the researcher must respond to the following general rules: not cause harm, decrease the possible adverse effects and maximize the benefits. The objective of my project is to help students labelled as dyslexic improve their literacy through ICTs, so it is guaranteed that it has a potential of benefiting students (Cohen et al, 2007).

When undertaking a project, there must be a contingency plan in case the project has unexpected variations that escapes the researcher’s control. For this reason, the researcher needs to be flexible and have prepared measures to mitigate any type of unforeseen event that may arise during the development of the research project (Cohen et al, 2007).

The time factor is critical in the identification, quantification and monitoring of risks in projects in which the compliance dates is representative. In order to manage the risks, one should initially begin by identifying and quantifying the risk factors or events. Next, I should use a method for assessing risks and then define the contingencies (Barden, 2014).

For example, a key milestone is end date of the project, since, when the participation of the students is requested, we need to advise them on the period during which they need to be available for the tasks of the project and exceeding the end date of the project might cause the lack of availability of students for project’s activities. For this reason, and as part of contingency in the project planning, I scheduled the activities with a longer duration than initially expected. The first phase (interviews and questionnaire) could be completed in one week, however I will schedule it for two in case any problems come up due to the availability of students or the room. Likewise, the development phase of the sessions could have been scheduled for 5 weeks but I have scheduled an additional 2 weeks in case of lack of student availability (Costley, 2010).

As part of the risks assessment of the project, it has been identified that it is important to have a back-up system of the information collected during the investigation for disaster contingency. The data obtained as well as all the physical documents (that is, questionnaires), will be held in...
Table 1: Facebook group sessions contents.

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Session ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Issues</td>
<td>Document</td>
<td>1</td>
</tr>
<tr>
<td>Eclipse</td>
<td>Document</td>
<td>2</td>
</tr>
<tr>
<td>Mars Red Planet!</td>
<td>Document</td>
<td>3</td>
</tr>
<tr>
<td>Volcanoes erupting creating life and death...</td>
<td>Document</td>
<td>4</td>
</tr>
<tr>
<td>Dyslexia Research</td>
<td>Document</td>
<td>5</td>
</tr>
</tbody>
</table>

my personal Google Drive as a backup, so, they will be safeguarded by the researcher and protected from technical issues (Shaw, 2008).

When selecting the activities for the project, I classified them depending on how enjoyable the students find it. I tried to encourage participation of the students by posting examples on the group’s page from the beginning. For example, I proposed a brainstorming session and motivating videos of short duration on YouTube to get them to focus on the task without losing the motivation for solving the problem (Barden, 2012).

DATA PRESENTATION AND ANALYSIS

The study consisted of three different phases:

- Introduction and questionnaire
- Five development sessions
- Final interviews

During the first phase, the students completed individually the questionnaire in Appendix-2. Questions 1 to 5 were related to social media habits in general, from 6 to 19 were regarding the students’ use of Facebook. According to the results on the questionnaire, the students have been using social networks for a few years. Therefore, it is not a new tool for them and they have a certain management in social networks as digital natives. Before starting the project, 100% of the students answered that Facebook could be used as an educational tool, they also had an idea that Facebook helps them in their studies and has positive effects in their lives. On the one hand, a remarkable fact is that 75% of the students of the project evaluate the content on Facebook before publishing it, they do not publish the first thing that comes to mind. But on the other hand, 50% have ever regretted their posts shared on Facebook. For example, 25% feel uncomfortable in face to face situations and 75% say that Facebook does not have an impact on real social life. 50% of the participants think that one of the biggest advantages of Facebook is being able to share things quickly and instantaneously. Regarding the privacy of Facebook, 25% think that there is no concept of privacy when you are on Facebook.

‘DysFacebook Jackie Chang group’ is the name that came up when all the participants agreed the name of the group. The name of the group came from the students. It was evidently a concept that was important to the group. One participant said that the name chosen by them sounds powerful and inspiring.

After the introduction and initial survey phase, we undertook the group sessions along five days. As agreed during the first phase, the subjects will be related to science and I selected the following ones shown in Table 1.

The Table 1 shows Facebook group sessions contents, the number of sessions and the topics to work during the sessions. The planning of the development of these sessions can be found in Appendix-3. Within the topics there was always a vote to choose the specific project to investigate. For example, for the Eclipse session, the students chose between Solar and Lunar eclipse. The last session of the study was focused on the investigation of dyslexia. At the end of each session, the students evaluated their knowledge with a quiz or quiz that the researcher proposed as shown in Figure 1.

For the analysis of the data gathered during the development sessions, according to the Mixed Research Methods, I considered qualitative and quantitative methods. To assess the activity of the Facebook group, quantitatively, I will use the metrics definition provided by Grytics and qualitatively I analysed the activity in the group and extract representative screenshots that helped me understand the behaviour of the students.

Metrics definition used throughout this study are:

**Score Engagement:** The engagement is equal to \((2 \times \text{number of comments} + \text{number of reactions} + \text{number of shares})/\text{numbers of posts}\). This is a measure of the average engagement generated by a post.
Activity Score: The activity is \( \frac{(\text{number of posts} + \text{number of comments} + \text{number of reactions} + \text{number of shares})}{\text{number of days}} \). Number of days is the length of the extraction period or analyzed period.

Active Members: Number of active members, that is, all members that have posted, commented or reacted on a post once.

Posts: Number of posts extracted.

Reactions (Likes, Haha, Love, Angry, Wow, Sad): Number of reactions associated to the posts extracted.

Comments: Number of comments associated to the posts extracted.

As discussed in the methodology section, there are two types of variables analysed for this study: global and individual.

Within the basic global statistics in Table-2, the activity of the teacher is included for coherence. Table 2 represents the basic statistics. The five participants (4 students and the teacher) showed a high level of activity with 342 reactions, posted a total of 285 comments, and managed to create 188 posts. The engagement score allows us to measure the degree of interaction of the students within the group, as there where an average of 5.0 interactions for every post. The activity score allows us to know the average activity per day (per session), and the average was 134.6. These are the values of the basic global activity parameters broken down by session:

The global statistics per session are shown in Figures 2 and 3. With regards to the comments, according to the data collected, the students during the first 4 sessions had a progressively overall increase of activity, reaching the spike on the graph during the session-4 (Volcanoes erupting life...
and death). The last session, related to Dyslexia, was the least commented; the students probably arrived more tired than usual in this session or the subject did not motivate some of them as much as previous sessions.

Reactions graph follow the same pattern: an increasing volume along the sessions, being the session-4 the one with more comments, whereas session-5 had the lowest volume of reactions. No shares were allowed as it was a secret group and the students were not allowed to share any content outside the group that was why no data appeared for any of this. The first two sessions experienced the highest volumes of new posts, from session 3 the new posts were stable around 10 per session. It is remarkable how the engagement score in Figure 2 had a constant rise from the first session (3.9) to the last one 4 (5.9). The trend is also an increase of activity score from session-1(150) to session-2 (178), but, unlike the engagement score, the activity score decreases in session-3(165).

The activity score shows the highest spike in session 4 (208), after session 4, the numbers show that the activity score suffered a significant downturn recorded in the last session of project (124). No shares were allowed as it was a secret group and the students were not allowed to share any content outside the group. Figures 2 and 3 show an increase in comments and reactions from session 1 to 4, that is likely to be due to the fact that the students gained more confidence as the project progressed, with more ease in terms of the format of the sessions, and better understanding of the project.

The last session was not related to the natural sciences like the rest and it seems that the engagement dropped compared to the previous sessions (activity score decreased). One of the root reasons might be that the participants were too relaxed or too tired after the previous ones. However, the engagement score slightly increased from session-1 to session-5. The last session, even being the...
one that least data generated, was the one with the maximum engagement score. This is due to the fact that the comments and reactions dropped, but the number of new posts decreased more abundantly. It may be that students will find the topic less attractive than others or because they felt awkward discussing personal issues and stopped from posting new updates specially at the beginning of the session.

A breakdown of two more global variables, the types of reactions and posts, are shown in Figures 4 and 5 below.

The Figure 4 shows the group interactions. According to this Figure, during the project the students interacted mainly using "likes" (44% of the interactions) and comments (38%). New posts were 9.3% of the interactions and the graph shows the low percentage of negative reactions (0.2% of "angry" and "sad").

We all know that receiving a "like" is always a good sign on social networks, since it shows a positive opinion on the publications of the participants. In Figure 4, the graph highlights that the most common type of reactions during the sessions was "like". It is remarkable in this graph that there were very few negative reactions of anger or sadness, the participants used sad faces 0.2% to a much lesser extent than "haha" (4%) and "love" (3%) of "love".

Figure 5 represents the Post types used by the participants. The data gathered during the sessions shows that link is the most used post type to share contents in the group (39%), followed by the status which includes participants text only posts, videos are also one of the preferred types with a 27% of the posts. We can see that participants used links, status and videos (18%) rather than photos (15%), which were mainly used to share tests results at the end of each session. No events were shared during the study, this may be because the topics of the sessions were not related to the daily school work.

As part of the analysis of the individual metrics of the study, Table 3 below summarises the activity of the individual students (these figures below do not include the activity of the teacher). Within a Facebook group, interactions play a fundamental role for the dynamics of the

---

Table 3: Statistics per student.

<table>
<thead>
<tr>
<th>Student</th>
<th>Engagement Score</th>
<th>Activity Score</th>
<th>Posts</th>
<th>Comments</th>
<th>Reactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.6</td>
<td>19.0</td>
<td>31</td>
<td>17</td>
<td>47</td>
</tr>
<tr>
<td>2</td>
<td>0.9</td>
<td>22.4</td>
<td>40</td>
<td>22</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>2.1</td>
<td>26.8</td>
<td>27</td>
<td>38</td>
<td>69</td>
</tr>
<tr>
<td>4</td>
<td>2.8</td>
<td>24.6</td>
<td>41</td>
<td>32</td>
<td>50</td>
</tr>
</tbody>
</table>

---
group, the group moves slower or faster depending on the interaction activities of each participant. The degree of engagement is not always the same among all students, it depends on many factors such as if the subject of study interests them, or their mood. The student 1 is the student with the lowest activity score of the group, the lowest number of posts and the least number of reactions. This shows us that this student may have had a lack of motivation during the study. However, I particularly would approach it in another way. The sources contributed by this student as links were very well documented sources in science, such as the NASA website in Figure 6, among others. For this reason, the student could have spent more time in the session searching for interesting content for others, instead of interacting with the group. If we take into account the quality of the posts, I would say that student 1 is a case in which quality has predominated over the quantity. The data shows that student 1 is the one with the lowest engagement (0.6).

Student-1 has an engagement score of 0.6 and an activity score of 19.0, what make this student have the lowest engagement score is the significant lower volume of comments (17) compared to the other students.

Student-2 shared one of the largest number of new posts (40) along with student-2 (41), however, stands out the low number of comments (22) of this student compared to the number of reactions (50) that decreases the engagement score to the second lowest (0.9). Student-3 and 4 were the more active students, they had the highest engagement scores (2.1 and 2.8) because they had the highest volume of comments and reactions. For student-3, the stands out by the low number of new posts (27) compared to the number of comments (38) and reactions (69). They were involved in interesting exchange of comments as in Figure 7. The screenshot is a good example of scaffolding: it shows the interactions within the group of students, this is a case of empowerment and how students are able to cooperate, organize information and
propose possible solutions to a problem. My interpretation of the words and actions of the students throughout my project are organized in 3 dimensions:

**Keeping up the pace**

Facebook is the most popular social network, I chose Facebook for this study because almost all students were already subscribed to this network and because the group’s functionality of the platform is very well implemented. I had in mind the fact that, due to its popularity, there is always someone connected on Facebook, which is an important benefit if you are trying to find information on any subject. I was under the impression that my students are always on Facebook. When they wrote comments they usually received replies and a dialogue was generated around a topic, and interactions on Facebook were swiftly established. During the session using the Facebook group, I noted that there is always someone willing to offer help and clarify doubts. For example, answering questions and putting links to clarify information about the proposed task.

I also had the perception that students used Facebook for its accessibility and speed, to ask and clarify doubts. In addition, students reviewed previous posts to remember conversations or review previously shared content. The students used the Facebook group as a storage case in which they could post their contents and also read them whenever they wanted. It is as if students used Facebook to have storage of memory. This is an important point because, students with dyslexia have problems in terms of organization, sequencing and ordering in their memory. This type of problems, commonly shared by dyslexic students, tend to improve within a type of learning on the web 2.0 that is more collective view of concepts I, with a constructive social model, rather than an individual and isolated learning. Following this line of thought, it seems that the students learned during the session what the other students taught them, moving away from the traditional model in which the students listened to the teacher and performed the tasks individually in their books. This kind of learning seemed to be more accessible to dyslexic students than direct instruction.

Here is an excerpt from Student-1’s interview that illustrates this use of Facebook:

**Researcher:** What do you think about Facebook? In what way do you think Facebook helps you?

**Student-2:** It is a very important tool to remember dates of birthday, duties or events. Is it easy to remember mum's birthday or dad's, just open Facebook and that's it.

**Increased control over learning process**

Facebook is a virtual multimodal space. Students have access to it on their mobile devices, home computers and, sometimes, computers at school or university. Teachers and peers can post links and other learning resources. Students can choose what resources to use, when and how often. They can also choose what to ignore or reject. Such a choice is not simply a matter of convenience. It has some potentially profound impacts for students for whom alphabetic literacy is a challenge. Instead of having to read extensive works or readings on a topic, they can look for an explanatory video. If, for example, they do not understand the video, they can look at it again and again, as many times as needed. An important advantage is that dyslexic students can access the auditory or visual channel where they have their cognitive strengths. This leads them to a much more enjoyable and faster learning environment that was noticeable during the development sessions, this way, the student takes control of learning.

**Researcher:** Fantastic. What are the main challenges that you found during this project?

**Student-1:** At the beginning I was thinking that the others were going to post more stuff and I could struggle to keep up, but it wasn’t like this. I was able to follow the others’ posts.

Dyslexic students struggle with short-term memory and these new technologies can support them, during our study, and for example, the videos previously posted were available to the student for future reviews. In other words, Facebook acts as an extra memory resource to resort to if needed. For example, student-3 posted a video for one session related to volcanoes and the student told me that he/she had watched the video before to understand how volcanoes were formed and found it interesting enough to be shared with peers.

Figure 8 is an example of the result of a quiz we did at the end of the topic. Student-3 shared it on the group wall and led the other students to share their results as well. The tests/quizzes I did were proposed at the end of the session as feedback and a collaboration to improve the scores.

**Supporting peers**

The willingness of the participants in the study which was to share content and collaborate with other dyslexic students was noticeable during the study. Furthermore, it is difficult to see why the group would be so interested in helping others unless they felt that the difficulties and challenges of dyslexia were important. The word 'help' was used very often, with the group interested in positioning themselves as 'helpers'. On the one hand, this allowed them to consider themselves as altruistic “experts” on the subject of dyslexia, due to their own experiences, augmented by the context of the research study learning for Facebook’s research project. In contrast to the feeling of inferiority revealed by conversations about alphabetic literacy (student-1’s interview). The project helped the participants to have a visibility in the classroom and authority over the proposed
topics. On the other hand, by recognizing and trying to act on the need for 'help' for dyslexic people like them, they could put themselves in the place of the other and be able to help in the construction of learning to compensate the gap between students with dyslexia and the rest.

**Researcher:** Okay when you say people don't understand dyslexia, what do you mean?

**Student-3:** People don't understand what dyslexia is, they think we are stupid, and it is the opposite. Learning is more difficult but it does not mean that we are less intelligent.

**Researcher:** Good. What are the main challenges that you found during this project?

**Student-3:** My goal was to be able to communicate more directly and not be judged, on the contrary we all have been supported by someone at some time.

**Researcher:** Why do you think you liked it?

**Student-1:** As I said before, it enabled me learn about something I had little knowledge on. Working as a team, with the other participants, has also been something that I’ve enjoyed.

As the increase of the activity score in the graph in Figure 4 shows, throughout the study, the students felt more and more comfortable collaborating in the construction of the learning. Educational tools such as Facebook can contribute significantly in all aspects of their education. An example of how the study was positive for the student-1 is seen in the closing of the interview as most of them commented "Thank you for giving me the opportunity to share this project with wonderful people and learn from them." I want to highlight the expression "learn from them", what I can understand is that the student has felt part of the project, learning from his classmates.

**CONCLUSIONS, IMPLICATIONS AND REFLECTION**

Dyslexic students are aware of the potential of social networks and consider it viable to facilitate the process of knowledge acquisition and meet part of their academic interests. The autonomous model treats the writing skill as an independent variable, and considers literacy, ignoring the context and being interested only in the logical principles of its internal coherence. Students with dyslexia find it very difficult to acquire these skills under this model.
and makes them not keep up to their peers even if they make the most to follow the pace of learning during the course. It is not rare that dyslexic students feel displaced. This is the model commonly associated with school practice that traditionally has preferentially dealt with the formal, sometimes mechanical aspects of reading-writing methods. Unlike other models that considers individual development independently of the socio-cultural context, Vygotsky's development model (on which we have based our project) explains the individual development in complex terms of interaction of individual, cultural, social and historical.

The study showed that one of the main advantages of the scaffolding model is that it engages students. Under this model, the student is not a passive subject but the teacher prompts construction of new knowledge about the previously acquired. In working with students with low academic self-esteem, such as dyslexic students, this provides a positive learning opportunity that gives students confidence to overcome challenges and minimize their level of frustration. In this sense, this entails a new advantage of this model, since the students were feeling more confident and wanted to learn more. This is an important advantage of this method since dyslexic students tend to be frustrated, less participative and refuse to learn new contents.

The Facebook tool was tested and adopted positively by dyslexic students at school during this study. The use of social networks in the classroom still has several problems to solve in terms of student involvement and their belief that the school should continue to use traditional media and should not be linked to leisure. The degree of involvement that the teacher has in the group's activities and how he uses the tool is instrumental for the success of the experience. Hence, as a researcher, I set realistic goals, I tried to find attractive and challenging tasks so that students were attracted to the project. If not, participation and learning would not have been adequate.

Specifically, the experience generated by integrating Facebook as part of the educational process has allowed educational channels that are different from the traditional ones and have strengthened among students a more open and active communication by expanding their creativity and knowledge.

As the participants commented during the final interviews, the students did consider it viable to integrate social networks in the school and that the teachers promote these types of tools. Social networks can become an essential tool for the communication among students; these tools contribute to publish and share information, self-learning, teamwork, communication, information and access to other data sources, facilitating constructivist and collaborative learning. Some resources that also promote a more interactive and dynamic learning.

Teachers cease from being the source of transmission of knowledge and strengthen their role in the classroom as a guide, tutor and mediator in learning. The data collected during the research shows that the students interacted from the first session, creating their contents guided minimally by the researcher during the 5 sessions.

The use of social networks in the classroom introduces changes in the relation between the teacher and the student and in the perception of the classroom as a closed space. Thus, the management of a social network in the classroom can involve an approach between the teacher and the student. Social networks are conceived from and for interaction and this new space for dialogue can be a place of learning and mutual enrichment. On the one hand, the teacher intervenes, modulates, collaborates in learning with their students; but it also facilitates an evaluative tool: we can make use of them to extract the variety of learning styles that coexist in the classroom and also the evaluation of the individual and collective behaviour of the students. On the other hand, social networks provide a space for socialization, cooperation and collaboration among the students themselves and outside the figure of the teacher that specially benefits dyslexic students; that is, a space of interaction that with a task well defined by the teacher can be converted into a place for the collaborative work of the students and also encourage their autonomy.

The fact that students have experience in the use of Facebook facilitated the faster involvement in productive interactions on the subject of a class, since it saves the time that must necessarily be spent at the beginning for students to become familiar with the platform on which you will have to work. Likewise, the popularity of Facebook becomes a point in favour of the student, since the help can come from their colleagues at any time and in any place. The same does not happen in the platforms dedicated specifically to education, because they are not so well known beyond the school.

The way Facebook is organized allowed me to get to know the participants and their interactions during the research project. In the end I was able to achieve several objectives, the main one is that the student are active, totally immersed in their reality and are even co-producing knowledge together with their colleagues, at the same time they are technologically enabled and will be using the potentials that new technologies offer.

Like other social network services, tools and platforms, Facebook enables a zero-paper policy to be installed in the classroom, thereby helping to preserve the environment. The fact that Facebook is extremely easy to use and customize offers to teachers for an intrinsic motivation in the completion of the task, since any modification to the design or personalization of the personal page appears online immediately. Among the lessons learnt, this project has been able to show me that a small group (4) seems to be the ideal size; and for the researcher, it is important to plan the order in which multiple comments are published so that the information is presented chronologically to facilitate the dyslexic students' study.

However, one of the points for improvement was that dyslexic students take on board all feedback provided by
the teacher and it would have been beneficial for them to have some individual feedback at the end of each session. During the final interviews, I was under the impression that students would have required more time for feedback.

There are practices derived from the use of Facebook that are not necessarily considered valid when this tool is used for educational purposes and, nevertheless, it becomes common in this new field; the clearest example of this is the marking of the contributions of others with the reaction “Like”. It would be interesting for Facebook, for example, to add a button for the one I do not like, to be able to compare the likes with the ones I like or the ones I like about the students. So, for example, as a researcher I would have had more information about the tastes and not tastes of the participants in the project.

I believe that the study could be complemented with a new phase in which the control group uses Facebook and another group uses another social network such as Twitter or Instagram, so we could compare Facebook with Instagram or Twitter with Facebook. Then I would be able to investigate how much of the results of this study is linked to Facebook. Would similar results be found on other platforms? Or to compare a group of dyslexic students with a group of non-dyslexic. Would both groups benefit from the use of Facebook at the same degree?

REFERENCES


American Psychological Association (APA). http://www.apa.org/A


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Appendices

**Appendix 1 - Ethics checklist**

F70 F55 ethics checklist Feb 2018 (1)

**Appendix 2 - Questionnaire**

Table 4: Summary of the initial questionnaire results.

<table>
<thead>
<tr>
<th>Question</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you use any type of social networks?</td>
<td>100% Yes</td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3. How many social networking websites do you use?</td>
<td>50% 1-2</td>
</tr>
<tr>
<td>4.</td>
<td>50% 2-5</td>
</tr>
<tr>
<td>5. How long have you been using social networking sites?</td>
<td>100% More than 5 years</td>
</tr>
<tr>
<td>6.</td>
<td></td>
</tr>
<tr>
<td>7. How many hours do you spend on social networks daily?</td>
<td>75% 1-2 hours</td>
</tr>
<tr>
<td>8.</td>
<td>25% 2-4 hours</td>
</tr>
<tr>
<td>9. Why do you use social networks?</td>
<td>25% Socialize and make new friends</td>
</tr>
<tr>
<td></td>
<td>25% Collaborate with fellow students and study</td>
</tr>
<tr>
<td></td>
<td>25% Remain updated about what is trending</td>
</tr>
<tr>
<td></td>
<td>25% As a source of recreation and relaxation</td>
</tr>
<tr>
<td>10. Do you think using Facebook helps you in your studies by any means?</td>
<td>50% Strongly agree</td>
</tr>
<tr>
<td>11.</td>
<td>50% Disagree</td>
</tr>
<tr>
<td>12. Do you think using Facebook is posing negative effects on your studies by any means?</td>
<td>50% Strongly disagree</td>
</tr>
<tr>
<td>13.</td>
<td>50% Disagree</td>
</tr>
<tr>
<td>14. Do you think usage of Facebook has any positive effects on your life?</td>
<td>50% Strongly agree</td>
</tr>
<tr>
<td></td>
<td>50% Agree</td>
</tr>
<tr>
<td>15.</td>
<td>50% Agree</td>
</tr>
<tr>
<td></td>
<td>50% Sharing information/work quickly</td>
</tr>
<tr>
<td></td>
<td>25% Meeting new people can help you socialize</td>
</tr>
<tr>
<td></td>
<td>25% Keeping in touch with friends is convenient</td>
</tr>
<tr>
<td>16. What is/are the best advantage(s) of using Facebook?</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td></td>
</tr>
<tr>
<td>18. Do you think usage of Facebook has any negative effects on your life?</td>
<td>50% Agree</td>
</tr>
<tr>
<td>19.</td>
<td>25% Disagree</td>
</tr>
<tr>
<td></td>
<td>25% Strongly disagree</td>
</tr>
<tr>
<td>20. What is/are the worst disadvantage(s) of using Facebook?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>75% Decreases/destroys social skills (not an adequate replacement for face-to-face communication)</td>
</tr>
<tr>
<td></td>
<td>25% There is no concept of privacy</td>
</tr>
<tr>
<td>21. Do you evaluate the content you publish on Facebook?</td>
<td>75% Yes</td>
</tr>
<tr>
<td>22.</td>
<td>25% No</td>
</tr>
<tr>
<td>23.</td>
<td></td>
</tr>
<tr>
<td>24. Do you think there are any privacy issues related to Facebook?</td>
<td>75% Agree</td>
</tr>
<tr>
<td></td>
<td>25% Strongly disagree</td>
</tr>
<tr>
<td>25. How does Facebook affect your real social life?</td>
<td>75% Has no effect</td>
</tr>
<tr>
<td></td>
<td>25% Sometimes I feel uncomfortable in having face-to-face conversation</td>
</tr>
</tbody>
</table>
27. Do you think Facebook can be used for educational purposes?
   75% Agree  25% Strongly agree

29. Are your parents aware of your Facebook activities?
   50% Agree  50% Strongly agree

30. Have you ever regretted any information that you shared/posted over Facebook?
   50% Yes  50% No

32. Please select the degree to which peer pressure plays/have played any role in you joining on Facebook?
   50% To some extent  25% A lot  25% Not at all

33. Do you think using Facebook helps you in your studies by any means?
   50% Strongly agree  50% Disagree

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Appendix 3 - Project planning

planning.xlsx

Appendix 4 - Final Interview except

INTERVIEW STUDENT 4 “DYSFACEBOOK”
Researcher: Alfonso Garcia Polo
Participant: Student (4)
Name initials: ---
Year: 10
School: ---------
Interview Transcription except: Total words 350
Date: 11/07/2018

Researcher: What are your thoughts about being involved in the project as a whole?.

Student-4: I was excited to do something different at school, you don’t usually see researches like this at school. During the sessions I was trying to post the most interesting stuff but I loved to see what the others posted as well.

Researcher: Why did you like it do you think?.

Student-4: I was able to learn some new stuff while having some fun. I thought that some the topics where for geeks, but I am too geek though...

Researcher: When you say “I am too geek”, what do you mean?.

Student-4: I like some science stuff related to the space.

Researcher: Well I see, when you posted your test score on the group page, what did you feel?.

Student-4: Yeah, I felt good, I had a good score and I wanted the others to know I did it fine.

Researcher: Fantastic. What are the main challenges that you found during this project?.
**Researcher**: At the beginning I was thinking that the others were going to post more stuff and I could struggle to keep up, but it wasn’t like this. I was able to follow the others posts.

**Researcher**: What do you think about Facebook? In what way do you think Facebook help you?

**Student 4**: I do not use Facebook a lot, I use other networks more, but I think it was good to discuss the topics with others and having a look at the results, I think that helped us out with, especially for students that are not top at school.

**Researcher**: What do you think about uses of Facebook as an educational tool?

**Student 4**: I have never thought of Facebook as something that I can use for my classes before, but now I can see the uses of it. Because I review the lessons at home when after the sessions and my friends are always in Facebook, I can ask them questions about the lessons when I forget about the homework and that kind stuff.

**Researcher**: Thank you very much.

**Student-4**: No problem