Project

ReDesign: Redesigning learning through a new Learning Management System

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Abstract

In a world which abounds with digitally-driven changes, an orthodoxy of technology adoption and utilisation in higher education is emerging, and it is deemed critical for steering the discussions of experts for planning and implementing a digitally-enabled ecology where students and faculty members alike will benefit. Although several types of software that host educational or training content for students have been used in previous studies, the aim of this EU-funded project was to design a digitally-enabled platform that would afford culturally-driven exchanges between university students and collaboration among faculty members of the same disciplines across Europe. The platform is based on, but extends beyond, principles of standard Learning Management Systems (LMSs) and Facebook, by affording Web 2.0 tools, Augmented Reality (AR) applications, and QR codes. Further, the platform has been designed based on multiple pilot testing phases, students' individual needs, instructors' constructive feedback, and the tailored needs of each academic discipline. This EU-funded project is a joint effort to guide instructors and students in experiencing the curricula in different academic institutions, to guide instructors and students in understanding the affordances and contradictions of intercultural telecollaboration, and to guide students in developing a conceptual understanding of complex constructs in their discipline.

Keywords: *ReDesign,* Learning Management System

1. Introduction

The European Report "The Digital World in 2025" makes it abundantly clear that there is an imperative need to develop current and future generations that are computer- and Internet-literate, in a world where the Internet has become the main economic and social platform, and which, in the foreseeable future, will "be able to connect everything and anything, including inanimate objects, sensors, and actuators" (p.13). The European Report "The Digital World in 2030. What place for Europe?" accentuates its 'digitally-enabled education for all' position to identify the emergence of adaptive and personalised learning as imperative in an e-skilled society. Today's generation will be succeeded by even more tech-savvy emerging societies that will be competent in developing and using more powerful, high-tech tools. However, there seems to be an almost infinite deviation in the context of education as "teachers with self-taught e-skills, often also ill-equipped, will not prove adequate to prepare youngsters for the digital economy in 2025" (p.21). To set targets in line with the relentlessly accelerating development of digitalisation, the realm of education has to act in seemingly coordinated fashion by redesigning "education itself around participative, digitally-enabled collaboration within and beyond the individual educational institution" (p. 21). Teachers need to harness the power of technology in order *to promote inclusivity, learning at an individual's own pace, and collaboration on a global scale*, and "ensure that these learnings are fully embedded in the business end of education" (Abhi, 2017, Independent Education Today).

Despite the proliferation and developments in educational technology, many scholars (see Arnold & Ducate, 2011; Gee, 2007; Shaffer, Squire, Halverson, & Gee, 2005) have pointed to the gap between theory and practice as a lot of universities have not integrated technology in courses and a lot of courses are not designed to promote digital skill development, collaboration, knowledge construction, and transnational exchanges among students in different academic institutions, disciplines and countries. According to the "Horizon Report 2018", however, Higher Education Institutions have been lately adopting virtual and augmented reality technologies to support individual and team learning (see Horizon Report 2018, p. 21). The transition from the traditional lecture-based lesson toward a student-centred, hands-on approach marks the beginning of the transformation of classrooms to "real-world work and social environments that foster organic interactions and cross-disciplinary problem solving" (Horizon Report, 2018, p. 9).

Although technology has increasingly become ubiquitous, caution needs to be taken in its adoption as if it is not integrated in meaningful ways into the curriculum, it can be "ineffective and distracting" (p. 7). de Wit and Hunter (2015) called for a comprehensive and strategic approach of the internationalisation of higher education that calls for a focus on the curriculum and the learning outcomes using various "forms", such as technology, for forming future global citizens that not only compete against each other but also collaborate. The instructors and researchers of the European-funded ReDesign project have taken a bold step and heralded the launch of redesigned curricula that aim to promote digital collaboration, digital skills development, immersive and personalised learning that expands beyond institutional boundaries. Although the project entailed multiple technological tools, such as Augmented Reality applications, the focus of this paper is set on the theoretical underpinnings of the design of the mediating platform, the students' reactions to the use of the platform as a mediating tool that enacts affordances for intercultural collaborations with distant partners, and possible uses of the platform for future collaboration.

2. Telecollaborative practices in Higher Education contexts

Intercultural telecollaboration or virtual exchange is emerging as a polysemous term (Belz 2003; Bickley & Carleton, 2009; O' Dowd, 2018; Sadler & Dooly, 2016). Robert O'Dowd (2018) notes that telecollaboration, or 'virtual exchange,' are terms used to refer to the engagement of groups of learners in online intercultural interactions and collaboration projects with partners from other cultural contexts or geographical locations as an integrated part of their educational programmes (p. 1).

Virtual exchanges have been launched in diverse contexts, academic disciplines and areas often embedded in instructors' epistemologies of practice. O'Dowd (2018) thoroughly describes the several terms allocated to telecollaboration and the gradual transition to the current term 'virtual exchange', the preferred term of several governmental bodies, organisations, and the European Commission. Dooly and O'Dowd (2018) attempt to fit telecollaboration under the umbrella of 'approach' and argue that it should be recognised as a 'growing institutional practice' but it is definitely not a method or a methodology, as multiple activities can fit into an 'approach', and telecollaboration indeed entails multifaceted and multi-natured tasks and activities.

The growing interest in telecollaboration based on sociocultural perspectives is not only due to the availability of technology but also to three other important factors: (i) the inherent connection of language learning with intercultural communication; (ii) the need for an interactive language learning approach beyond the educational institution, and (iii) the need to acquire communication skills in several languages and through several modalities (Dooly & O'Dowd, 2018).

Intercultural telecollaborative projects are not new to the field; in the field of education, the practice of telecollaboration has been around for at least a century with such practices as pen pal exchanges (O'Dowd & Dooly, 2018). Tella (1991) and Cummins and Sayer (1995) are only some of the scholars who have explored intercultural telecollaboration. Additionally, Warschauer (1995) provided a constellation of projects on 'cross-cultural communication' where students devised personal profiles, conducted surveys and looked into cultural stereotypes. Over the past fifteen years, the study of intercultural competence in online environments has also been a major focus of attention (Belz, 2003;

Belz & Thorne, 2006; Liaw, 2006; Müller-Hartmann, 2000; O'Dowd, 2003, 2006, 2007; Ware & Kramsch, 2005). However, what is rather concerning is how long policy makers and educational stakeholders have taken to acknowledge its value and potential (Thorne, 2018). Within the framework of the three-year European-funded project, ReDesign, this study will: i) delve into the integration of the ReDesign platform as the mediating tool for intercultural collaborations between distant academic institutions and its resemblance to the social platform, Facebook; ii) tap into students' perspectives on the telecollaborative exchange mediated by the platform, and iii) explore its potential for future uses in further collaborations.

3. Facebook in intercultural communication as a model for the design of the ReDesign platform

Learning Management Systems (LMSs), such as Moodle, have long served as supplementary learning platforms for language learning courses. According to Arcos, Ortega and Amilburu (2009), the rise of LMSs has brought about interoperability, according to which courseware designers can integrate rich learning applications, and different information technology systems and software applications can communicate and exchange data. According to Wang (2012), there is a lack of empirical studies examining Facebook for educational purposes even though it has been identified as an important tool for informal and cultural learning. Facebook extends beyond the frame of a social networking tool for maintaining friendship, as, according to Wang (2011, p. 64) it is "a platform ready for instructors to use for facilitating mentorship and affiliating teaching". Despite the increasing abandonment of the platform in favour of other platforms, especially as an aftermath of the Cambridge Analytics scandal, Facebook still "remains the world's largest social platform" (The Guardian, 2018).

According to Avgousti's (2018) systematic review findings in online intercultural communication studies that were conducted between 2004 and 2015, the most commonly investigated *Web 2.0 technologies in intercultural exchanges* were e-mails, Skype, blogs, and wikis. Social networking tools, such as Facebook and Twitter, were investigated in only 6 out of 54 studies, whereas the Virtual World of Second Life is the only 3D Virtual World studied in such exchanges. However, social networking sites, such as Facebook and Twitter, have been reported to appeal to students as they feel that they belong to a *community* (Lee & Markey, 2014), they are *familiar* with the Facebook platform, and they are outwardly *motivated* to use such social media tools. In addition, familiarity with the tools, such as Facebook (Lee & Markey, 2014), plays a significant role in students' attitude towards the technology and the project, and eliminates their reluctance to communicate with their partners (Dooly, 2011).

Mabuan and Ebron (2016) touch on the ubiquitous presence of technology in our lives and the unprecedented effect of innovative, state-of-the-art educational tools in current educational landscapes. According to Mabuan and Ebron (2016), several studies (Hew, 2011; Pempek, 2009; Selwyn, 2007; Thompson, 2007) have indicated the omnipresence of *Facebook* in students' everyday lives and the adoption of Facebook by university students and teachers alike for the practice of more modern pedagogies. Mabuan and Ebron (2016) explored how undergraduate *students* who take compulsory English courses used Facebook to perform classroom tasks, their attitudes towards the usage of social networking sites in English language learning, and the challenges that the students encountered. The authors reported that there is great pedagogical potential in using Facebook for educational purposes, mostly because users are already *familiar* with the tool and Facebook can act as a point of convergence between students and teachers.

Likewise, Espinosa (2015) explored the use of *Facebook in EFL classrooms* as a tool that holds the potential to *motivate students* and suggested ways that teachers can adopt to integrate this social networking site in their classrooms. Espinosa (2015) listed the potential educational benefits of using Facebook in education, the challenges that might emerge, and practical suggestions to overcome these pitfalls. For example, Facebook allows users to create a private or public profile, post statements, start discussions, post photos and videos, livestream, create private or public groups, send online messages, share information, and other multimodal activities.

According to Espinosa (2015), by embracing Facebook, *teachers* can also greatly benefit. For instance, they can collaborate with other teachers, gather information from powerful educational resources and notifications from journal publications, and many more. Facebook is aligned with 21st century skills that involve *collaboration* and *communication*. Additionally, students can enhance their *communicative competence* through interaction and exchange, as well as their *linguistic skills*. Therefore, language learning becomes "more practical, interactive, and holistic" (p. 2208).

Facebook has recently emerged as an effective social media tool in *language education* (Kabilan, Ahmad & Abidin, 2010; Sykes, Oskoz & Thorne, 2008). However, many studies have also delved into the effect of Web 2.0 tools and applications on students' *intercultural competence* (Furstenberg, Level, English & Maillet, 2001; Kramsch & Thorne, 2002; Lee, 2009; Özdemir, 2017; Perren, 2018; Vuksanovic, 218; Ware & Kramsch, 2003). Facebook is an example of a promising social media and social networking platform for promoting intercultural interaction. However, few studies have investigated the potential pedagogical benefits of Facebook for intercultural communication. According to Özdemir (2017), among others, Facebook promotes intercultural interaction with target language speakers, participants are provided with authentic, real-life knowledge through exchanges, their motivation is enhanced, and they develop advanced communication skills.

Özdemir (2017) employed a mixed-method approach to examine the *intercultural effectiveness* of forty freshmen ELT students using administration of intercultural effectiveness scale, semi-structured interviews, and students' essays. After students' immersion in intercultural instruction and collaboration, it was reported that their intercultural effectiveness scale had improved, and that the Facebook-users group were immersed in more effective intercultural exchanges than the in-class discussion group.

Wang (2011) attempted to investigate how online collaboration groups could be formed and how assignments could be designed in cross-cultural exchanges for better learning satisfaction. The students in this study posted greetings and feedback on a specific group on Facebook. Wang (2011) chose Facebook mainly for three reasons: (i) it is free; (ii) it does not require technology staff to maintain the platform, and (iii) it would be easier for students to maintain their connection and interaction even after the exchange would end. Further, it provides authentic means of communicating with native speakers, it has rich features and it keeps evolving. In addition, several media formats can be integrated into messages. At the end of the project students indicated that their *worldview had expanded* and that the international partners bear *cultural similarities* in many ways. Regarding cultural differences, the Taiwanese students were excited to find out new traditions and view things from a *different perspective*. Generally, the experience made the students willing to improve their English to better communicate their thoughts. Although lack of common interests and different cultural backgrounds posed challenges during the exchange, cultural conflicts occurring during the process were considered rich intercultural experiences. Wang (2011) concludes that *familiarity* seems to play a key role for a successful cross-cultural exchange. Most of the population agreed that Facebook is suitable for cross-cultural communication as they are familiar with it and there is outward motivation to participate in a Facebook exchange and check for new messages and notifications.

In Ertmer et al.'s study (2011), where interlocutors from several countries used English as a lingua franca, participants had to communicate with their partners at least once synchronously using any of the available tools —Skype, Facebook Chat, Adobe Connect— and as many other times asynchronously through the use of wikis, to complete the project. What was interesting in Ertmer et al.'s (2011) study is the development of students' *cultural competencies*, especially the behavioural and affective ones, in the rather short amount of time of only five weeks. In addition, the participation had a significant positive impact on students' perceived comfort for using Web 2.0 tools to collaborate with other people having different cultures. Their perceived knowledge for using such tools was enhanced, since they might have been able to use such tools in their everyday life but not necessarily in an educational setting to support teaching and

learning. The results of the study suggest that *as students became more comfortable with technology*, they could engage in other types of cross-cultural activities.

3.1. Challenges posed by Facebook in telecollaborative exchanges

The use of computer-mediated communication emerged in the early 1990s when more advanced tools for mediated communication became available. However, according to Wang and Chen (2009) CMC tools alone cannot provide learners with a *comprehensive platform that combines synchronous and asynchronous modes of communication*. At the other end of the spectrum, the rise of LMSs has brought about online platforms where a course can be planned, supported and managed by both the teacher, and the learner. Whereas asynchronous LMSs mainly provide functionalities to support asynchronous learning activities, a synchronous LMS "facilitates synchronous real-time interaction and collaboration via a combination of PC-based conferencing tools such as synchronous document sharing, collaborative whiteboard, text chat and audio and/or video communication" (p.2).

Willems and Bateman (2011) explored the potentials and pitfalls of social networking sites, such as Facebook, in higher formal education contexts. Although Facebook constitutes an alternative LMS for use in formal education that allows users to share resources in cases that institutional LMSs block certain media, for collaboration between geographically distant members of a cohort, and for peer teaching, it does not come without its pitfalls. These include *privacy issues* and *electronic identity*, *public domain challenges, information sharing, cyberbullying* and more.

In their exploratory paper, Yu, Sun, and Chang (2010) delved into higher education students' and teachers' experiences and attitudes towards the use of CMSs (Computer Management Systems) in college language courses. In fact, Yu, Sun, and Chang (2010) explored college students' and teachers' use of the different functions of the CMS, the language students' and teachers' motivation to use CMSs in English courses, and students' and teachers' perceived limitations and degree of technical support needed for using such CMSs in language courses. The authors used questionnaires and face-to-face interviews to record the experiences of both students and teachers. An interesting finding that emerges from this mixed-methods study is that despite the participants' positive attitudes towards LMSs incorporated into the curriculum, they concluded that such systems are *not specifically designed for language learning and teaching*, thereby highlighting that it is the instructor's careful incorporation and usage which is critical for the efficient functioning of the CMS as a *learning and pedagogical platform*.

Another interesting and relevant finding of this study is the urgent need to adopt a *needs analysis approach* before the implementation of each course, testing and comparison of the functionalities of various CMCs, and a *continuous updating of the system* for students in order to leverage the pedagogical benefits of the system and avoid technical difficulties that can act as a major deterrent in the participants' educational experience. The findings of the study pertain to the development of strategies for maximising the functionality of learning platforms and the critical need for "training users to selectively adopt CMSs to suit their language teaching objectives rather than accommodating course content to the existing CMS functions" (p.345). There is, thus, a critical need to *construct learning platforms tailored for the needs of specific disciplines* and *comprehensive functionalities aimed towards enhancing language skills.* To our knowledge, no platform has been designed up to now, which has been devised for the specific needs of intercultural communication in the field of language learning.

4. The ReDesign project

ReDesign is a three-year, EU-funded, research project which brings together a pool of experienced educators, educational technologists, IT professionals, and researchers to collaborate and design an interactive digital platform based on each faculty's *teaching needs* and students' *learning needs*. The ReDesign platform that mediated students' exchanges bears several features that are similar to the features of the social platform, Facebook. The philosophy of ReDesign is based on recent endeavours among educators to promote multimodal learning experiences to improve student engagement using multiple modes of context representation (i.e., interactive e-contexts) and accommodate the learning styles and needs of a diverse student population across Europe (Sankey,

Birch, & Gardiner, 2010). Calls for Higher Education internationalisation (de Wit & Hunter, 2015) by means of curriculum and learning aims focus upon social inclusion through technological mediums in order to foster global citizens.

The aim of the study is to address the following research questions:

1. *How does the ReDesign platform enact affordances for collaboration, interaction and content-based learning among students and educators?*
2. *What are some of the students' perceptions regarding the design and use of the ReDesign platform as part of their involvement in the telecollaborative exchanges?*
3. *How can faculty members utilise the newly designed platform to enact affordances for collaboration, learning, and knowledge development among students in different academic institutions and geographic locations?*

4.1. Multimodality as an underpinning construct of the ReDesign platform

The increasing trend of combination of texts and images in reading texts marked concerns about a drastic change in the way readers process such multimodal texts. As early as 1998, Kress shifted attention to the emergence of new processes and conceptualisations of reading since graphics rely on images and the reading of such visual information is different from the reading of words. In other words, Kress postulated that multimedia products require high levels of *multimodal competence*. More than a decade later, Dooly and Hauck (2012) argued that multimodality has always been part of meaning making since human beings have always used more than one mode to communicate. This interest has been vividly revived with the adoption of technological mediums that have begun to outweigh the dominance of writing within education. Multimodality refers to "a field of work, a domain for enquiry, a description of the space and the resources which enter into meaning, in some way or another. There is a potent point to multimodality as such, namely the assertion that 'language' is just one among the resources for making meaning: and that all such resources available in one social group and its culture at a particular moment ought to be considered as constituting one coherent domain, an integral field of nevertheless distinct resources for making meaning; all equal, potentially, in their capacity to contribute meaning to a complex semiotic entity, a text or text-like entity." (Kress, 2011, p. 242; see also Bezemer & Jewitt, 2009; Kress & van Leeuwen, 2001).

The epistemology of multimodality casts a critical glance at *meaning*, the construction of meaning (meaning-making) and the level of agency of meaning-makers and the (re)construction of identity (see Gilakjani, Ismail & Ahmadi, 2011; Morrison, Sweeney & Heffernan, 2003; Kress, 2011). Meaning making dimensions have to be integrated into a semiotic model of language learning. Hauck (2010), drawing on *meaning making*, concludes that multimodal communicative competence, the 'cultures of use' of the tools used (Thorne, 2003), and gains in intercultural competence (Byram, 1997) are the least interrelated, if not interdependent. Furthermore, the learners who benefit the most out of online intercultural exchanges are the ones who are *aware of the affordances of different modes* rather than the learners who are fully competent within one mode (Kress, 2003). Reportedly, these learners will be more aware of the cultural determination of the learning context and the way their participation in online communities shapes their perception.

Farías, Obilinovic and Orrego (2007) argued that multimodality extends beyond the psycholinguistic and sociocultural interpretations of language learning to consider multiple media (i.e., body, sound etc.) and modes (i.e., visual, gestural etc.). They further argued that multimodality can play an important role in *L2 or FL learning* as the design of multimodal environments resembles contexts of interaction between a mother and her baby and negotiation of meaning with the child's mind. This is very similar to van Lier's *Firstness* (2004) which points towards natural language learning acquisition and development in ways that it resembles first language development. Notwithstanding that, the objective of classroom is not to replicate what is happening in the natural world, Farías, Obilinovic and Orrego (2007) argue that multimedia can *bring some outside world into the classroom*. As they put it, through perceiving images, gestures, and sounds, "multimedia messages can become the means through which meanings can be grasped in the totality of complex, 'almost' real scenarios" (2007, p. 193). On a similar line,

Wigham and Chanier (2013) argue that as *non-verbal acts* have been shown to possess a significant role in face-to-face communications, so they have in CMC settings.

Within these theoretical trajectories, multimodal theory is guided by the following overarching questions:

1. How is meaning constructed?
2. What is the level of agency of meaning-makers?
3. What are some of the constraints and contradictions encountered in constructing meaning?
4. How is identity (re)constructed in meaning-making?
5. How is knowledge developed and transformed through different modes?
6. Who develops and transforms this knowledge? (see Zhang, 2015; Kress, 2011; Kress & Van Leeuwen, 2001; Gilakjani, et al., 2011; Farias, 2007)

As Gilakjiani et al. (2011, p. 1325) postulate, "viewing multiple ways of presenting concepts stresses the importance of vision in understanding, ignoring the effects of other senses in learning activity. Learning is not only a visual-cognitive activity but also a physical one particularly as it requires the interplay among multiple sensory modalities and representations". Multimodal learning invites us to examine the construction of meaning through different modes, as well as the interaction and interplay of these modes, such as gestures, artefacts, and speech (see Mayer & Sims, 1994; Kress & Van Leeuwen, 2001). *Digital technologies* have galvanised this construction and interpretation of multiple modes, while users are invited to explore, interpret and use these multiple modes of analysis (see Kress & Van Leeuwen, 2001).

In SLA and CALL, multimodality has received considerable attention expanding the trajectories through which we can reconceptualise the construction of socially-embedded knowledge, meaning, interactivity, identity while we engage, explore and transform all these modes of communication and interaction. Active, critical learning may take place in multimodal contexts whether involving game-based learning, augmented reality or virtual worlds (see Gee, 2003).

5. Research questions

5.1. Research Question 1: How does the ReDesign platform enact affordances for collaboration, interaction and content-based learning among students and educators?

This three-year EU-funded study entailed a multidisciplinary pool of researchers, instructors and educators in Applied Linguistics and CALL, Educational Technology, ICT and Engineering. Students in Electrical Engineering and future ESL teachers in Romania, the UK and Cyprus were set to engage in multimodal learning experiences through the use of the newly designed ReDesign platform.

During the first stage, an attempt was made to harness the affordances of social networking sites and overcome some of the challenges encountered with LMSs. The aim of the project was to develop a platform that afforded integration of some tools that are used in LMSs and have been proved efficient, such as recorded lectures. To further enhance the functionality of the platform, it was decided that additional tools should be added that are not currently available in LMSs, such as *Augmented Reality* (AR) and *QR codes*.

The platform affords a multitude of features that are similar to the ones found in several social networking sites, such as the *Facebook* platform, both in terms of appearance and functionality. The designers reckoned that this similarity would promote *familiarity* and users would feel more comfortable and confident to use it for intercultural purposes. The instructors and the system administrators may add content, assignments, groups, and deliver lectures, and instructional material on the platform. Further, the ReDesign platform affords external applications, tools and other content that aims to enhance students' learning experiences and intercultural collaboration. The ReDesign platform allows three different roles; the role of the Administrator, the Professor, and the Student. Each role has different capabilities, but only Administrators have the ability to change other roles. Further, all Administrators are editors by default.

Preparation and acquiring familiarity with the content of the platform are key to successful learning and interaction as online platforms may offer additional challenges than those met in traditional teaching accompanied with a standardised array of pedagogical materials, such as textbooks. However, students need to familiarise themselves with the technical, spatial, and communicative possibilities of the online environment and become fully aware of the affordances of the ReDesign platform. Students are provided with login credentials by their instructor and upon logging in, the following features are on display: *Menu, Profile, User Profile, Events, Groups, Filters, Context, Terms of Use, Student Menu, Chat, and Video*. Students may add their profile picture along with some information about themselves and may report a bug directly to the IT specialist. Users are assigned into Groups by their instructors and they are notified about any upcoming events through the Events feature. The Filters icon enables students enrolled in a course to view which lectures have been uploaded and can be accessed. The students can also select the Context icon in order to filter or Sort by Ascending or Sort by Descending in alphabetic order the indicated content, such as lectures and assignments.
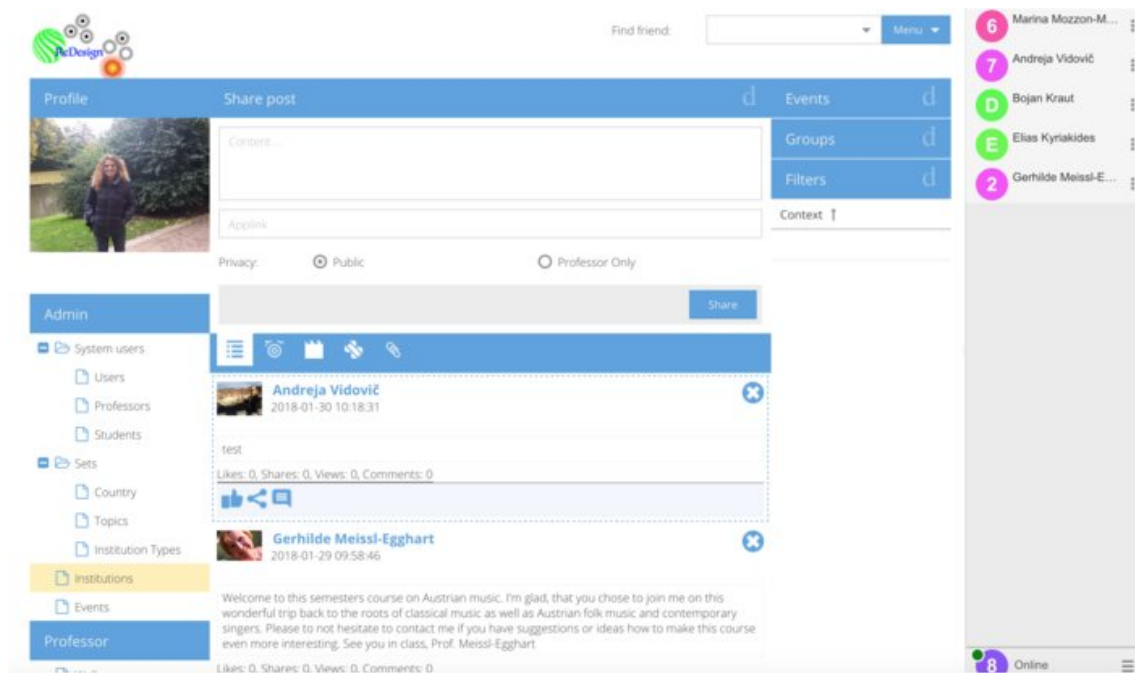

Figure 1. The ReDesign platform.

The ReDesign platform features the *Student Menu* which includes multiple components that allow students to share posts either publicly or with their professors only, make friends, reply to their friends' posts, observe lectures, participate in courses, groups, and events (*Wall, Friends, Professors, Groups, Events, Courses*).

The student Wall has been designed to promote collaboration, participation, interaction, sharing of knowledge, views and ideas, content, and images among students and the establishment and enhancement of interrelations. An instructor can utilise the Wall feature to expand the collaboration and learning trajectories among students. Students can add content, share an idea, or their views on their wall by sharing a post. They can also select an image, a movie, or a file and upload it either publicly by selecting the Public or the Professor Only icon to share their views and ideas only with their professor. Upon uploading images, movies, posts, or QR codes, the student's name, day and time will be displayed under each post. In line with the Facebook platform design, all these four features (like, share, view and comments), appear right below each post, along with the number of times that a post was liked, shared, or commented upon by their peers. Students may use their smartphones to scan the QR code which will display the link or text to them. It is imperative, however, to install the required software on their smartphone in order for the QR code to be read by their smartphone.

The Friends menu has been designed to promote interrelation building and collaboration among students. Students have a network of friends and they are assigned to groups. By

selecting Events, students can view a list of the events and they can select an event based on Interest that will be saved successfully. The event date, time, and location are displayed under the calendar and new events can also be added and/or deleted. Students can view the title of the course in which they are enrolled, the number of hours of the course, the professor's name, the academic institution, and study program.

Users of the ReDesign platform may use the Chat feature that indicates the students' online status and the number of friends that are online at that particular moment. By selecting the drop-down menu, students can view the following features: Settings, Mute, Hide Offline Contacts, Add Contact, Join Chat, About. Students can also customise the different features of their chat, such as Priority, Chat State Notifications, On login, Message History, and Carbon Copy. Students are also provided with the option to Bookmark or Auto-join the chat session. Finally, the About feature displays information on the real-time chat application.

After opening the Chat feature, the Video Call feature also appears. By clicking on the Video Call button, a new message appears requesting from students to verify if they will "allow beta.redesign-project.eu to use their camera and microphone". The platform allows students to use a camera and a microphone to start a video call.

The ReDesign platform is a collaborative attempt that aims to cater to the infinite possibilities of learning and teaching afforded by the emerging practices of state-of-the-art educational technology. The affordances of the platform for intercultural communication point towards the reconceptualised, multifaceted experience of culture and language learning/teaching through digital technologies. Adhering to pedagogical and research trends in CALL and Intercultural Communication in Language Learning/Teaching, the design of the platform seeks to adopt pedagogical goals that expand the monolingual, monocultural, micro-linguistic elements that promote cultural stereotypes, to promote "ethnographical techniques and perspectives and the ability to engage in culturally appropriate conversations in real time" (Train, p. 248 as cited in Belz & Thorne, 2005). Transnational class-to-class collaboration within academic settings, points us towards enlarging our views of teaching and learning as dynamic processes in ways that "explore the emergent semiotic possibilities of multimedia, synchronous, and asynchronous modalities of communication" (pp. 248-249).

> ### 5.2. Research question 2: What are some of the students' perceptions regarding the design and use of the ReDesign platform as part of their involvement in the telecollaborative exchanges?

The questionnaires that were devised by the instructors of the course were administered as hard copies to all undergraduate students of ENG101 at a large public academic institution located in the Mediterranean region after specific instructions and guidelines were provided to participants. A consent form was previously administered to all students for ethical reasons. The questionnaire seeks to elicit comments about the ReDesign platform and the ways it was perceived and used by students who were involved in collaboration with students from a large, distant European university.

To tap into students' perspectives about the platform, a six-part questionnaire with 42 closed-ended questions and 10 open-ended questions was devised based on Dörnyei's (2007) guidelines on a five-point Likert scale. The questionnaire involved factual questions (age range, course, etc.), behavioural questions (what the respondents did in the past), and attitudinal questions (their attitudes, opinions, beliefs, etc.). The questionnaires composed mostly of closed-ended questions and a small part of open-ended items. Following Dörnyei (2007), questionnaire items were short, simple language was used, and ambiguous words or sentences were avoided.

The questionnaire was divided into six parts. The first part, 'Academic Institution' was related to information about personal information and their experiences with LMSs in the past. The second part, 'The LMS (Platform)', asked about the design and functionality of the ReDesign platform. The third part, 'The Instructional Material/lectures/tasks', required information about the instructional material, such as recorded sessions, lectures, collaborative activities and other resources. The fourth part, 'The Methods of Communication', required information about the several available communication means, such as text and voice chat, whereas the fifth part, 'Collaboration/Intercultural

Understanding' elicited information on the contribution of the activities and collaborative tasks on students' intercultural understanding. The final part, 'Open-ended questions', asked students about the overall impression of the platform and the learning experience.

Fifteen out of 19 students returned the questionnaires to the instructor. The students of this cohort were all between the ages of 18-24, students at the Department of Education, registered in ENG101 which was compulsory. All the participants answered positively on being asked whether they had used a Learning Management System, such as Moodle, Canvas, or the Blackboard System in other courses in the past. Therefore, all students were familiar with the design and functionality of LMSs. Four students indicated that they had been using the indicated Learning Management System(s) for two years; the rest of the students indicated that they had been using it for one year. The most popular LMS used by these students was Blackboard (12 students), whereas 5 students indicated that they had also used other kinds of LMSs. Interestingly, Moodle and Canvas were never used by any of the students. Only three students indicated that they had previously participated in intercultural collaboration or multimodal learning experiences in the past which were mediated via a virtual environment and collaborated with students from other countries. Regarding the description and gains reported by the three students that were previously involved in these exchanges, one of the students indicated that they learned a lot of things from other cultures, another indicated that the outcomes were very positive as they learned about other cultures and the third student did not make any further comments.

The majority of students answered positively (Agree) on the way the different instructions and guidelines were helpful in understanding the tools and features, agreed that the platform contributed to enhancing and facilitating the delivery of the course objectives, and generally enjoyed using the platform. Although not completely disagreeing, questions about the platform being self-explanatory or whether the guidelines on the platform were helpful in troubleshooting technical challenges, had an equal number of Agree (7) and Neutral (7) responses. This refers to the functionality of the platform, which although providing students with an intercultural experience, faced some structural and technical issues.

It is important, at this point, to note that from part 3 onwards, one of the students did not provide any answers to the questions. Regarding 'The Instructional Material/lectures/tasks' part, the majority of students 'agreed' that the different features and tools on the ReDesign platform were used effectively to expand opportunities for collaboration between students and instructors in different academic institutions, to immerse students into a collaborative community and multimodal environments, and to boost their motivation to learn and develop a better understanding of the subject. Finally, students reported that the several supplementary platforms, such as Moodle, Blogs, the Blackboard System, complemented the delivery of instructional materials.

In part four, 'The Methods of Communication', almost all participants (11/14) agreed that the communication means, such as text chat and voice chat, facilitated interaction with their peers at distant academic institutions, as well as interaction with their instructors. Additionally, such methods of communication facilitated the exchange of information, collaborative tasks and activity completion and students maintained their focus on the activities.

Finally, the last closed-ended part, 'Collaboration/Intercultural Understanding' was composed of questions that elicited answers on students' development of intercultural collaboration and awareness. Three students 'strongly agreed' and ten students 'agreed' that the instructional materials and activities promoted intercultural collaboration. A high of eight students strongly agreed that the collaborative activities promoted intercultural understanding. Additionally, the majority of students felt part of an extended community of learners by being involved in this telecollaborative practice. A surprising number of 12 students strongly agreed that the feedback and designed assessment activities clearly reflected the learning objectives, which points to the clearly defined and specified objectives relating to activity design. Finally, 11 students agreed that these interculturally-laden activities positively contributed to their learning of the subject.

Various linguistic and intercultural gains were also noted in the open-ended questions of the ReDesign questionnaire. For example, when asked in what ways these multimodal learning experiences contributed to expanding their knowledge, students answered that there was exchange of information about their own and the others' cultures, they could process information more easily, they managed to advance their knowledge in the subject, and they became exposed to other students' opinions and way of thinking. Linguistic gains reported from the students included enrichment of vocabulary and grammar skills, and a considerable amount of students also reported that their critical thinking skills had improved. Finally, one student reported that she particularly liked the multiplicity of teaching methods used in contrast with the traditional single delivery method. One student reflected that this course, which was completely different in methodology from the rest of the courses being taught at the university, allowed her to express her ideas about different topics and develop her critical thinking skills. Moreover, it was reported that apart from academic gains, students had had the opportunity to bond with other students through this kind of activity. Some students were encouraged to adopt their peers' writing style or ideas on what to post after reading the other students' posts. Furthermore, students realised that they even shared some cultural artefacts. Particularly challenging in these exchanges was the making of the videos as part of their activities, the AR activities they had to carry out, and the students' impression that they had to be fluent in English as they were interacting with students studying in the UK. Nine out of 14 students reported that the interaction with other students from other countries and cultures was what they enjoyed the most from this experience. Students suggested that the design of activities that would involve students' collaboration towards reaching a goal would enhance the telecollaborative exchange. Additionally, as a suggestion for improvement, most of students reported that the platform should be accessible on mobile devices. The tools and features of the platform that were deemed more enjoyable were its interactivity and simplicity. Students also recommended the use of additional videos as a way to enhance the intercultural collaboration between the students of the two academic institutions.

> *5.3. Research question 3: How can faculty members utilise the newly designed platform to enact affordances for collaboration, learning, and knowledge development among students in different academic institutions and geographic locations?*

The relentlessly accelerating diffusion of digital technologies and the ubiquitous availability and use of such communication systems have rendered the need for integration of such systems into higher education institutions imperative. Practitioners and students are provided with the possibility to create eco-systems of collaboration, and learning opportunities and intercultural collaboration can be tremendously expanded. To remain relevant and updated, the online curriculum content needs to be subject to *continuous revision and improvement*. New, emerging curricula and evolving technologies can greatly enhance the content of the online platform for digitally-afforded, intercultural collaboration.

The newly designed platform brings added depth to second/foreign language teaching and extends beyond these trajectories to fit in a diverse array of teaching contexts. The ReDesign platform has already been integrated in multiple teaching contexts, but there are concrete plans on using it further. As a platform that is built on reframed notions of communication that need to be firmly anchored in higher education priorities, it may be utilised by several researchers/practitioners that wish to undertake intercultural communication projects among students of the same disciplines across different academic institutions and geographic locations.

University professors may engage in finding *common grounds* in the curricula and enact collaborations that would otherwise be deemed impractical. The platform offers students and faculty an opportunity to share their curricula and identify common grounds in their disciplines. In doing so, each faculty would need to determine specific areas of interest for joint activities, the type of technology that would be used during the course, the students' learning needs, the official start and end dates, and other project-related constructs.

The selection of common curricula grounds from the instructors of each discipline will lead to the design, preparation, and delivery of collaborative, content-based material that will be uploaded to the ReDesign platform. In this case, a team of highly experienced researchers exchanged their expertise for the redesign of lectures and activities in ways that would immerse students in constructive, digitally-afforded learning experiences. A meticulous examination of the *syllabi* of each Applied Linguistics course, *students' individuals and collective needs*, and *common areas of expertise and interest* was conducted during the identification of common grounds. Specifically, it was decided that the common areas in the curricula need to promote: joint lectures (mediated by the platform and other Web 2.0 technologies), joint reading materials, joint assignments, collaborative activities designed to promote intercultural collaboration, joint tasks, joint use of the platform and other Web 2.0 technologies and augmented reality (AR), deep learning, multimodal learning experiences, and improved academic performance. These activities were meant to be integrated among students in different academic institutions and geographic locations within the same area of expertise. Further, it was deemed critical that the *digital platform be assessed by the consortium partners* in order to determine whether additional tools and features needed to be added to enhance its interface and user-friendly content, and to promote further collaboration among students and faculty members that participate in the consortium.

The platform can be utilised to enact joint projects among future ESL teachers. To be more precise, instructors can become engaged in designing lesson plans where different technologies, such as AR, form an integral part of the lesson. Teachers will, thus, acquire expertise in devising *online lesson plans* and the platform will serve as a venue for promoting *students' competency in educational technology and teaching/learning skills development*.

By utilising the platform, practitioners can promote intercultural collaboration between students that would not have taken place without the advent of technological online platforms that afford communication and exchange. In other words, the platform expanded the trajectories for collaboration among faculty and students in transnational collaborative endeavours. The ReDesign platform engages students in *active learning* with instructional materials and access to a wealth of resources that can facilitate the adoption of research-based principles and best practices from the learning sciences, an application that might improve student outcomes without substantially increasing costs. The platform can engage students in *critical learning* through *hands-on experiments, collaborative discussions and joint tasks*. The platform offers a system where joint lectures can be viewed, but at the same time the features of social networking sites are integrated for learning purposes. Additionally, the ReDesign platform may provide a venue to observe lab experiments in different countries. Although this is more relevant to STEM disciplines, future ESL teachers can practice such endeavours through CLIL (Content and Language Integrated Learning), content-based or task-based learning and other related methodologies.

Practitioners may promote *multimodal learning experiences* through the use of multiple modalities, such as audio, video, and gestures. The new ReDesign platform expands the modes of presenting and discussing complex concepts in ESL. The ReDesign platform involves markers, images that are hard-coded into the system and trigger some kind of action, such as displaying text, illustrating an image, playing a video or sound clip. These black and white square, printed objects, the so-called Quick Response (QR) codes, are easily recognised by an application. Such *QR codes* can also be printed in textbooks to enrich and supplement the learning activities by adding a multimodal perspective to communication or knowledge acquisition. Students can view posted lectures simply through the use of the QR code, thus promoting active learning outside the four walls of a classroom or the locational constraints of a desktop computer. Additionally, the platform offers a new path for using technology to explore and experience complex concepts, i.e., through AR applications that have been developed by researchers-educators and IT professionals. For example, difficult to grasp concepts in each discipline are presented to students via AR (Vuforia AR software) in a more enjoyable, comprehensive and holistic manner for the needs of today's tech-savvy generation.

6. Conclusions and future steps

The ReDesign project was undertaken with the aim of designing a platform that accommodates today's societal and workforce needs for intercultural communication and digital skill development among ESL student teachers. Further, the project aimed to bring together a team of experienced researchers to enact opportunities for collaboration among instructors in order to foster knowledge development among students in different academic institutions. The tasks that needed to be delivered during the ReDesign exchange included the design of digitally-afforded collaborative activities, joint lectures, content-based material, intercultural exchanges, and other learning activities in multimodal learning environments.

This study set out to examine the design of the platform, featuring several Facebook tools and features, the students' impressions from the use of the platform as a mediating tool for intercultural collaboration with distant partners, and the potential of the platform to be further used for future collaborative projects. Although not all data have yet been collected and analysed, the analysis of the students' questionnaires points towards students' satisfaction with the learning platform and their improvement in intercultural and linguistic gains as noted in several other studies that used Facebook or other platforms for intercultural collaboration. The interactivity and simplicity of the platform appealed to the students, probably because of its striking resemblance to the social platform Facebook, with which students were already familiar. The most frequently reported caveat of the platform was the inability to be accessed from a mobile device. It should be noted, however, that all pitfalls and challenges are being discussed and tackled by the consortium expert partners and concrete steps for improvement of the platform for a more productive intercultural learning experience are currently being carried out.

The ReDesign platform expands learning beyond the traditional LMSs in ways that enable practitioners to enact new opportunities for learning in online contexts that students have not experienced before. Further plans and future steps of the project entail a follow-up of the feedback received from participating students this semester to add additional features to the ReDesign platform and enhance its pedagogical potential. Additionally, evaluation and modification of the platform tools based on feedback and suggestions, and evaluation and modification of educational materials to meet students' needs will take place. Future plans of the ReDesign platform include extensive use of AR applications, such as the use of AR-afforded scenarios to illustrate important concepts in Applied Linguistics. Further, additional joint tasks will be enacted for several courses the upcoming academic year. New online lectures and interactive learning materials will be planned and designed for the purposes of the project in order to launch transnational intercultural telecollaborations among students in the discipline of ESL teacher education.

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