

# **English for Specific Purposes Teacher Education: Connecting, Collaborating and Developing Through the Use of Technology**

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## **Abstract**

Technology has significantly influenced all fields of language pedagogy including English for Specific Purposes (ESP). Research in this area has been extensive with many studies focusing on the integration of different technology tools in the teaching and learning process (Kakoulli Constantinou & Papadima-Sophocleous, 2020). The exploration of the use of technology has become more intense after the COVID-19 pandemic. Nevertheless, research in the integration of technology in ESP teacher education is limited thus far. This paper aims at elaborating on the importance of using technology in ESP teacher education as reflected in the results of a technical action-research study which aimed at addressing the neglected need for ESP teacher education among a group of 24 language instructors from different parts of the world; this was achieved through the design and delivery of an online ESP teacher education programme and eventually the formulation of an online community, based on the theories of social constructivism (Detel, 2001) and connectivism (Siemens, 2005). Following the spiral processes of technical action research, the study unfolded in two cycles, each of which consisted of a series of processes and steps. The study employed a mixed-methods approach to data collection and analysis, even though the data collected were mainly qualitative. The results of the study showed, among other things, the importance of including technology in ESP teacher education both in the syllabus of ESP teacher education programmes and in the delivery of these programmes.

## **Keywords:**

English for Specific Purposes (ESP), Teacher Education, Social Constructivism, Connectivism, Google Workspace for Education

## **Introduction**

The transition to the Fourth Industrial Revolution at the beginning of the new millennium has brought about developments that have affected all areas of life. Building on advancements such as the Internet, robotics, artificial intelligence, the 3D printing and more, this era is characterised by “a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres” (Xu et al., 2018: 90). Education has not remained unaffected by this progression. Integration of technology in the learning and teaching processes is now a reality in most of the developed countries of the world. Technology is also an integral component of Teacher Education (TE) nowadays not only in terms of the way TE programmes are being delivered, but also in terms of the inclusion of digital literacy skills in the curricula of such programmes. Language TE, and more specifically English for Specific Purposes (ESP) TE, is an area that remains to be explored, since research in the field is very limited (Bocanegra-Valle & Basturkmen, 2019; Papadima-Sophocleous et al., 2019;). Despite the fact that more research in ESP TE is needed, following the latest developments in the

theories of learning and TE and exploring the qualities of an ESP practitioner nowadays, it is evident that the integration of technology in ESP TE should not be considered a luxury but rather a necessity.

This paper focuses on the use of technology in ESP TE drawing on the results of a technical action-research study which aimed at addressing the neglected need for ESP TE among a group of 24 language instructors from different parts of the world. The study involved the design and delivery of an online ESP TE programme which led to the emergence of an online community of practice (CoP) dedicated to issues pertaining to ESP teaching and learning. The paper places emphasis on the significance of including technology in ESP TE both in the syllabus of ESP TE programmes and in the delivery of these programmes.

## **Literature Review**

### ***Language Teacher Education today***

TE is of paramount importance for all educational subjects and levels. Describing the characteristics of a competent teacher, Hansen (2008) emphasises how important the role of teachers is, as they need to prepare students for a continuously changing world with economic, social, technological and environmental complications. Thus, teachers of every kind / from all scientific disciplines need to receive the necessary education that will provide them with all the essential qualities to become competent teachers and professionals in their fields. Language TE is the term used to describe the process of learning how to teach, which language teachers embark on (Borg, 2011). This subfield of TE has been influenced by the developments occurring in the general field of TE; the different learning theories that emerged through the years have generated different TE models that have affected language TE.

Nowadays, theories of learning tend to embrace more social and interactive approaches, pushing aside theories based on more individualistic approaches, such as behaviorism and cognitivism. Amongst the most influential learning theories today are social constructivism and connectivism. Social constructivism, introduced by Vygotsky (1978), suggests that learners create or construct knowledge through the interaction of their past experiences and what they already know and the ideas, experiences and activities with which they come in contact, in other words their social surroundings (Richardson, 1997). Learning is achieved through active participation in social interaction, and students learn best when they collaborate and when they are engaged in problem-solving situations. Similarly, connectivism, which was introduced by Siemens (2005), stresses the importance of networking in the discovery of knowledge. For connectivism “knowledge is actuated through the process of a learner connecting to and feeding information into a learning community” (Kop & Hill, 2008: 1).

These theories of learning have influenced language TE both in terms of what it may involve and how it may be delivered. Building on the principles of social constructivism and connectivism, language TE needs to promote communication, interaction and collaboration between the trainees, and between the trainees and the facilitator, and it also needs to be

founded on the idea of creating professional networks. Today language TE trends favour a sociocultural model of TE (Franson & Holliday, 2009), according to which teacher trainees are viewed as social beings, influenced by the social context for the acquisition of new knowledge. This perspective stresses the importance of professional networks and the creation of communities of practice (CoPs), where novice teachers interact with experienced teachers and through meaningful cooperation and collaboration learning is achieved. According to Wenger and Trayner-Wenger (2015: 1), “[c]ommunities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly”. These may be online professional communities which are engaged in regular online quests for knowledge that help them gain valuable insight on issues related to their profession. Another approach to language TE that is becoming increasingly popular is critical language TE. This trend results from critical pedagogy, which is concerned with social action and educational change (Hawkins & Norton, 2009). The main aim of critical language TE is to promote teachers’ sensitivity for social equality and justice. Apart from sociocultural and critical TE models another model which still remains popular is the reflective TE model (Wallace, 1991) based on constructivist theories and experiential learning. Researchers today still recognise the merits of reflection which involves in-depth engagement in the learning process (Ramsden, 2003; Anderson, 2020). Despite the fact that these are the prevailing trends in language TE today, Maggioli (2012) asserts that these TE models are not mutually exclusive; they can complete each other instead.

Playing a vital role in our everyday life for the last decades, technology constitutes an integral part of the language teaching and learning processes in developed societies. Smart technology and numerous tools such as Facebook Messenger, Facetime, WhatsApp, Viber, Zoom, Skype to name a few, have changed the way people communicate today. Technology has revolutionised interaction making it easier, faster and less costly. Being a part of everyday reality, technology needs to hold a central role in any TE endeavour, both in terms of being included in the syllabus and in terms of the way TE is delivered. Bakir (2016), Davis (2003), Sprague (2004), Borthwick and Hansen (2017) and others argue in favour of technology being used as an integral part of TE. All these have an immediate impact on language TE research, which is becoming more intensive through the years (Guo et al., 2019; Luke & Britten, 2013). Researchers (Kessler & Hubbard, 2017; Shin & Kang, 2018) emphasise the different ways technology can be used in language TE and the plethora of tools which can be utilised for this purpose. Through technology, language TE can be on-site, blended or online with the principles of the latest theories of learning being put into practice. The development of online distance learning via Massive Open Online Courses (MOOCs) has brought about a shift in TE, as peer support and social networking are at the heart of the educational process. MOOCs have created new dynamics and potentials for both students and educators representing a new stage in distance learning and self-directed learning (Manning et al., 2014).

The developments in the field of TE in general, and language TE in particular, have an impact on ESP TE, despite the fact that research in ESP TE still has a long way ahead.

### ***English for Specific Purposes Teacher Education***

Since its appearance in the early 1960s, ESP has been continuously developing, and today it has become one of the most important fields of language education with the numbers of ESP courses increasing worldwide and research in the field constantly growing (Hyland & Kevin, 2021). ESP, as the name denotes, involves specialised language, and it bears some “absolute” and “variable” characteristics (Dudley-Evans & St. John, 1998: 4). These characteristics are what differentiates the field from General English (GE). The fact that ESP deals with discipline related issues, language, skills, discourse and genres, makes teaching ESP more complicated than teaching GE. The field is constantly evolving, nevertheless, opportunities for ESP TE are still very limited. The need for ESP TE is evident in publications released two decades ago (Bell, 2002; Bojović, 2006; Sifakis, 2005) as well as more recent publications such as the edited volume *ESP teaching and teacher education: current theories and practices* (Papadima-Sophocleous et al., 2019). In this volume, this intense need for more ESP TE as well as more research in the field is expressed by both the editors of the volume as well as researchers that have published their research as part of the volume (Aleksić-Hajduković et al., 2019; Kırkgöz, 2019; Zareva, 2019).

Drawing on the developments in the general field of TE, ESP TE today could be built on contemporary theories of learning, such as social constructivism and connectivism and be inspired from sociocultural TE models with elements from other TE traditions, especially the reflective model of TE and critical pedagogy. ESP TE needs to equip ESP practitioners with the tools needed to continue developing professionally, even after the completion of any formal TE programme; in other words, it should aim at lifelong professional development. As with every other aspect of education, it needs to cater for ESP practitioners’ needs and be context-driven, providing for practitioners in their own educational contexts. Based on the specialised nature of ESP, ESP TE needs to embrace all the aspects of the ESP discipline, such as theoretical aspects of ESP, the role of needs analysis, the importance of authenticity and the multifaceted role of the ESP practitioner. Despite the fact that existing research can help in the formulation of certain guidelines for ESP TE, no strict formulas can exist, as each group of ESP practitioners or future ESP practitioners has its own needs, characteristics and dynamics. Pre-packaged courses designed for massive numbers of participants cannot satisfy the needs of the contemporary ESP practitioner (McMorrow, 2007).

Nowadays, the vast majority of ESP TE courses are optional modules which are part of MA or M.Ed. programmes in language teaching, and they require physical attendance most of the times. Even though the quality of these programmes may be of no doubt, the reality is that most ESP practitioners are still GE teachers who are requested to teach ESP at some point in their careers, with no specialised training in ESP. ESP practitioners today prefer flexible solutions outside the bounds of formal university education in order to develop their practices. Such solutions could involve the creation of networks (Bojović, 2006; Duyen, 2014) and CoPs that foster collaboration between novice and more experienced teachers (Da Silva et al., 2017). Short blended or online courses constitute another option that allows practitioners to connect and collaborate while maintaining their job positions (Chostelidou et al., 2009; Kakoulli Constantinou & Papadima-Sophocleous, in press). Such options provide the opportunity to practitioners from different parts of the world to form networks and build knowledge through interaction; they can meet the needs of practitioners better and they may be regarded as more compatible with the latest TE models. In any case, technology can play a major role in ESP TE today with many Information and Communication Technology (ICT)

tools being integrated in the educational process (Kakoulli Constantinou & Papadima-Sophocleous, 2020).

This study draws on the lack of opportunities for ESP TE built on contemporary TE models as well as on the need for more research in the field.

## **The Background of the Study**

The study was inspired by the researcher's personal story as an ESP practitioner. Being a GE teacher, acquainted with the ESP field only in the context of her MA in Applied Linguistics studies, the researcher faced challenges when she was requested to teach ESP for a variety of disciplines in Higher Education. Through coming into contact with other ESP practitioners in HE, the researcher soon realised that the vast majority of her colleagues faced similar difficulties mostly related to the specialised nature of ESP. Through the years, the researcher was engaged in a process of continuous professional development which involved conducting research, attending conferences, symposia, workshops and other events focusing on ESP, becoming a member of different professional organisations, learning about new developments in the field and sharing experiences with colleagues from different parts of the world, and even pursuing a PhD in ESP.

The challenges faced by the researcher and other ESP practitioners were also reported in the literature which stressed the need for more research in the area of ESP TE and more ESP TE opportunities. ESP practitioners or language teachers who wished to pursue a career in ESP needed the appropriate education that would equip them with the necessary tools to respond successfully to the demands of the multifaceted role of the ESP practitioner.

This need for more ESP TE opportunities was the impetus for this study.

## **Research Methodology**

### ***The study design***

This was a technical action research study designed at the Cyprus University of Technology aiming at addressing the need of a specific group of language instructors for ESP TE. The researcher acted as the designer of the intervention (Grundy, 1983: 25), which would serve as a potential solution to the problem that this group faced. The iterative nature of action research was regarded as the most suitable for this context, as it would allow the continuous improvement of the intervention and the continuous development of both the language instructors and the researcher.

The study was conducted in two phases, two research cycles. In the first cycle, the problem of insufficient ESP TE was identified through an extensive study of the literature in ESP TE and through reflecting on the researcher's own experience as an ESP practitioner. A group of 24 ESP practitioners and English language teachers who lacked ESP TE or who wished to update themselves on issues pertaining to ESP was assembled. As a solution to the problem of lack of ESP TE the group faced, the researcher, following the principles of technical action

research, designed an intervention, an ESP TE programme, the ReTEESP Online, the name of which stood for Online Reflective Teacher Education course in ESP. The course was implemented during the period February 26 – April 8, 2018, after its pilot implementation (Kakoulli Constantinou et al., 2019), and data were collected by both the participants and the facilitator while the course was running and after the completion of the course. After reflecting on the course, the data gathered were analysed and conclusions were drawn which led to the second research cycle. The second cycle commenced with a refinement of the course based on the feedback obtained in the first research cycle. The changes that were made in the course were introduced to 14 language instructors of the same group of participants through the implementation of a sequel course, ReTEESP Online: The Sequel, in May 20 – May 31 2019. As in the first research cycle, the participants and the facilitator reflected on the programme, and based on the data gathered, the last conclusions for the refinement of the programme were drawn.

### ***The purpose of the study***

The study aimed at providing a remedy to the problem of lack of ESP TE amongst a group of ESP practitioners across the globe outside the bounds of formal university education. This would be achieved through the design of an online ESP TE course based on the latest TE models and principles of ESP that fostered collaboration, networking and reflection. The online course would provide them with the appropriate conditions to interact and build knowledge related to the ESP field.

### ***The participants***

A total of 24 English language educators from different countries participated in the study. All the participants were informed about the purposes of the study from the beginning, and their consent was obtained in all phases of the study. The participants' common characteristic was their wish to receive education on issues related to ESP teaching. They had either received no training in ESP or/ and were not satisfied with the training they received or/ and wished to develop their ESP practices/ update themselves on the latest developments in ESP. The group of the 24 participants in the study was formed after the researcher had placed a call on social media for participation in an international community comprised of ESP practitioners or English language educators who wished to receive TE on issues pertaining to ESP teaching. Table 1 describes the participants' profiles.

[TABLE 1 NEAR HERE]

It is worth noting that the majority of the participants had previously attended an online course, therefore, they had some experience in this sort of training. Nevertheless, as far as Google Workspace for Education was concerned, the package of tools used for the delivery of the course, most of them were slightly familiar with Google Classroom and moderately familiar with Google Drive, the main tools used during the course. Therefore, it was clear that they would need help with the technologies used during the course. Furthermore, the ESP

practitioners that participated in the course taught a variety of ESP courses (35 different courses), ranging from Business English to English for Fashion and English for Furniture Design; this indicates how popular ESP is today.

### ***The intervention and the technologies employed***

As a solution to the lack of sufficient ESP TE the group of the 24 language instructors faced, this study proposed an intervention in the form of an online ESP TE programme, named ReTEESP Online. The course was online first of all, because the participants were scattered in different parts of the world. The researcher strongly believed that receiving ESP TE as part of an international group and having the opportunity to exchange views on practices with colleagues from other educational backgrounds would be more beneficial for the participants than being limited to local context. This would also comply with the principles of sociocultural TE and critical pedagogy which emphasis social and intercultural awareness in the TE process. Furthermore, another reason that led to the design of a course that would be offered online was the need for professional development tailored to teachers' busy schedules, that draws on valuable resources not available locally, and that provides support to teachers in their own contexts (Dede, 2006). The idea was to create a custom-made programme, catering for specific needs of professionals. The design of the course was based on the following:

- (1) A literature review in the fields of ESP and ESP TE, including learning theories and TE models and principles of efficient online TE (Henry & Meadows, 2008). In other words, the course adopted a social constructivist and connectivist perspective to TE, taking into account the social context in which the ESP practitioners operated and being based on discussion and a constant exchange of ideas, collaboration and networking. The course was based on sociocultural TE models with elements from other TE traditions, especially the reflective model of TE and critical pedagogy. It also adopted a “practising what you preach” approach (Wallace, 1991), as the techniques and methods of instruction used in the course could be used by trainees in their language classrooms.
- (2) The needs of the language instructors participating in the research in terms of ESP TE.
- (3) A backward approach to curriculum design, as this was described by Wiggins and McTighe (2005). According to this framework, course designers first decide on the desired results and then specify the content and methods of the curriculum.
- (4) The pilot implementation of the course (Kakoulli Constantinou et al., 2019).

The course was delivered online through Google Workspace for Education (G Suite for Education at the time), YouTube, email, Skype, Zoom, Facebook, Messenger and Doodle, and the modes of instruction were interactive online lectures, online discussions, independent reading/ writing/ listening, independent research, individual and collaborative online work and continuous individual and collaborative reflection.

Google Workspace for Education was considered to be appropriate for the delivery of the course, since it was cost effective, convenient, practical, flexible with high scalability (González-Martínez et al., 2015), while minimal infrastructure was required; only an electronic device with access to the internet and reliable internet connection. Therefore, it could be easily utilised by teachers who could not have access to specific software or Learning Management Systems (LMSs) that required specialised equipment. The Google Workspace for Education tools that were used for the delivery of the course were the following: Google Classroom was the platform used for classroom management purposes, where all the instructions and material for the course were uploaded and **where** tasks were submitted and discussed. Google Drive was the space where the teachers and the facilitator saved and shared the material for the course and collaborated. The fact that the teachers could share documents and work both synchronously and asynchronously on them using features such as the “Chat” or “Comments” on the documents fostered communication and interaction and therefore allowed for social constructivist and connectivist learning to occur. Google Docs were used for the creation of documents and collaboration and cooperation and Google Slides were used for the creation of presentations. Google Forms were used for registering the participants in the course and for the creation of questionnaires and quizzes, and finally, Google Sites were utilised in order to create a website for the course (<https://sites.google.com/site/reteesonline/home-1> ).

[FIGURE 1 NEAR HERE]

YouTube was also used for sharing videos with interesting material during the course, which could be easily embedded in Google Classroom. According to Szeto and Cheng (2014), YouTube is one of the most common Information and Communication Technology (ICT) tools used in education with many affordances. Because of the fact that it has become extremely popular among users, it covers a wide range of topics including teaching methodology issues. The teachers’ personal email accounts were used for communication purposes, and Skype was the tool used for teleconferencing, mainly to deliver webinars/ tutorials, and also at the end of the course for the focus groups/ interviews. Because of the fact that it was difficult to find a common time among all the teachers for synchronous communication, webinars and tutorials took place with teachers being divided in small groups. Skype is an audio and video calling tool, easily accessible from all electronic devices with internet access, which is used for free and which has many capabilities for education, as Hashemi and Azizinezhad (2011) argue. In stage 2 of the study, Skype was replaced by Zoom, because it was more easily accessible by the participants.

Based on previous research which focused on the numerous benefits from the use of Facebook in the educational process in general and TE in particular (Dogoriti et al., 2014; Yildirim, 2019), a private group named “ReTEESP Online: An Online Reflective Teacher Education Course in ESP” was created on Facebook. The group was used for sharing ideas, news, events, articles and good practices, communicating and establishing a team spirit. The group aimed at providing more interesting learning experiences to the participants (Balcikanli, 2015) and also support and strengthen the network, the learning community that



was created (Dogoriti et al., 2014; Yildirim, 2019). Facebook Messenger was used for communication purposes, in case the teachers faced difficulties and wished to contact me more directly. Communication via Messenger was easier and quicker, since the majority of teachers had Facebook accounts, and they used Messenger in their everyday life. Finally, Doodle, a scheduling software for booking meetings, was often used to invite participants to choose among the proposed times for Webinars.

[FIGURE 2 NEAR HERE]

For more details regarding the course curriculum and how this was designed, readers may refer to Kakoulli Constantinou and Papadima-Sophocleous (2021).

### ***The research tools and data analysis***

At the beginning of Stage 1, an online questionnaire designed on Google Forms was administered to the participants in order to obtain information regarding their profiles as language educators, their qualifications, previous teaching experience and their needs in terms of ESP TE. The questionnaire was comprised of 19 items in the form of closed-ended questions (Multiple response and Likert Scale) and open-ended questions. During the course, data were also obtained from the facilitator's field notes, the reflective journals which participants kept, and also the comments that were posted on Google Classroom, the platform that was used for the delivery of the course and a group discussion on Messenger. Finally, upon completion of the course in both phases the participants expressed their views on the course through focus groups or interviews (in cases where it was not possible to participate in focus groups due to practical constraints).

The quantitative data obtained from the online questionnaire were analysed using IBM's SPSS 22 software. Qualitative data were analysed thematically using NVivo 12 software for qualitative data analysis. In order to secure validity and enhance credibility, the coding process was repeated by an external researcher. Cohen's kappa test (1960) was run to determine inter-rater reliability, and the results showed that there was substantial agreement between the two coders in both stages:  $k = 0.67$  in Stage 1 and  $k = 0.62$  in Stage 2, according to Landis and Koch's, (1977, p. 165) agreement measures.

## **Results and Discussion**

The qualitative analysis of the data obtained from the facilitator's field notes, the reflective journals which participants kept, the comments posted on Google Classroom, the discussions on Messenger, focus groups and interviews yielded many thematic categories which were mainly related to the participants' characteristics, the course experience and suggestions for the improvement of the course. As aforementioned, this paper concentrates on the technologies used for the delivery of the course, therefore only the results pertaining to that aspect of the course will be discussed in this section.

### ***General views about the course***

In general, the teachers and the course facilitator spoke positively about their experience with the course in the first stage of the study, stating that they enjoyed it and regarded it as a very interesting experience (n=6, 25%), well-prepared and highly organised (n=4, 16.66%), informative and useful (n=4, 16.66%), enriching (n=1, 4.16%), enlightening (n=1, 4.16%), rewarding (n=1, 4.16%), helpful (n=1, 4.16%), fun and great (n=1, 4.16%). After the completion of the second stage of the study, the participants who managed to complete both stages of the course (n=9, 37.5%) appeared very pleased with it, noting that generally it was a successful endeavour and that the combination of the two parts was efficient.

Amongst the positive aspects of the course, participants mentioned the course materials and the ways it was presented (through live sessions, Power Point Presentations with audio support, documents created by the facilitator, articles) (n=15, 62.5%), and they were happy to hear that this material would be available even after the completion of the course.

### ***The technology tools***

The use of technology was viewed positively by the participants and the facilitator, despite the fact that minor technical difficulties **that (omit the word?)** were encountered. Two of the teachers that had not easy access to a computer found the Google Classroom mobile application very useful. Generally, teachers were pleased with Google Classroom (n=12, 50%) and Google docs. One participant stressed the collaborative aspect of Google docs and the practicality of cloud technology. These findings were compatible with previous research conducted on the use of the Google Workspace for Education (Brown & Hocutt, 2015; Liu & Lan, 2016). Other participants praised the affordances of the closed Facebook group (n=11, 45.83%), even the ones that considered themselves as less familiar with technology. It is worth mentioning that all the teachers agreed with the idea of keeping the group active after the completion of the course. One of the teachers suggested that the group became public so that other language teachers could join.

Another positive aspect of the course was the fact that all the 17 teachers who completed the first stage of the course identified technology tools that they could employ in their own teaching. In other words, the “practising what you preach” approach, as supported by Wallace (1991), which the course had adopted since the beginning, was recognised by the participants. Amongst the tools that teachers said that they would adopt were Google Classroom (n=5, 20.83%), some other technology tools (e.g. Cmaps, Kahoot) (n=5, 20.83%) and Google Drive (n=3, 12.5%). After the completion of the second stage of the study, teachers referred to acquisition of knowledge related to technology and its use in ESP (n=7, 50%), and more specifically VR (n=3, 21.42%), serious gaming (n=3, 21.42%), tools such as Quizlet, Expeditions, and the use of Twitter in ESP (n=2, 14.28%), cloud technologies such as the Google Workspace for Education (n=2, 14.28%) and its website creator (n=1, 7.14%).

With regards to the challenges faced with technology, these were mostly of practical nature, such as problems with logging in Google accounts (n=2, 8.33%) difficulties in connecting to Skype, which were faced through offering the webinars more than one times or record the webinars so that everyone would have the chance to watch them. In the second stage of the

study, Skype was replaced by Zoom. Some teachers also faced challenges with Google Classroom. More specifically, six teachers (25%) mentioned that they came across some kind of difficulty, at least one time with Google Classroom, with one of them saying that she did not like the interface (4.16%). Problems faced had to do with not being sure whether an assignment was submitted, figuring out how the platform worked and finding their way around Google Classroom mobile application. As far as Google Drive was concerned, three participants had difficulties with finding the folders shared with them at the beginning (12.5%).

With regards to the Facebook closed group that was maintained for the course, this was generally well-accepted by the participants. Two of the participants however (8.33%) did not have a Facebook account, because they considered Facebook as a tool purely for social networking that could not be used on a strictly professional basis. These two teachers did not wish to create Facebook accounts, and this was respected by the facilitator. Nevertheless, recognising the value of social media in learning nowadays and in the creation of bonds between online community members (Dogoriti et al., 2014; Yildirim, 2019), the facilitator decided to maintain the private Facebook group, despite the decision of the two teachers not to participate in it.

### ***The building of a CoP***

Another positive aspect of the course was the fact that during the course a sense of belonging to a CoP, as defined by Wenger and Trayner-Wenger (2015), was developed. The findings of the study showed that the teachers enjoyed the benefits of working with each other online, “interacting regularly” and being involved “in a process of collective learning” (Wenger & Trayner-Wenger 2015, p. 1). During the course, participants started connecting with each other. This was expressed many times during the course, but mostly in the last Webinar, where most of the teachers and the course facilitator felt like they knew each other, and we had to say goodbye to colleagues with whom we had been working intensively for the past six weeks (n=15, 62.5%).

These are some extracts which show how participants felt:

*Teacher 14: I just want to say it's nice to be here and thank God for technology that gets people together like that. I really appreciate the effort you have brought up front, [the teacher mentions the name of the facilitator here]. And I believe it takes a lot of courage. You know, I've been trying to do this myself for the last fifteen years but up until now I didn't go through it, so this is a great thing to happen.*

*The group discussion was very useful, because we had the chance to exchange ideas and learn from each other. I liked my colleagues' enthusiasm and willingness to make comments and offer help. In general, I liked the feeling of 'belonging' to a group of people who share more or less the same concerns as me and are willing to share good ideas. (Extract from Teacher 18's reflective journal)*

During the course, especially towards the end of the course it was noticed that there was also a development of relationships of a more personal nature between participants themselves and between the participants and the facilitator (n=6, 25%). This was evident in the last webinar when everyone engaged in small talk in the webinar. As the course was progressing, ideas for future collaborations were expressed by the participants. Some ideas were the following: continue exchanging ideas on Facebook or on Google Classroom/ keep the community active (n=7, 29.16%), continue delivering training sessions (n=5, 20.83%), establish an ESP organisation in the region (n=1, 4.16%), organise Erasmus exchange staff visits (n=4, 16.66%), collaborate on projects (n=1, 4.16%), and organise "show and tell" sessions by all the participants (n=1, 4.16%).

Generally, the experience of community building and collaboration during the course was similar to the ones described by Shin and Kang (2018), who consider synchronous group work, virtual face-time office hours and social networking as strategies to enhance engagement and social interaction.

## **Conclusion**

This paper presented the results of a technical action research study the purpose of which was to provide a solution to the need for ESP TE of a group of 24 language instructors from different parts of the world. The paper focuses on the role that technology played in this effort. Based on the latest developments in the field of TE, and focusing on literature pertaining to ESP TE, the paper does not discuss whether technology should be used in language teacher education. The use of technology in ESP TE, and TE in general, is rather taken for granted in the study. Nowadays, technology may prove to be quite useful, as ESP practitioners who wish to receive training in ESP teaching are mostly teachers that cannot leave their teaching positions, and they all come from different parts of the globe. Therefore, technology can foster TE outside the boundaries of formal university education in this sense. To ensure quality, certain parameters need to be taken into consideration, that will guarantee that a course is pedagogically sound and that technology is carefully chosen, and that it is not used just for the sake of using it.

In any case, today's quality ESP TE should not be for the masses, but it should be custom-made to meet the needs of ESP practitioners in their own contexts. This was also a claim made in McMorro's (2007) online forum report, which rejects pre-package TE courses. A course should be flexible and adaptive so that it meets the teachers' needs as they might change during the course. "One size fits all" solutions cannot be effective, especially in online learning, where feelings of isolation and anxiety might easily appear (Gillett-Swan, 2017: 21; Hew & Cheung, 2014). This is something which the iterative circles of this technical action research study confirm; the course underwent a process of constant improvement and evaluation based on the participants feedback and reflections.

The study has some limitations, for example the fact that not all of the participants managed to complete both stages of the course or the fact that the researcher was also the course facilitator. However, this study yields some important findings; it may prove useful to anyone interested in the field of ESP TE. The study bears important implications for ESP teacher

educators or ESP TE course designers. It could also be of interest to ESP practitioners, stakeholders, decision-makers and institutions offering ESP courses in general. Moreover, the study opens the door to more research in the area of ESP TE.

N=24							
Place of Work		Sex		Age		ESP teaching experience	
Greece	37.5%	Male	12.5%	20-29	12.5%	0	29.16%
Cyprus	20.83%	Female	87.5%	30-39	33.33%	1-5 years	29.16%
Saudi Arabia	16.66%			40-49	33.33%	6-10 years	8.33%
Spain	8.33%			50-59	12.5%	11-15 years	16.66%
Sudan	4.16%			No	8.33%	16-20 years	8.33%
United Kingdom	4.16%			response		Over 20 years	8.33%
Egypt	4.16%						
Kosovo	4.16%						
Previous online course attendance		Familiarity with Google Workspace for Education tools					
Yes	70.83%			Google Classroom:	Google Drive:		
No	25%			8.33%	25%		
No response	4.16%			33.33%	33.33%		
				37.5%	25%		
				16.66%	12.5%		
				4.16%	4.16%		

Table 1. The participants

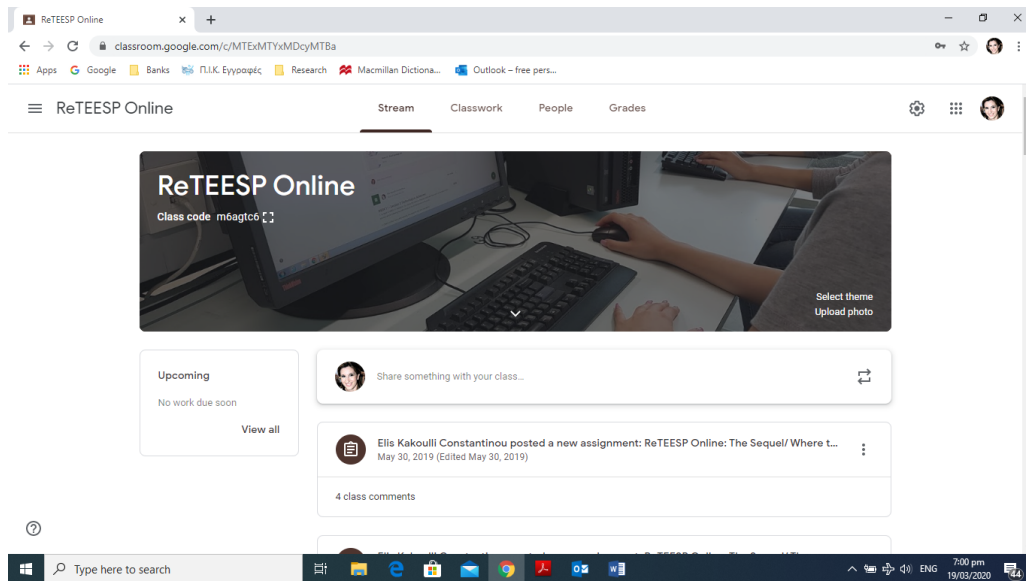


Figure 1. The ReTEESP Online Google Classroom environment

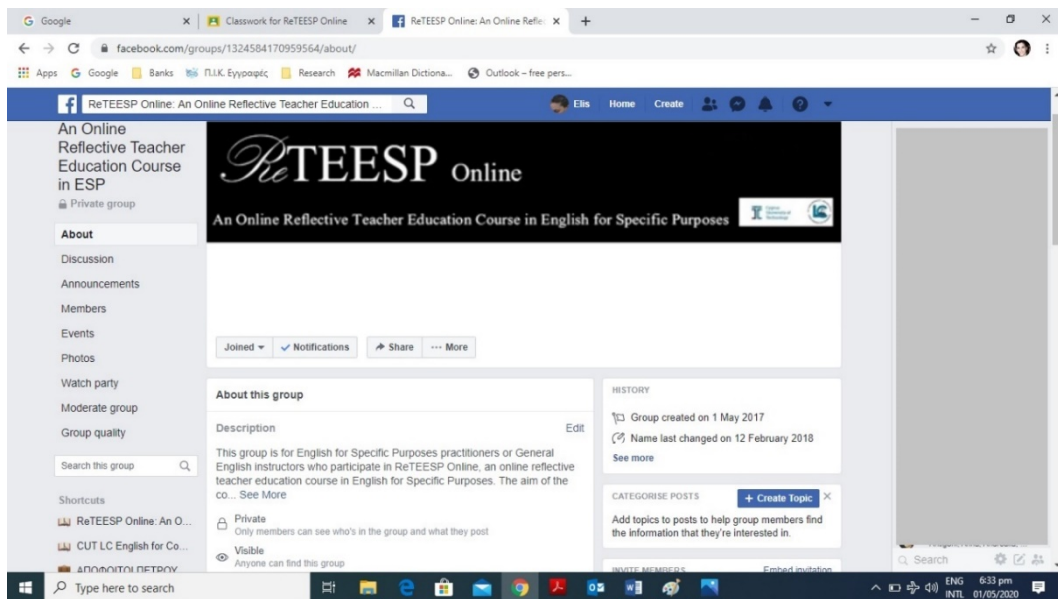


Figure 2. The ReTEESP Online Facebook group

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