

Towards Incorporating *Schoology* Blended Learning Model into ESP and EFL Classes: A Focus on Moroccan Schools of Engineering and Humanities

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Abstract

The integration of recent cloud-based tools and web 2.0 technologies into mainstream ELT curricula has reshaped the way we construct and disseminate knowledge. It has equally provided new circumstances for students' active learning. Based on this premise, a substantial amount of research has been carried out on educational technology in an effort to corroborate how effective mobile learning platforms are at fostering learners' autonomy, motivation, and self-paced learning. Adopting a mixed methods approach, this paper then aims to investigate the impact of two ESP and EFL blended learning courses on students' engagement, autonomy and collaborative learning. It also seeks to disclose the significant differences and/or similarities in their attitudinal perspectives about the acquisition of content through *Schoology*'s autonomous virtual learning environment (VLE). The current research made use of both qualitative and quantitative methods. A questionnaire administered to 142 first year engineering students and a cohort of 52 English Studies sophomores from Hassan II University- Casablanca sought to gauge students' levels of interaction, autonomy and motivation to build online materials collaboratively with their peers and instructor. Data based on a survey instrument and the observation of students' online interactions and reflection on their learning processes revealed that over 90 % of students in both institutions were satisfied with the *Schoology* blended learning platform as it facilitated the exercise of learner autonomy and boosted their interaction, communication and collaboration within the groups and with their instructor. The findings of this study equally proved that *Schoology* media rich learning materials provided Engineering and English studies students with great control over their ESP and EFL learning beyond the classroom, thus transcending spacial and temporal limitations.

Keywords: Blended Learning (BL), English for Specific Purposes (ESP), English as a Foreign Language (EFL), Virtual Learning Environment (VLE), *Schoology LMS*, Academic Engagement, Autonomy in language learning

1. Introduction

Over the past few years, blended learning (BL) has evolved as one of the most popular research trends in English language teaching (ELT). Combining the advent of information technology and digital media with traditional “face-to-face” teacher-led instruction, such a hybrid teaching method is believed to provide the most suitable arena for power redistribution and delegation in ESP and EFL classes (Young, 2002). Recent studies have also shown that the incorporation of blended learning in such classes is essential in boosting life-long-learning and developing students’ metacognitive skills and potential for collaborative learning. In this respect, this paper attempts to show how the implementation of *Schoology* learning management system (LMS) is effective in teaching ESP and EFL in Moroccan schools of Engineering and Humanities. It also seeks to demonstrate how such an innovative web 2.0 social networking tool is capable of facilitating interaction and communication between students and their instructors in addition to fostering students’ autonomy, self-pacing, and positive attitudes about learning. Taking all of this into account, the current study seeks to empirically investigate the effects of two ESP and EFL blended learning courses on the engagement, autonomy, and collaborative learning of a cohort of 142 engineering students and 52 English Studies students. More particularly, data were collected over the course of six weeks through a questionnaire administered to 80 male and 62 female engineering students who attended an English for Business and Engineering course. The same questionnaire was administered to 15 male and 37 female English major students in a “Cultural Studies” course. To meet this end, the study sought to answer the following research questions:

1. How do engineering students differ from their humanities counterparts in terms of autonomy and engagement in *Schoology* blended learning activities?
2. How differently do compulsory blended learning courses affect ESP and EFL students’ control over learning management, cognitive processing, and the selection of learning content?

This paper is divided into four sections. The first section reviews relevant literature associated with the relationship between blended learning and students’ academic engagement, autonomy and collaborative learning. It also pinpoints how such synchronous and asynchronous web 2.0 mobile technologies as *Schoology* LMS help facilitate self-directed language learning and increase students’ level of academic achievement. The second section sheds light on the method employed in the study. The fourth section, on the other hand, presents and discusses the findings in light of previous research. The last section concludes the paper with a few implications for a more effective implementation of *Schoology* blended learning model into ESP and EFL classes.

2. Review of literature:

2.1 Demystifying blended learning

Over the past few decades, the development of recent technologies has had a major impact on the field of education. The advent of cloud-based tools and online learning platforms has caused a paradigm shift in educational practices moving from teacher-centeredness approaches to learner-centeredness instruction. Previous studies have shown that the integration of blended-learning technology into ESP and EFL classes can have two significant effects: a) students can navigate their learning at their own pace, time, and place through an autonomous virtual learning environment. b) Teachers can provide adequate face-to-face and web-based instructional design, combining a number of pedagogical approaches that suit learner’ needs and improve their performance (Valiathan, 2002; Oliver and Trigwell, 2005). Based on this understanding, the term “blended learning” can bear multiple interpretations and may suggest different things to different people. Although the term has gained much popularity for decades given its potential to overcome the

weaknesses in both traditional learning and e-learning, it remains ambiguous and ill-defined as it exists in a plethora of forms and is prevalent in most classroom practices. It has been criticized mainly because the blend has to do more with teaching/pedagogy than learning per se. Oliver and Trigwell (2005) go on further to suggest that the term should be supplanted by “blended pedagogies”, “blended teaching” or “learning with blended pedagogies” (pp. 17–26). In fact, there is a range of introspected definitions of these mixed modes of learning environments in the literature.

Collis and Moonen (2001), as cited in Rovai and Jordan (2004), for instance, define blended learning as “a hybrid of traditional face-to-face and online learning so that instruction occurs both in the classroom and online, and where the online component becomes a natural extension of traditional classroom learning” (p.3). Blended learning, therefore, offers a real opportunity to shape learning experiences at different times and places without excluding face-to-face contact. Driscoll (2002), on the other hand, identifies four different “concepts” associated with BL:

- (1) A mix of web-based technology to achieve an educational goal;
- (2) A combination of different pedagogical approaches (e.g. constructivism, behaviorism, cognitivism) to achieve the most satisfactory learning outcome with or without instructional technology;
- (3) A combination of any form of instructional technology with face-to-face instructor-led training; and
- (4) A mix of instructional technology with actual job tasks. (p.1).

Furthermore, Whitelock and Jelfs (2003) suggest that blended learning has several meanings, the most outstanding of which are: (1) the integrated combination of traditional learning with web-based online approaches; (2) the combination of media and tools employed in an e-learning environment, and (3) the combination of a number of pedagogic approaches, irrespective of learning technology use (pp.99–100). In the same vein, Valiathan (2002) describes blending as “a solution that combines several different delivery methods, such as collaboration software, Web-based courses, EPSS, and knowledge management practices” (p.1). He equally defines it in terms of the following approaches to learning:

- (1) Skill-driven learning (which combines self-paced learning with instructor or facilitator support to develop specific skills);
- (2) Attitude driven learning (which mixes various events and delivery media to develop specific behaviors), and
- (3) Competency based learning (which blends performance support tools with knowledge management resources and mentoring). (Valiathan, 2002, p.1).

Equally important are the succinct definitions ELT practitioners have proposed. Neumeier (2005) defines blended learning as “a combination of face-to-face (F-t-F) and computer assisted learning (CALL) in a single teaching and learning environment” (p.164). Sharma and Barrett (2007) similarly describe blended learning as a language course which combines a face-to-face (F2F) classroom component with an appropriate use of technology. Clearly, despite the various definitions being proposed, it could be argued that in ELT contexts, these terms are essentially used to convey the same meaning. Blended learning simply insinuates any kind of combination between face-to-face and online instruction with computer-mediated activities. In the next two sections, I shall discuss how technology-mediated learning can foster greater students’ academic engagement and autonomy.

2.2 Blended learning and its potential for academic engagement and achievement

Indeed, one of the major aims behind technology-enhanced learning is to promote higher levels of student engagement, deemed essential for learners' personal development and success in academic life. This premise has stimulated many research endeavors aiming at proving the validity of this outcome. Combining face-to-face and online learning environments is believed to provide a learning environment where student engagement opportunities exceed using only one type of learning environment (Boyle, Bradley, Chalk, Jones, & Pickard, 2003; Brennan, 2003; Osguthorpe & Graham, 2003). Delialioğlu (2016), for instance, investigated the extent to which blended learning environments with different instructional approaches positively affected students' engagement and hence their performance. Adopting a repeated measures research design, Delialioğlu examines the differences in learning outcomes between lecture-based and problem-based blended learning courses. Taking into consideration engagement indicators, particularly active learning and total time on task, he concluded that problem-based blended learning was more effective in boosting students' engagement in the course. This was attributed mainly to students' higher level of interaction prompted by problem-solving situations. Blended problem-based instruction, in this respect, allows students more freedom to navigate their learning at their own pace, using active learning strategies. Problem-based learning activities Delialioğlu explored included but were not limited to "information seeking, collaboration with other students, and synthesizing the information from various resources" (2016, p.318).

In the same strain, Shea and Bidjerano (2009) confirm that hybrid courses are quite challenging for instructors wishing to implement them in higher education contexts. Determining the characteristics of online platforms customized to students' learning styles and preferences is among the major challenges. The findings revealed that there was a significant relationship between students' engagement and academic achievement. Survey results indicated a number of important factors behind students' engagement. First, social presence manifested through intensive teacher and peer interactions and prompt feedback was found to be crucial in prompting and maintaining students' engagement over time. Second, a blended learning environment is complex regardless of class size, which implies that a considerable amount of time should be devoted to planning. Without advance planning, the instructor would not be able to manage the course and therefore students would lose concentration and motivation.

To achieve positive learning outcomes in blended learning platforms, online tasks are required to be designed carefully based on a set of important criteria. In this regard, Hampel and Pleines (2013) examined the effect of designing and implementing online tasks on students' engagement in a virtual learning environment over the course of two years. The study was carried out in two cycles. In the first cycle, a number of issues emerged, namely students' low participation rates in on-task discussions, incongruity between viewings and contributions, and low priority given by some students to online tasks. To deal with such negative outcomes, in the second cycle, the researchers made a number of necessary changes in the virtual learning environment. Such changes included increasing student-instructor social interaction, giving fewer assignments, using a simple structure and implementing fewer tools. Clearly, simplicity was the major criterion that had a significant impact on students' academic engagement. Dixon (2010) equally reported that student-student and instructor-student communication in an online course were strong indicators of higher students' engagement.

Engaging students through blended learning methods with some of the blend taking place in a Learning Management System such as *Schoology* can be conceptualized based on Reeve's (2013) four-aspect of student engagement. The latter include students' behavioral, emotional, cognitive and agentic engagement as a pathway to promote active learning. High behavioral engagement, according to Reeve (2013), is the result of effective communication, the display of a positive attitude towards students' learning, provision of active learning opportunities, and the use of collaborative learning approaches. Emotional engagement, on the other hand, involves getting feedback from peers or instructor through discussion boards or while solving a problem in class. Equally important is cognitive engagement, which suggests the teacher's attitude and tendency to engage students cognitively by implementing problem-solving strategies and allowing mental activities. Lastly, agentic engagement is a pathway for students' self-regulated learning environment where educators play a supportive role encouraging students to learn from their mistakes and deal with challenging situations/questions in collaboration with their peers. Reeve's (2013), Abas' (2015) and other researchers' conceptual framework on learner engagement can be used to depict how the incorporation of *Schoology* LMS into ESP and EFL classes can provide students with significant amounts of autonomy in addition to active, experiential meaningful and relevant English learning experiences.

2.3 Mobile learning and its effects on learner autonomy

Over the last three decades, a large body of research has examined learner autonomy in language teaching and learning (Benson, 2001; Cotterall, 1995; Dickinson, 1987, 1995; Gremmo & Riley, 1995; Holec, 1981; Little, 1991, 1995; Littlewood, 1996, 1999; Ushioda, 1996). The most widely cited definition of autonomy in language education was the one suggested by Holec (1981) who defined it as "the ability to take charge of one's own learning" (p.3). This concept of autonomy entails a situation in which autonomous learners take full responsibility for all their learning decisions (Dickinson, 1987). They totally understand their needs; they identify objectives and contents, select materials and reflect critically on the learning process. They also maximize the potential to practice English inside and outside the classroom. Little, 1991, on the other hand, defines autonomy in terms of the learner's psychological relation to the learning process and content. In the same vein, autonomy has been articulated by Benson (2001) as "the recognition of the rights of learners" within a particular educational system. In brief, autonomy in language learning includes the following fundamental elements: learner responsibility, learning situation, learner psychological state, and learners' rights.

Benson (2011) goes further to suggest that autonomy is a natural attribute of learners. He believes that the exercise of learner autonomy is inhibited by educational institutions, and more particularly by the power structure in the classroom. Going beyond Holec's (1981) definition, Benson defines autonomy as "the capacity to take control of one's own learning" (p. 58). While a capacity implies the learners' potential, control insinuates, "having the power to make choices and decisions and acting on them" (p. 9). According to Benson (2011), the notion of "control" is worth investigating more deeply than that of taking charge or being responsible. According to him, there are three dimensions of control over language learning. The first dimension is *control over learning management* which entails students' observable language learning behaviors about where, when, and how to learn the target language (Huang and Benson, 2013). Another dimension is *control over cognitive process* which refers to the cognitive control of psychological factors associated with language learning, such as motivation, belief, and emotions (Benson, 2011). To have full control over cognitive process, learners are encouraged to reflect on their language learning (Little, 2007) so that they can maintain control over their learning experiences (Benson, 2011). During the

reflective process, students' metacognitive awareness increases, and this culminates into a more systematic and effective learning management. Ultimately, *control over learning content* implies the decisions learners make in choosing language-learning materials through which they can achieve their learning purpose. Although the three aforementioned dimensions of autonomy are interrelated, learners might exhibit a greater degree of autonomy in one dimension than in others (Benson, 2011; Nakata, 2011). Hence, the exercise of autonomy differs from one individual to another and exists in different forms and different cultural contexts at different times.

Interestingly enough, autonomy in language learning does not necessarily mean learning in isolation from other peers and without teacher's support. It is rather developed through interacting and collaborating with others in different settings (Benson, 2011; Cooker, 2013; Little, 2000, 2007, 2009; Murray, 2014). The interaction allows both teacher and learners to share responsibilities to achieve the learning goal and develop a greater degree of interdependence (Benson, 2011). Such interdependence leads to more control over the learning process and content. Accordingly, there are two distinctive features of autonomy as suggested by Littlewood (1999). The first one is proactive autonomy, which refers to both self-directed learning and management of learning activities. The second one is a reactive type of autonomy in which learners manage learning activities and resources following the instructions and objectives determined by the teacher. Indeed, Littlewood's concepts of reactive and proactive autonomy are to a greater degree associated with the "cooperative" and "collaborative" learning strategies suggested by Flannery's (1994). In cooperative learning, the teacher sets the agenda for learning, determines what to include as relevant knowledge while learners autonomously perform tasks. Conversely, in collaborative learning, learners exhibit a high level of autonomy in choosing what and how they should learn.

Nowadays, the promotion of autonomy in Moroccan ESP and EFL classes is ineluctably shaped by the recent advent of mobile technologies. A large body of literature has focused on the role of ICT in language teaching and learning, including its capacity to enhance personalised learning and self-paced study (Alonso, 2005), its pedagogic possibilities to foster higher degrees of reflection and critical discourse (Garrison & Kanuka, 2004), and its great potential for self-directed learning (Benson, 2001). Likewise, Villanueva, Ruiz-Madrid and Luzón (2010) contend that technologies help promote the exercise of autonomy by providing "multiplicity of access to authentic documents, multiplicity of access to interaction, the chance to reinforce metacognitive ability through experience with others, via dialogue and knowledge of other forms and ways of tackling problems and learning styles" (p.7).

Course management systems and mobile technologies, in particular, are claimed to facilitate learner motivation and control over language learning. Sanprasert (2010) reports that the integration of a course management system into a traditional face-to-face English class is critical in the promotion of learner autonomy as it brings about "circumstances and structures that encouraged students to take control of their own learning" (p.120). In the same way, Snodin (2013) states that CMS has the capacity to initiate the development of reactive autonomy in secondary and higher education contexts. In other words, once the learning objectives and activities are determined and initiated by the teacher (with the help of CMS), learners develop an autonomous perception and behavior as a result of their engagement in a virtual learning environment.

In the same manner, mobile devices, according to Benson (2011), help reinforce learner autonomy by providing a natural context for independent and self-directed language learning. He also adds that such technologies can facilitate self-access and allow students considerable latitude in self-

directing and navigating their language learning collaboratively with their peers and instructor beyond the classroom (Benson, 2011). Sarrab (2016) similarly writes that the use of mobile wireless applications can provide better learning opportunities. The technical attributes of M-learning service quality, such as availability, quick response, flexibility, scalability (M-learning application ability to accommodate changes made to the system) functionality, reliability, connectivity, performance, user interface and security render the learning experience effective (Sarrab, 2016, pp. 100–108). M-learning environments, therefore, allow both learners and instructors to access information and media content easily and use a wide range of learning materials irrespective of time and location. They also enable prompt interactions between them and allow learners to build a positive attitude about the acquisition of content. As a result, the mobile learning context accommodates students' new learning styles beyond the traditional classroom.

In the same context, Sung, Chang, and Yang (2015) suggest four features of mobile devices that bring about a language learning experience different from that in the traditional classroom. The first one is mobility/portability, which implies that language learning takes place anytime and anywhere. The second feature is social connectivity/interaction, which enables learners to share information, collaborate and communicate with others. Another attribute is context sensitivity, which enables learners to collect specific data of a particular location, environment, and time. Mobile wireless technologies, in this respect, are used "to connect language learning across different settings, times, and locations" and access relevant learning resources (p. 70). The last characteristic is individuality, which means that mobile devices are deployed as learning tools that cater for students' individual learning needs, styles, and interests. Building on Sung, Chang, and Yang's (2015) features of mobile learning, it can be argued that the integration of a mobile learning system into language learning not only fosters learner autonomy, but also facilitates learners' control over their learning. Through web 2.0 technologies, learners are able to self-direct and personalize their language learning at their pace, place and time. They can access the learning materials designed by the teacher or navigate other course materials by themselves. M-learning platforms also prompt interaction and collaboration with peers and teacher. Interaction and collaboration could enhance and facilitate attention, reflection, and metacognition. Yet, it is important to note that mobile devices remain just a learning tool, and the teacher's intervention is highly needed to promote learner autonomy and productivity. The instructor is thus supposed to choose appropriate mobile learning platforms that could accommodate in concert with powerful pedagogical approaches the fundamental principles of learner autonomy.

2.4 *Schoology* as a mobile learning platform

Schoology is an excellent web 2.0 tool and a great mobile social network and learning management system created by Jeremy Friedman Ryan Hwang, Tim Trinidad, and Bill Kindler back in 2007. It was the CODiE awards winner in 2014 and was recognized by the Software Information and Industry Association (SIIA) as the best education solution for K-12 and higher education and the best postsecondary learning management software category in 2015 (Schoology, 2015). *Schoology*'s mobile application is freely available on handy devices such as Android, Apple and Kindle Fire. It is also accessible via ([www. Schoology.com](http://www.Schoology.com)) and it is compatible with Firefox 3+, Internet Explorer 7+, Safari 3.1 + or Google Chrome. Nowadays, more than 20 million users from over 60,000 K-12 schools and higher education institutions around the world use this LMS in their classrooms (Sarrab et al., 2016).

This cloud-based platform fosters mobile learning experiences beyond the limitations of the classroom. It promotes learner proactive and reactive autonomy and supports interaction and collaboration with peers and teachers through various instructional tools, including organized lessons, threaded discussions boards, micro-blogging, content migration and import (Sarrab et al., 2016). As a learning management system, it helps instructors prepare learning materials and assessment in advance and set deadlines for specific assignments.

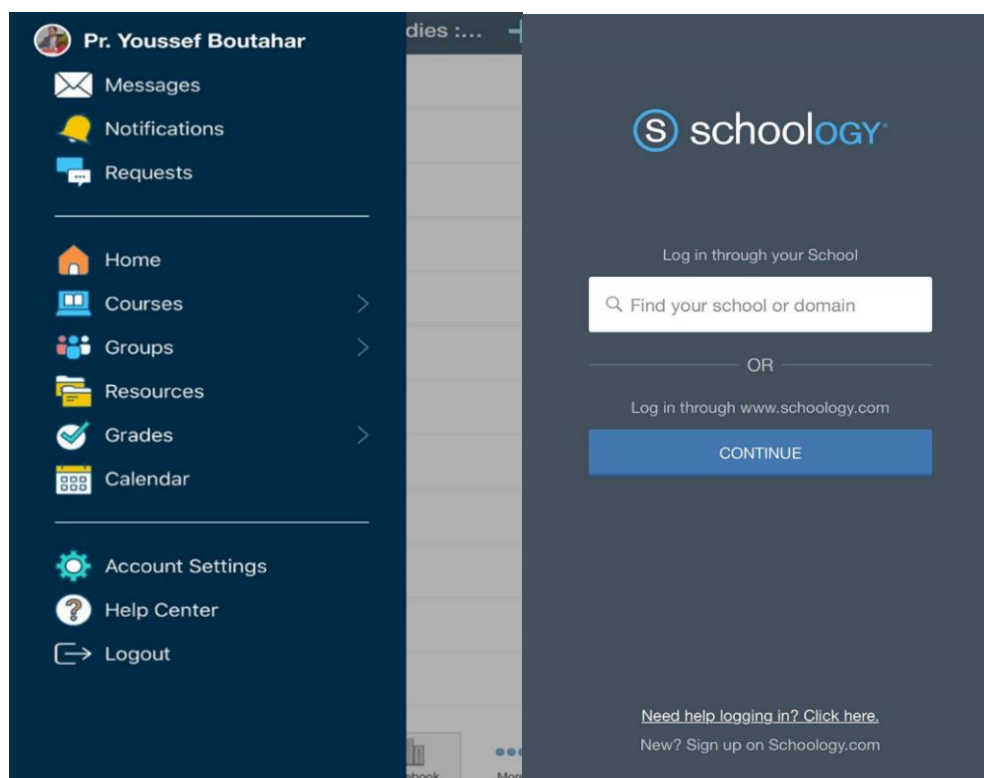


Figure 1. Screenshot of *Schoology* social networking interface and login.

To accelerate both student-to-student and student-to-teacher interaction, communication and collaboration, *Schoology* adopts Facebook social networking interface and features for ease of use. Students and their teacher can receive notifications about new materials; update their statuses and share links, pictures, or other media, while the other members can give comments upon or just like them. This is referred to by Sarrab et al., (2016) as *scalability*, which implies the ability of an M-learning application to accommodate changes made to the system. Teachers can also use *Schoology* as a professional learning network to connect with other educators and experts from international institutions all over the world and join groups to discuss the best pedagogical practices (for more detail about Professional Learning Network, see Trust, Krutka, and Carpenter, 2016). Analytics is another crucial feature of *Schoology* that allows instructors to monitor students' use of the platform. It tracks students' connectivity, such as the last login, spent time in the course, number of posts and the accessed materials.

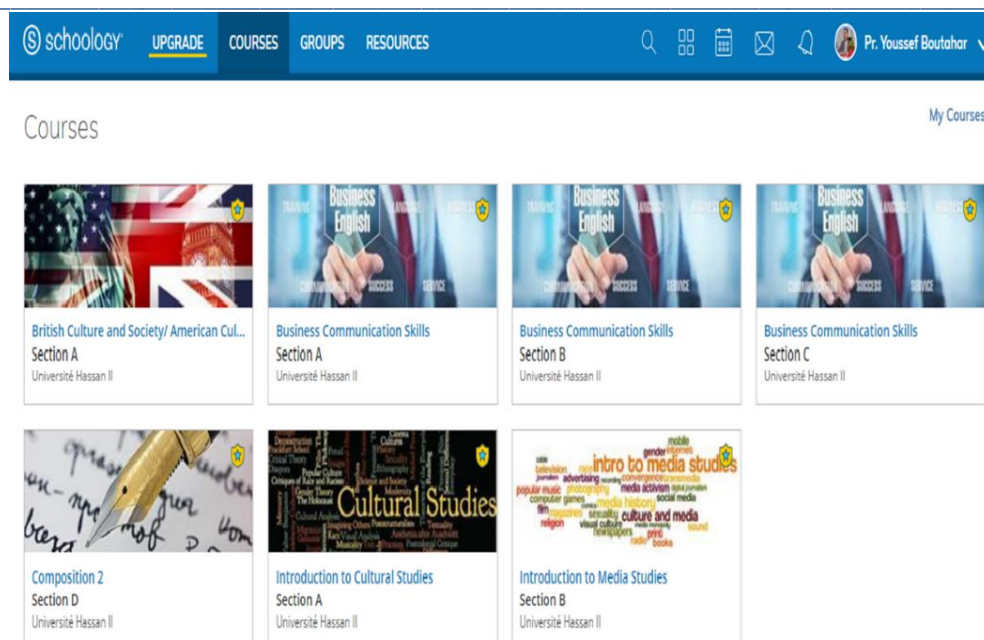


Figure 2. Screenshot of courses taught to English Studies and Engineering students

Students can also have discussions in small groups and send private messages to their peers and instructor. *Schoology*, in this way, enables both the instructor and learners to share learning materials while staying engaged and interconnected from any mobile device. It is also noteworthy that *Schoology* systematically manages media-rich learning materials into folders and creates questionnaires, various dynamic assessments and assignments, followed by online grading and commenting.

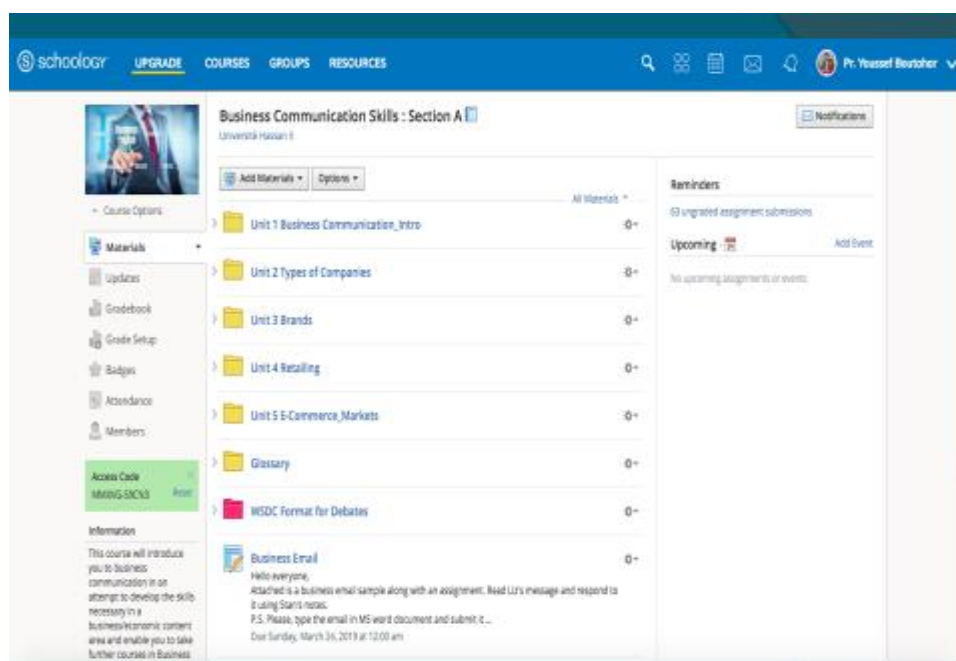


Figure 3. Screenshot of different units managed into folders to facilitate the learning process in an English for Business and Engineering course

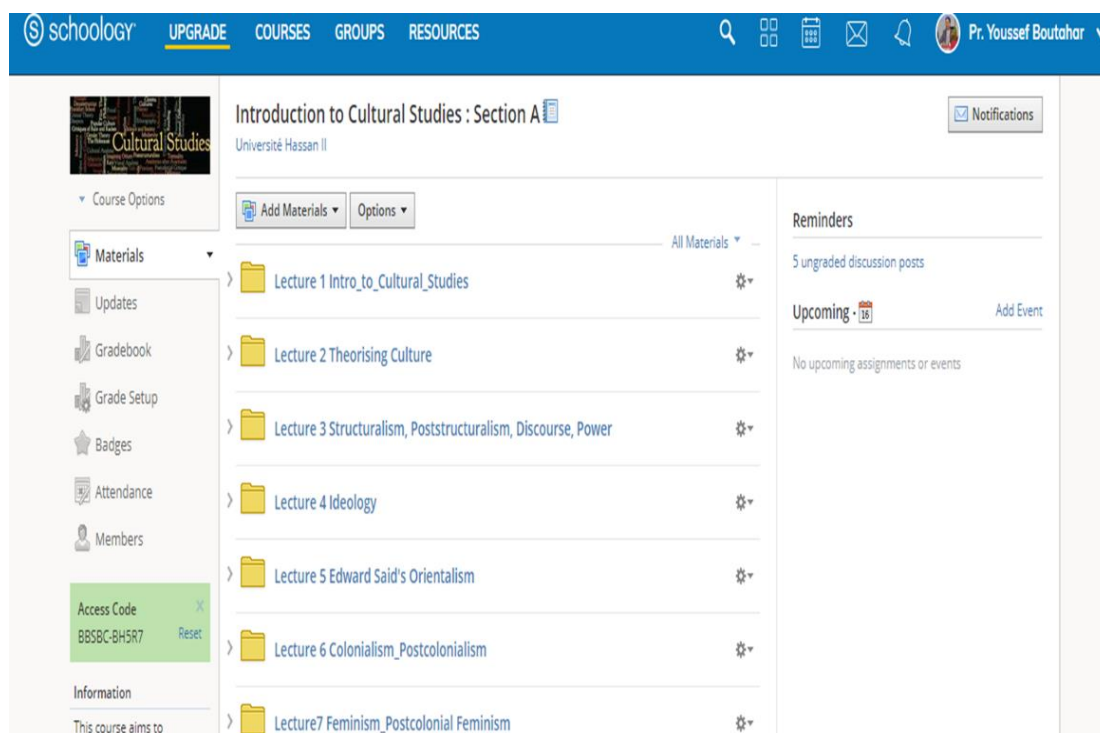


Figure 4. Screenshot of different units organized into folders to facilitate the learning process in a Cultural Studies course

3. Methodology

3.1 Context of the study

The current research was carried out in Hassan II University, Casablanca, namely at ENSAM “The National School of Arts and Crafts”, and the Faculty of Letters and Humanities, Ain Chock. It sought to investigate and analyze students’ levels of engagement in knowledge construction autonomously and in collaboration with their own peers and instructor. This research adopted a mixed methods approach, combining a survey study and a qualitative research approach. A survey instrument with quantitative data was necessary for the general baseline information on each group’s levels of engagement and autonomy. Including qualitative instruments based on the observation of students’ online interactions and reflection on their learning processes was vital to provide a clearer picture of the research findings.

Initially, data were collected over the course of six weeks through a questionnaire administered to **(54, 9%)** N=80 male and **(43%)** N= 62 female engineering students in a compulsory English for Business and Engineering course. Data were equally collected from **(28,8 %)** N= 15 male and **(71,2 %)**N=37 female English major students in a compulsory Cultural Studies course.

Adopting a blended learning method, the two courses consisted of in-person classroom meetings (an average of 28-hour slot) combined with out-of-class online learning activities. The ESP course aimed at developing students’ interpersonal, academic, and language, speaking, reading and writing skills necessary to succeed in business communication tasks and engineering related areas. The virtual

activities in this course involved watching videos, reading worksheet with guided steps, taking part in online threaded discussions, giving reciprocal online peer feedback, doing weekly assignments/quizzes, writing business emails, writing reflection, and collaboratively building an online glossary. The face-to-face meetings included collaborative practice of language learning components through simulations and role-play, in addition to problem-solving tasks, discussions/debates, and students' presentations. The EFL, on the other hand, aimed at introducing students to the field of Cultural Studies and helped them analyze and criticize global and local cultural practices and phenomena. The out-of-class activities in this course consisted of reading weekly chapters, watching videos, taking part in online threaded discussions, and doing online assignments, while face-to-face classes subsumed discussions of the previously assigned materials, group debates, problem-solving activities, and students' presentations.

In both courses, students were asked to download *Schoology*'s mobile application on their smartphones and were trained on how to use it for their ESP and EFL learning activities both within and outside the classroom. *Schoology* was used as a mobile learning platform that systematically managed media-rich learning materials into folders. The folders were sequenced based on the topic of units or chapters students accessed one week before the discussion in class. The various activities and instructional tools in the platform were designed to foster students' self-regulation, engagement and social learning through synchronous and asynchronous exchanges between peers and instructor.

More than 90% of participants had access to internet at home or elsewhere, which revealed that internet access was not an issue in the context of the current study. Almost all students even those living in rural areas possessed several kinds of mobile devices, such as laptops, iOS/android-based smartphones, and tablets, which implied that equipment did not undermine the implementation of the blended learning experiment. What is also noteworthy is that most participants were already tech-savvy and familiar with social media platforms, such as *Facebook*, *Line*, *Instagram*, and *Path*.

3.2 Data collection and analysis

The data collection process was carried out as follows. A survey instrument, *Schoology* Blended Learning Questionnaire, was used to collect data throughout the first six weeks of both courses. After observing students' interactions on the platform on a weekly basis, the survey was administered online to participants in each group to track their levels of engagement, and autonomy. Students' engagement was measured with three constructs of the survey: student-faculty interaction, active and collaborative learning, and students' performance. All online records available on *Schoology LMS*, namely shared materials, students' posts and comments, and threaded discussions, were also investigated to enrich data for this study. Using factor analysis of subjects' responses, the questionnaire touched upon the following dimensions: (1) the quality and quantity of student-student and teacher-student interactions; (2) students' reflection on their learning processes through *Schoology* tools and features; (3) students' self-directed learning ability; (4) students' participation in online and offline course activities; (5) students' active and collaborative online learning; (6) the relationship between online and in-class learning in both courses; and (7) students' overall satisfaction with the blended learning experience. Accordingly, 13 items were incorporated into a rating scale ranging from strong agreement to strong disagreement, and the remaining 11 items employ a forced choice format. The data were coded and corroborated from one source to another to build a thick description. The data were then categorized based on Reeve's (2013) four-aspect of student engagement and Benson's (2011) theoretical framework of autonomy in language learning.

4. Findings and discussion

The current research sought to investigate students' engagement, autonomy and collaborative learning in two ESP and EFL blended learning courses utilizing *Schoology* as a Learning Management System. The results showed that over 90 % of students in both courses were satisfied with the *Schoology* blended learning platform as it facilitated the exercise of learner autonomy and boosted their interaction, communication and collaboration within the groups and with the instructor.

28- Overall, I am satisfied with this blended learning course.

138 réponses

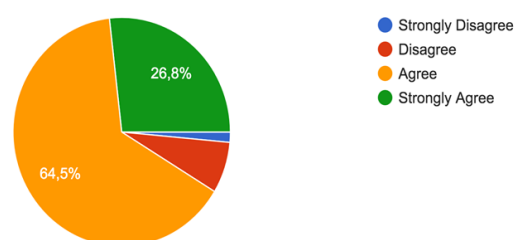


Fig. 5 ESP class at ENSAM-Casablanca

28- Overall, I am satisfied with this blended learning course.

52 réponses

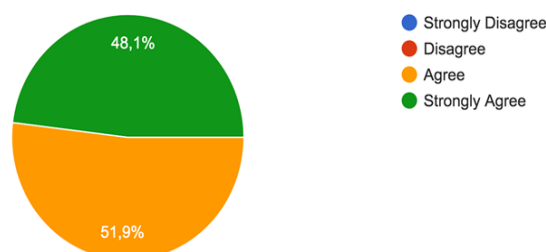
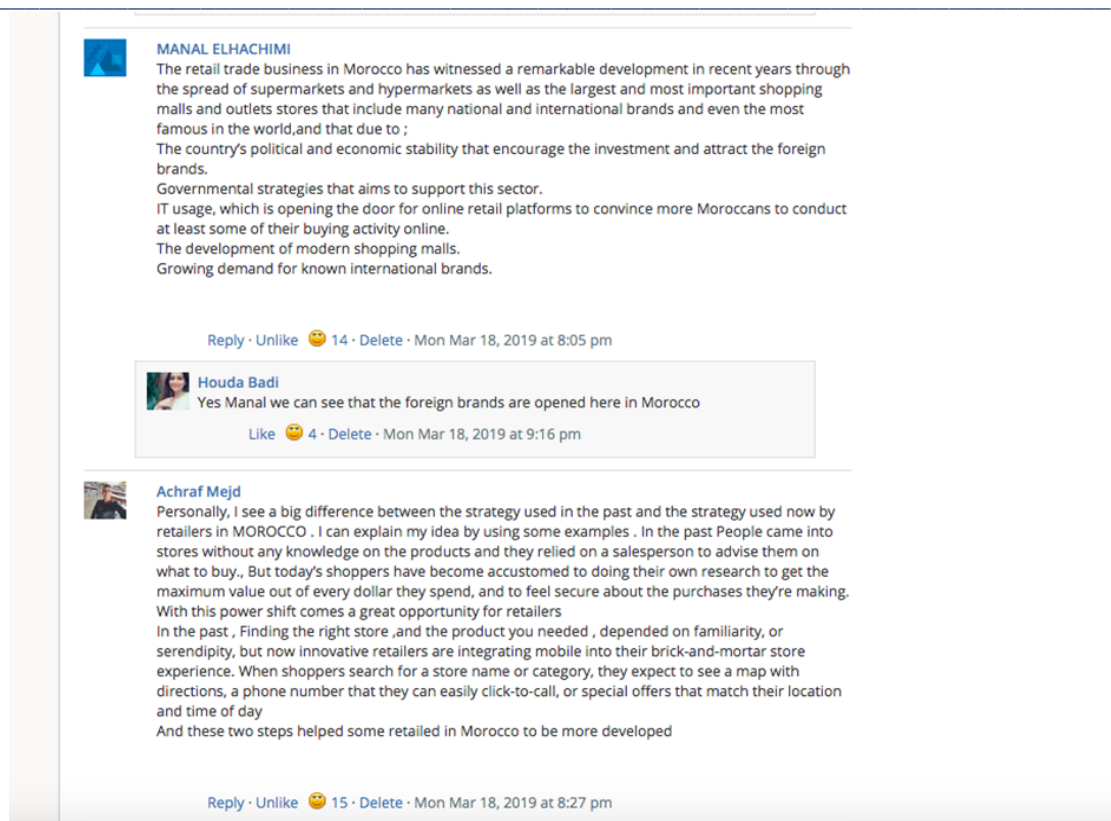


Fig. 6 Cultural Studies class at Ain Chock Faculty of Humanities

The findings equally indicated that *Schoology* proved to be a socially and pedagogically sound platform that empowered engaging instruction and system-wide collaboration. Its user-friendly design and media richness provided Engineering and English studies students with great control over their ESP and EFL learning beyond the classroom, thus triggering them to actively get engaged into the course.

The results showed that *Schoology*'s social networking interface facilitated interaction and collaboration, such as having discussions with peers, accessing learning materials, sharing thoughts, following links, viewing videos and pictures, posting presentations, as well as giving comments and likes on others' posts. Figure 4 illustrates the interaction among the students in *Schoology*'s social virtual space.

Fig. 7 Screenshot of a threaded discussion on *Schoology*

As can be seen from the charts below, almost 70 % of ESP and EFL respondents agreed that the quality quantity of interaction and collaboration among students both physically and virtually increased compared to traditional classes.

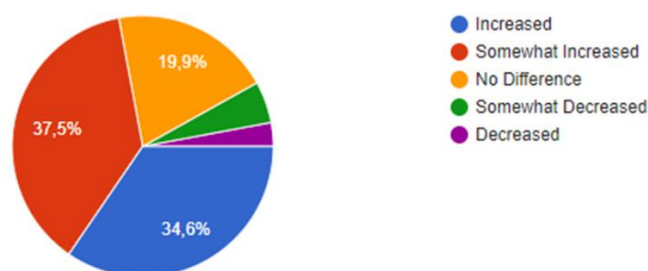


Fig.8 Quality & quantity of S/S interaction in an ESP class at ENSAM-Casablanca

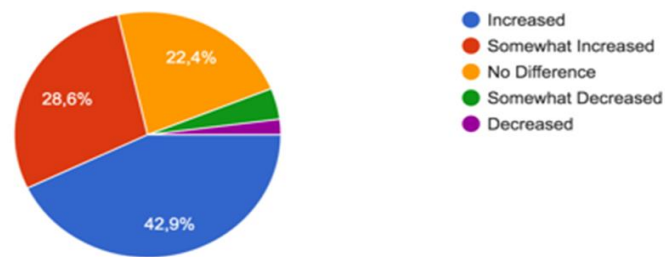


Fig. 9 Quality & quantity of S/S interaction in a Cultural Studies class at Ain Chock Faculty of Humanities

Hence, the platform enabled learners to demonstrate their active engagement in their ESP and EFL learning processes. For ESP students, the in-class activities included discussions, internalizing language components inductively, giving presentations, in addition to role-play, problem solving, and simulation activities. The virtual activities involved reading materials, writing business emails, giving reciprocal online peer feedback, having online discussions, and doing weekly assignments. For English Studies students, the in-class activities consisted of discussions/debates, problem-solving tasks and presentations, whereas the out-of-class activities subsumed threaded discussions and online assignments.

On the other hand, around 85 % of ESP and 94 % of EFL respondents confirmed that the quality and quantity of interaction between students and instructor has increased compared to other traditional face-to face classes.

137 réponses

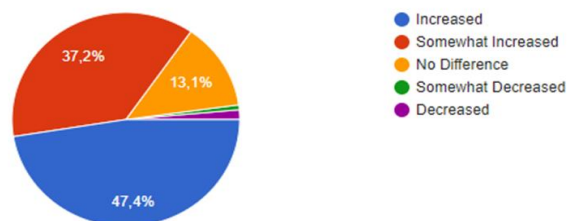


Fig.10 Quality & quantity of S/T interaction in an ESP Class at ENSAM-Casablanca

49 réponses

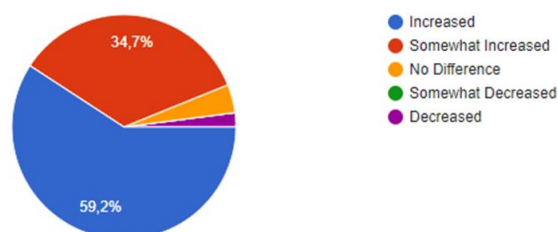


Fig. 11 Quality & Quantity of S/T interaction in a Cultural Studies class at Ain Chock Faculty of Humanities

The implementation of *Schoology* m-learning platform, therefore, minimized the power structure between the teacher and students, accommodating the students to display their capacity to navigate their own learning. This platform has also proven to provide the most suitable arena for power redistribution and delegation in ESP and EFL classes. In this sense, students were not reliant on the lecturer all the time; instead, they themselves took responsibility in the learning process and made choices related to their own learning. The findings of this study thus revealed that students' active engagement in the process of learning on *Schoology* is the basis of learner autonomy. *Schoology* m-learning platform helped students take control over their learning management, cognitive processes, and learning content.

4.1 Control over learning management

Indeed, *Schoology* M-learning platform helped facilitate the exercise of control over learning management. It enabled students to choose the place, pace and time of their ESP and EFL learning by themselves outside the classroom. The portability and social interaction features of *Schoology* M-learning system enhanced both individualized and collaborative learning, and transformed teacher-centered instruction into learner-centered learning (Sung et al., 2015). Such features, which functioned in both formal and informal settings, allowed participants to customize and personalize their own learning styles according to their needs and interests. According to Sung et al. (2015), mobile devices' features of individualized learning, shared tasks and feedback "provide opportunities for monitoring and regulating learners' learning process, and also could increase the on-task behaviors" (p.4). In the current study, several online activities, including threaded discussions and online assignments, were designed and tailored to meet students' English language learning needs and pace, and empower them using authentic materials. The charts below show that 60,3% of engineering students agreed and 27,7% of them strongly agreed that *Schoology* mobile application created more flexible ways for students' self-direction of their learning.

16- *Schoology's* mobile application creates more flexible ways for students to manage and personalize their learning at their pace, place, and time.

141 réponses

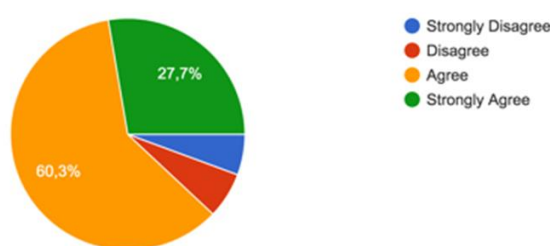


Fig. 12 ESP class at ENSAM-Casablanca

Almost the same average applies to English Studies students. 62, 5 % of them agreed and 35.4 strongly agreed that *Schoology* application enhanced learning flexibility without any spatial and temporal constraints. Students could individually access the learning materials from their handheld portable devices and submit the assignments on an "anytime-anywhere" basis. *Schoology* m-learning platform, therefore, facilitated students' self-paced learning (cf. Benson, 2011).

17- Schoology's mobile application creates more flexible ways for students to manage and personalize their learning at their pace, place, and time.

48 réponses

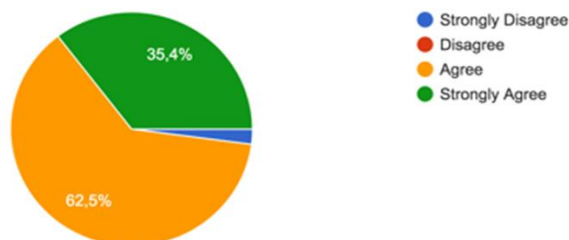


Fig. 13 Cultural Studies class at Ain Chock Faculty of Humanities

When asked about the most effective aspects of Schoology, students from both institutions expressed their views as follows:

31- What was the MOST effective aspect of Schoology ?

114 réponses

Easy to use
It provides us with more materials, and complete class course.
Online courses
I think the most effective aspect of schoology is sharing our opinions and to develop our skills in English.
ease of learning and communication
You can check the courses anytime anywhere
Flexibility and speed in use, adding that you can answer anywhere and any time depending on the mobile phone.
Reducing time
changing ideas and new words
Develop our competence
We can do our assignments easily and in a short time.
It Help me to interact with our professor without any difficulties

The three most positive qualities mentioned by ENSAM students were “accessibility,” “flexibility,” “interaction with students and instructor,” “ease of use,” “self-paced learning” of English language skills,” and the opportunity to access important class materials and links to helpful resources at anytime and anywhere. The same frequent positive qualities of *Schoology* were reiterated by English Studies students who, on several occasions, mentioned “self-directed learning,” “interaction,” “collaboration”, and “accessibility” as key advantages provided by Schoology LMS.

QUESTIONS

RÉPONSES

52

30- What was the MOST effective aspect of Schoology ?

29 réponses

It is easy To be used
Communication between the instructor and students
Sharing the after class reports
Give us a chance to explore a new platform of communication.
Easier access to courses as well as collaborating with fellow students in sharing our knowledge that concern our course which makes it doable to understand what was made unclear or hard to understand during a session.
To learn anytime and anywhere.
A way to speak and share you information with your teacher and your classmate
Personalizing education for students.
help students to understand courses easily
Being update.

As has been mentioned earlier, autonomy in language learning does not necessarily mean learning on one's own. It is the result of interaction and collaboration with others in social settings (Benson, 2011; Cook, 2013; Little, 2000, 2007, 2009; Murray, 2014). *Schoology*, in this sense, enables both the instructor and learners to actively stay engaged and interconnected. They all find it easy to share learning materials, collaborate, and get connected from any mobile device. In the current study, the major collaborative assignments conducted outside classrooms were building online glossaries, providing peer feedback in virtual discussions and preparing team presentations without temporal and spatial constraints. When asked whether *Schoology* features and tools, including media-rich learning materials that suit the learning needs of students, helped them understand fundamental concepts and develop a sense of collaboration, 67,6% of ESP students agreed and 23,7% strongly agreed. Nearly the same results equally apply to EFL respondents as exhibited in the pie charts below:

27- Reflection on course content and online discussions helped me understand fundamental concepts and develop a sense of collaboration.

139 réponses

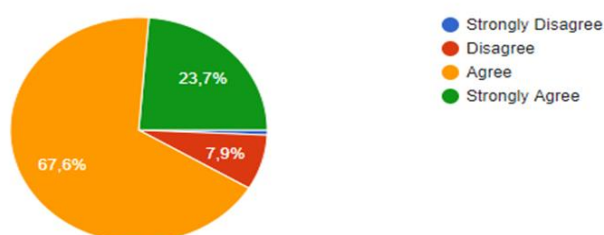


Fig. 14 ESP class at ENSAM-Casablanca

27- Reflection on course content and online discussions helped me understand fundamental concepts and develop a sense of collaboration.

51 réponses

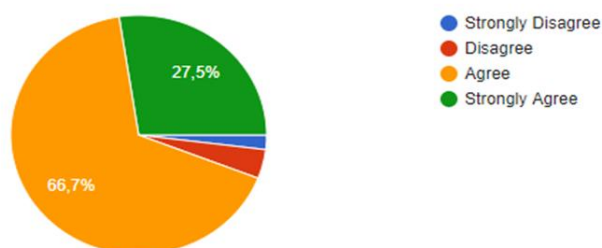


Fig. 15 Cultural Studies class at Ain Chock Faculty of Humanities

4.2 Control over cognitive processing

Interestingly enough, *Schoology's* social network interface gave students ample spaces to take control over their cognitive processing which includes control over attention, metacognition and reflection (Benson, 2011). Threaded discussion boards facilitated students' interaction, communication and collaboration. Students worked in groups to complete a given project or assignment in both ESP and EFL courses. During the discussions, students developed arguments and expressed their views in English. In this regard, students possessed a sense of relatedness in their ESP and EFL learning, assisting one another to reach the learning outcome. This goes in line with Little's (2007) idea that relatedness is developed through interacting with others.

The "updates" feature of *Schoology*, on the other hand, allowed the participants in both courses to share their thoughts and give reciprocal peer feedback on a particular issue. During the process, the students directed their attention towards both linguistic and content aspects. Hence, the feature helped the students to reflect on their English learning processes and raise their metalinguistic awareness. Figure 16 succinctly demonstrates how engineering students gave reciprocal feedback on retail business in Morocco in a Business Communication Skills class.

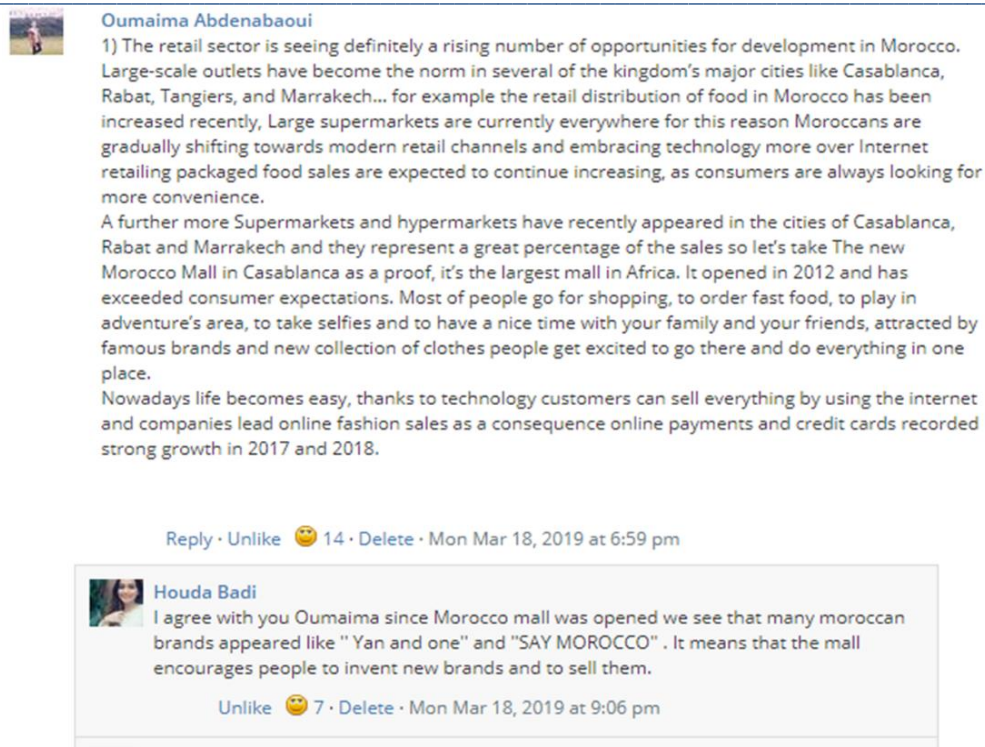


Fig. 16 Screenshot of peer feedback in an ESP class

The figure below similarly depicts a threaded discussion in a Cultural Studies course. Students provided their own analysis of a photograph based on a previously assigned reading that dealt with *discourse analysis* and the concept of *deconstruction*. Students were exchanging views using the theoretical framework discussed in class to interpret the photograph while reminding one another of a few ideas evoked in the covered chapter.

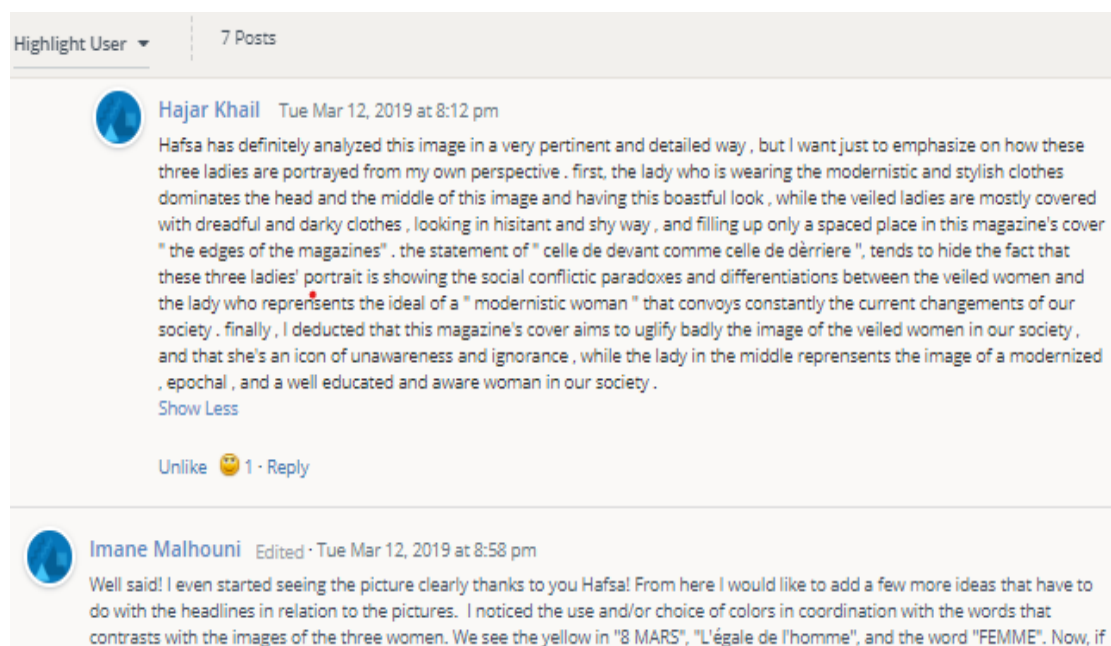


Fig. 17 Screenshot of peer feedback in a Cultural Studies class

4.3 Control over learning content

Schoology m-learning platform allowed students in both classes to take control over the selection of learning content. Benson (2011) claims that the control over learning content is associated with learners' autonomy to select materials in an attempt to facilitate the foreign language learning process. *Schoology*, in this respect, provided tools that accommodated media-rich learning materials connected to other resources available on the internet. Students had control over learning content by building online glossaries, and sharing materials such as presentations or online articles, and gave their own views on the ideas evoked in the threaded discussions. Figure 18 and 19 depict the example of learning materials sequenced on *Schoology*.

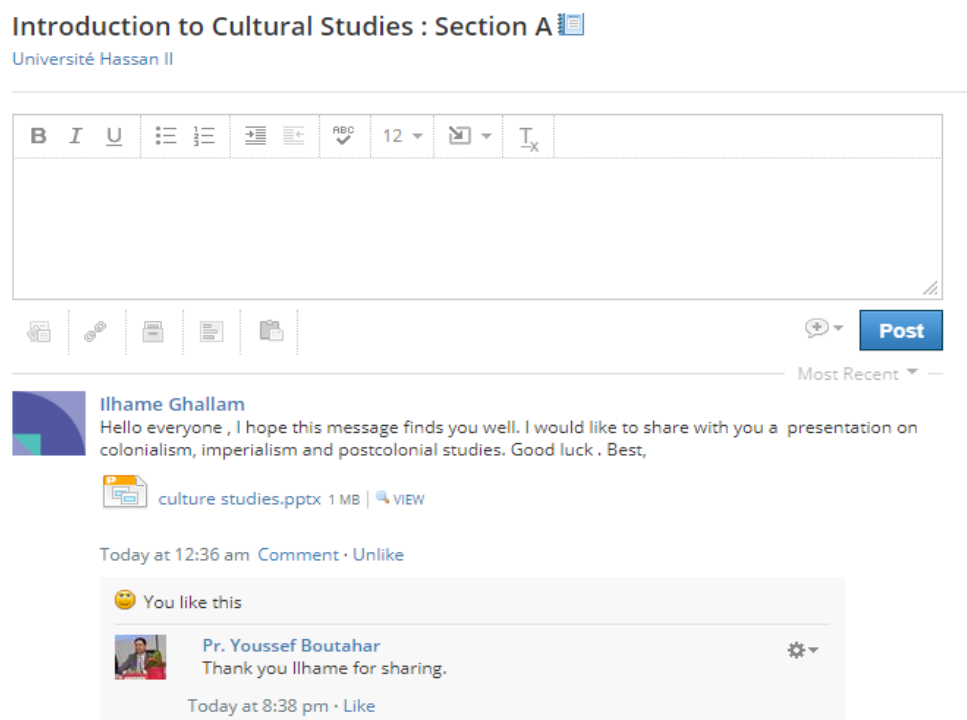


Fig. 18 Screenshot of a student sharing her presentation with her peers.

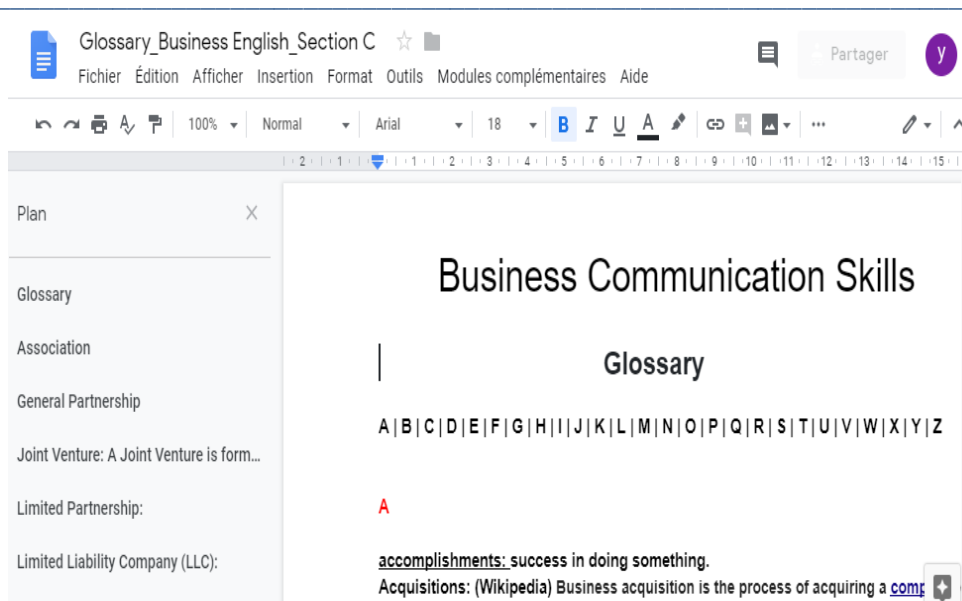


Fig. 19 Screenshot of an online glossary built collaboratively by students in an ESP class

Building online glossaries collaboratively with peers and instructor in both courses helped students understand and internalize fundamental concepts. Students, for example, researched and added new vocabulary items with their definitions, and shared interesting materials related to the theme of the unit or the chapter covered in class. Learners in general and low-achievement learners in particular had the chance to acquaint themselves with the learning resources shared or designated by the teacher at their ease and according to their own personal pace of learning. Consequently, students had more control over the content of their learning (cf. Little, 2007). This resonates with Sarraf's (2016) idea that mobile computing technologies enhance learning performance and provide access to authentic materials for active learning. As can be seen in both graphs below, over 64% ESP students found Schoology resources too useful and 59.9% of them found its tools too easy to use. On the other hand, 65.3% of EFL learners confirmed that Schoology resources were too useful, and 65.4 % of them found its tools too easy to use.

11- Resources : websites and lesson files (Pdf, PPT slides, videos)

142 réponses

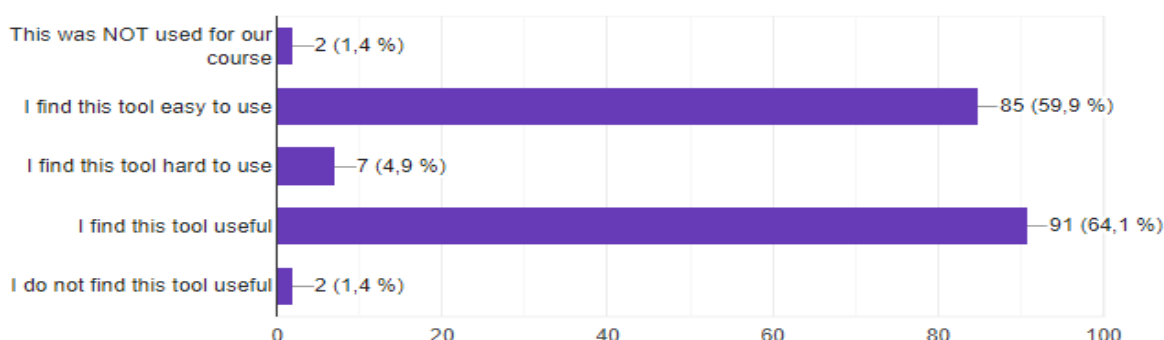


Fig. 20 ESP class at ENSAM-Casablanca

12- Resources : websites and lesson files (Pdf, PPT slides, videos)

52 réponses

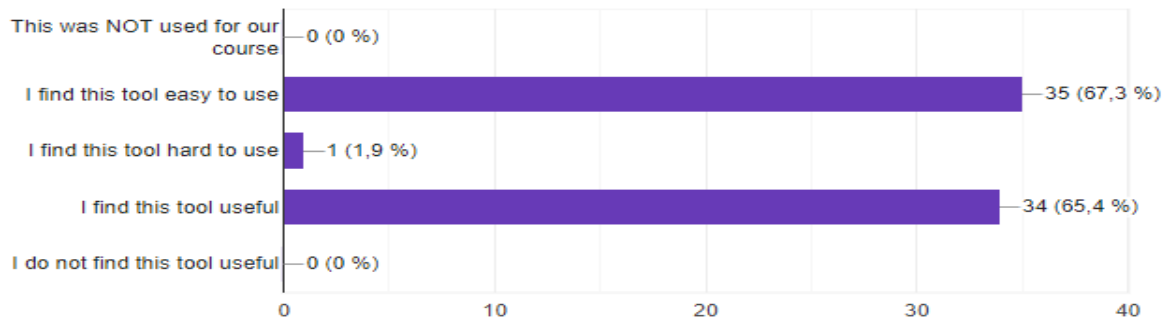


Fig. 21 Cultural Studies class at Ain Chock Faculty of Humanities

5. Conclusion and implications

This article sought to investigate the ways in which *Schoology* m-learning platform fosters students' engagement, autonomy and collaborative learning in two ESP and EFL blended learning courses. The findings indicated that *Schoology* proved to be a socially and pedagogically sound platform that facilitated engaging instruction and allowed system-wide collaboration. Its user-friendly design and media richness helped Engineering and English studies students to take control over their learning management, cognitive process, and learning content. Such an interactive platform also facilitated the exercise of learner autonomy and boosted their interaction, communication and collaboration within the groups and with the instructor in both ESP and EFL classes. Compared to other learning management systems, such as Moodle which has been implemented in most Moroccan universities, *Schoology* remains easier in navigation through its social networking interface, and has more features, instructional tools and advantages that are not found in Moodle and Edmodo (see Sarrah, 2016, p.108).

The findings of the current study have two implications for a more effective incorporation of *Schoology* blended learning model into Moroccan ESP and EFL classes. First, blending technology with face-to-face instruction can definitely stimulate learner autonomy and provide more collaborative learning experiences if implemented properly. Hence, Moroccan education system should invest more in communication technology by integrating students who have limited or no access to internet and equipment and by training teachers who have general lack of experience with the LMS on blended learning strategies. In this way, the incorporation of learning management systems in English language teaching and learning would be much easier. Second, the endeavor of implementing blended learning courses through *Schoology* LMS has to let pedagogy drive technology. One way to make this possible is by grading students on their engagement in online activities and their contribution to the threaded discussions and content building in the platform. Another way is to select learning materials that would render the blended learning experience more entertaining rather than strictly academic.

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