TRANSLATOR EDUCATION IN THE CLOUD: STUDENTS' PERCEPTIONS OF TELECOLLABORATIVE EXPERIENCES

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Abstract: *Research results indicate that the ability to perform Computer Assisted Translation (CAT) in a telecollaborative mode is one of the sought-after qualities which translation agencies seek in prospective employees (Bondarenko, 2015). In response to that, a survey study, conducted on postgraduate student translators in an MA blended programme, explored their perceptions of: potential learning gains from telecollaboration, means of reflection on the work performed and the teamwork skills developed, self-assessment modes and the role of a face-to-face introduction to a telecollaboration project. This paper aims to shed light on the issues investigated through the afore-mentioned survey with a view to informing telecollaboration project design in translation courses.*

Keywords: translator education, telecollaboration, cloud computing, CAT

INTRODUCTION

Effective translator education should meet the requirements of the present-day translation market, but, at the same time, it should also be in line with the current educational standards, at large. In other words, contemporary university courses in translation are supposed to respond to two realities: the professional reality in which translators function today and the reality which students are likely to face in present day educational settings.

The international translation market is experiencing growth at an annual rate ranging between 6.23% (DePalma, Hedge & Pielmeier, 2014) and 10% (Pym, 2016). As a matter of fact, this growth rate may be subject to a particular degree of year-to-year fluctuation as reported by the Common Sense Advisory

researchers and analysts but, overall, a steady expansion has been observed over at least the past nine years (DePalma, Hedge & Pielmeier, 2014).

As a result, it is necessary to implement solutions that would help translators cope with an increased amount of work, which can be achieved in two major ways. One is to use tools which permit teams of translators operating from different locations oftentimes over long distances (Gil & Pym, 2006) to collaborate and handle large volumes of documents in the most convenient manner possible (Choudhury & McConnell, 2013). The other way is to automate the translation process (TAUS, 2013), with the aim to reduce the workload on individuals involved in it.

The above-cited realities of the professional translation market can be catered for thanks to the availability of translation technologies, which do not only automate translation at least to a certain extent but also enable multiple parties involved in it, e.g. project managers, translators, reviewers, editors, proofreaders, field experts and clients, to perform effective collaboration (Choudhury & McConnell, 2013), or telecollaboration, i.e. computer-enhanced online teamwork, based on cloud computing solutions, which facilitates the accessibility and usability of translation tools (Acar, 2015). When one combines that with the fact that one of the most sought-after qualities in prospective translators is the ability "(…) to perform computer-assisted translation with the help of translation tools" (Bondarenko, 2015: 34), it is plain to see that translation is clearly shifting towards the use of mobile computer technology, i.e. server-side translation services, and telecollaboration (Mrochen, 2015).

Interestingly enough, trends in translation seem to nicely tie in with those in contemporary education, which also attempts to benefit from the affordances offered by Information and Communication Technology (ICT). The utilisation of ICT for the purpose of education has long been supported by scholars (cf. Prensky, 2001; 2012; Tapscott, 2008), who maintain that digital education not only responds to the needs of learners but also permits learning modes which result in additional learning gains. As a matter of fact, the impact of ICT on educational practices has been so serious that it has led to the emergence of a new discipline named *digital humanities pedagogy* (Spiro, 2012), which, on the one hand, investigates the ICT-enhanced teaching of humanities, while on the other explores how research in humanistic disciplines themselves has been altered, or augmented, by computer technology. As Zappa (2012) envisages, digital education is a trend which is to be maintained at least until the 2040s, with extensive changes predicted as an outcome of the rapid development of ICT.

All in all, both the reality of the professional translation market and that of contemporary education undeniably share the common denominator of the implementation of digital technologies. Consequently, it seems to be only a natural conclusion that if translator education is to be effective in preparing students for the job market, it must involve the technologies and work modes which are most

likely to be required in their professional practices, i.e. cloud computing, translation technologies and telecollaboration, respectively.

That kind of learning is perfectly congruent with Piotrowska's (2005) reflection upon the shape of translator education in Poland, which according to her observations has been gradually diverting from literary translation in favour of interpreting, acknowledging, at the same time, a greater role of technology in order to prepare translators for the demands and challenges of contemporary markets. Piotrowska (ibid.) argues that translator teaching methods need to encompass such techniques and media as modern CAT solutions, online symposia, distance learning, e-learning, virtual learning environments, translation-related forums as well as CAT tools discussion lists. She argues that their introduction into translation didactics is, on the one hand, an inevitable step in the progress of methodological tools, and on the other a necessity in modernising translation teaching. In addition, such training is a realisation of Klimkowski's (2015) postulate that translator education is supposed to simulate real-work conditions through project work, which, in turn, embodies Kiraly's (2000) social constructivist approach. According to Kiraly (ibid.), by building professional competence in a genuine social context of actual translation jobs makes trainee translators more autonomous and empowered, while might be the most effective form of professional development.

1. TELECOLLABORATION AND CLOUD COMPUTING IN TRANSLATOR EDUCATION: LITERATURE REVIEW

1.1 Telecollaboration: definition and learning gains

Telecollaboration is a learning mode which in many ways is a practical albeit modified by the use of online technology reflection of sociocultural learning, a concept advocated as early as in the 1960s/70s by Vygotsky and Cole (1978), as well as the idea of contextualised learning, consisting in hands-on experience and collaboration, which was promoted by Dewey (1966).

Therefore, a telecollaboration project or an online intercultural exchange (Dooly &O'Dowd, 2012) involves the use of Web-based communication tools through which learners engage in collaboration in social contexts and critical reflection, with the support of scaffolding from the teacher (Guth & Helm, 2012). Again, one can observe that, through its work modes, telecollaboration incorporates Vygotsky's concept of the Zone of Proximal Development (ZPD) (Vygotsky & Cole, 1978), according to which an aided learner is believed to be able to learn more than an unaided one. In telecollaboration, as in the case of its sister work mode, collaboration, learners are aided either by their more experienced peers (expert learners) or the teacher, who provides support adjusted to the level of the learners' current performance, and the latter form of support must not be overlooked. As it has been reported by Picciano (2002) and Bangert (2008), the

teacher's presence is critical to the quality of online learning and apparently translates into student satisfaction. In fact, telecollaboration has the potential to overcome the concern expressed by Gil and Pym (2006) that in badly structured ICT-based learning environments learners interact with the screen, not the teacher or their peers.

Another dimension of telecollaboration is "(...) the interconnectedness of psychological, social, and environmental process in SLA" (Lam & Kramsch, 2003: 144), which telecollaborative projects usually involve. Although Lam and Kramsch (ibid.) discuss this conceptualisation of learning which relies on the notion of ecological constructivism (Wells, 1994) in relation to second language acquisition, there is no reason for which the interplay of individual, social and environmental factors cannot contribute to the development of competences beyond linguistic ones, e.g. translator competences (cf. PACTE, 2003; 2011). In this manner student translators' learning benefits derive not only from the very electronic tools which they use but also from the social interactions in which they engage with the use of the tools.

At the same time, as Siemens (2008) posits in his theory of connectivism, at the crux of the learners' interaction with the environment lies their decision making process through which they need to skilfully search for information available and distinguish between primary and extraneous data an ability which is essential in the knowledge society of today.

Telecollaboration is a highly flexible concept, denoting a broad area of applications and a multitude of instructional designs. It relies on three major forms of computer-mediated communication (CMC): synchronous/asynchronous, oral/written, and media sharing (Guth & Helm, 2011). Synchronous communication consists in interaction in real time, e.g. via Web chat or online communicators, while asynchronous communication can be practised through email, Web forums, blogs or vlogs, and involves a time delay in information exchange. Both synchronous and asynchronous types of communication may be text- or voice-based, and in addition, they may be enhanced by an easy exchange of multimedia through audio/video file sharing services.

As O'Dowd and Ware (2009) posit, depending on the nature of the tasks that learners perform, telecollaboration projects fall into the main three types: (i) information exchange, (ii) comparison and analysis, and (iii) collaboration and product creation. All of them are universally applicable in that they all equally lend themselves not only to intercultural language learning, for which telecollaboration is conventionally used (Guth & Helm, 2010), but also to translator education. Information exchange is a work mode which is already part of the professional reality; so is collaboration and product creation, as it has been demonstrated; while comparison and analysis can be easily implemented in order to develop student translators' intercultural competence.

Out of the afore-mentioned three types of telecollaboration, product-based learning seems to be the most comprehensive in that it may easily comprise the other two, that is why it merits a little more attention. It is worth noticing that for Lamy and Goodfellow (2010), telecollaboration is by deafult, as it were an exchange that always has to lead to a collaboratively created tangible product, including all those frameworks in which conceptual or attitudinal change in learners' minds, learning repertoires or outlooks are actually accomplished in the process. Guth et al. (2012) add that it is important participants share professional, or *transversal*, interests as that creates a natural desire to use the language of the project and work on common products.

Since telecollaborative projects rely on the utilisation of online technology, rather than locally-based desktop resources, they permit learners to involve in mobile learning, for which they can use small, portable devices such as netbooks, tablets or smartphones, at least for part of what they do, e.g. instant communication. That, in turn, may enable learners to take advantage of the characteristics of mobile education, as proposed by Kukulska-Hulme et al. (2009): portability, individualisation of learning, unobtrusiveness, availability, adaptability, persistence, usefulness and ease of use.

Portability means that learning is possible in out-of-school contexts, irrespective of the students' whereabouts. Individualisation permits the application of learning modes which correspond to individual students' abilities, cognitive resources and learning styles. Unobtrusiveness is helpful in placing situational context and knowledge at the core of the learning experience, without interference from the technological means used for the purpose. Availability denotes the ability to easily communicate with project partners, teachers, and experts, whenever and wherever it is possible. Adaptability refers to the fact that mobile technologies can be adjusted to the learning context, learners' knowledge and skills. Persistency regards the support which mobile technology provides to life-long learning by enabling individuals to access resources and knowledge accumulated over a lifetime, regardless of changes to technology. Usefulness reflects the fact that mobile technology meets people's daily communication, professional, reference and learning needs, and, finally, mobile tools are easy to use even for those with no experience in ICT.

Lankshear and Knobel (2006) credit online learning with the potential to further the development of operational, cultural and critical literacies, which complement the kind of language-based literacy that has traditionally underpinned language learning. Operational literacy operates at the level of procedural knowledge, i.e. it involves the skills of e.g. using online tools, information searching, resource/information sharing and multitasking. Cultural literacy regards declarative knowledge of the principles of communication, including the knowledge of the netiquette and copyright issues, as well as the knowledge of the context of communication, which facilitates information exchanges in particular settings. Critical literacy is affective in nature, and refers to one's awareness of less tangible

phenomena involved in online communication, e.g. the power relations beyond the tools utilised.

The degree to which these, and other, literacies are developed depends on task design (for task-based telecollaboration principles, cf. Mueller-Hartmann, 2007). Those other literacies, desirable in the 21st century, are for instance: collaboration, critical consumption of information, learning, unlearning, and relearning (Davidson, 2012), and they overlap with what others (Herk, 2015; Szulc, n.d.) refer to as soft skills, or employability skills, which include: communication skills, new media skills, teamwork, interpersonal skills, cultural awareness, flexibility, strategic planning, self-organisation, creativity, analytical and critical thinking skills and leadership skills. Soft skills are indispensable today as they appear to be even more imporant than professional skills, which finds confirmation in the results of research by the National Association of Colleges and Employers (NACE) from the USA. On examining the list of the key skills sought in prospective employees, which was compiled by NACE (2012), one will be struck by the fact the top six positons are occupied by generic employablity skills, such as: (i) the ability to work in a team structure; (ii) verbal communication skills; (iii) decision taking and problem solving; (iv) information processing; (v) planning, organising and prioritising work; and (vi) analyzing quantitative data.

1.2 Cloud computing: configurations and learning affordances

Cloud computing (CC) and telecollaboration are hard to seperate, and their mutual relation stems from the fact that while telecollaboration is a work mode, cloud computing constitutes its technological underpinning the environment in which the work mode can be practised.

The National Institute of Standards and Technology (NIST) defines cloud computing as: "(…) a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction" (Mell & Grance, 2011: 2).

Cloud computing is, therefore, what makes telecollaboration possible in that it provides Web-based infrastructure, online resources and tools which facilitate collaboration between actors operating from distant locations.

CC is characterised by the following five features: on-demand self-service, broad network access, resource pooling, and rapid elasticity. The term *on-demand self-service* reflects the fact that CC offers users automated access to online storage resources and server time whenever necessary, without the need to interact with human providers. *Broad network access* means that resources are provided over the

Web and are accessible through a range of desktop and mobile devices, including workstations, laptops, tablets and smartphones. *Resource pooling* expresses the idea that the computing resources pooled online can serve various purposes and user groups, and they can be flexibly assigned on demand. *Rapid elasticity* regards the possibility of quickly providing CC solutions tailored to users' needs, with no apparent limitations, while *measured service* is the feature of CC which concerns automatic resource control and optimisation as well as the capacity to measure, monitor and report the use of the services utilised (Mell & Grance, 2011).

As the infrastructure and applications which CC is capable of providing can be offered in different configurations, three CC service models may be distinguished: Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS).

The service model of SaaS denotes the user's ability to access and use applications provided in the cloud on a variety of desktop or mobile devices, as discussed above, yet without being able to exert control over the infrastructure through which the CC service is maintained and delivered. Platform as a Service (PaaS) is a model in which the user can manage the infrastructure provided in the cloud in order to run custom-made or acquired applications. Finally, the Infrastructure as a Service (IaaS) model enables the user to utilise computing resources, such as processing and network resources, to run independent operating systems and applications, while also being in control of the software, and to a limited degree of selected elements of the networked environment in which the software functions (Mell & Grance, 2011).

Overall, the afore-mentioned characteristics and service models of cloud computing indicate the flexibility of server-side, online technology in meeting the user's requirements in both professional as well as educational settings. Irrespective of how it is utilised, it is the technology which in combination with telecollaborative work modes lies at the core of in the Information Age, which - as Marquis (2012) proposes creates demands towards students which pertain to four major areas:

> (i) ways of thinking, i.e. creative and critical thinking, problem solving and decision making;
>
> (ii) work modes involving CMC and telecollaboration skills;
>
> (iii) working tools, i.e. the ability to use ICT tools and information literacy,
>
> (iv) life skills, e.g. personal and career skills, personal and social responsilibility.

Cloud-based translator training can exhibit different forms or modes of telecollaboration, most notably: communication, cooperation and collaboration. While synonymous for many, these three processes are clearly separated by some researchers (cf. An et al., 2008; Beatty & Nunan, 2004). With communication as the aim of the project, as Lee et al. (2006) have it, the essence is message

exchange and information delivery. According to Beatty and Nunan (2004), cooperation requires that students work together, with each getting a part of a task to do, however, the aspect of negotiation of the outcome is not essential for successful task completion. Finally, as the finest and most sophisticated form of online work, and the one most difficult to arrive at, collaborative learning implies "(…) working in a group of two or more to achieve a common goal, while respecting each individual's contribution to the whole" (McInnerney & Robert, 2004: 205).

In the light of the above, it may be stated that cloud-based telecollaborative work involves the tools, skills and work modes which perfectly meet the requirements of contemporary translator education programmes, given it is adapted to the pedagogical purposes which it is supposed to serve.

2. THE STUDY

2.1. The telecollaboration project as the research context

A telecollaboration project in terminology was conducted between October 2015 and January 2016 with 18 student translators, who collaborated online in 3 groups of three, a group of four and a pair, for the duration of 5 weeks. The purpose of the project was to produce an online/offline termbase comprising vocabulary relating to the field of Computer Assisted Translation as a scholarly discipline or CAT tools. Prior to the telecollaboration the students were instructed in the face-to-face mode in theoretical issues indispensable for the completion of the project, including special purpose language, terminology, terminology tools and the role of terminology in translation; they also practised using computerised terminology tools. In the course of the telecollaboration project per sé the students needed to perform a number of operations, including the following: searching reference texts online, aligning parallel reference texts, searching and extracting terminology, using of CAT tools, e.g. *memoQ* or *PlusTools,* exploring the terms extracted, collecting elaborate data on them, entering data into an electronic database in a CAT tool, and exporting data as a printed document by using the *Mail Merge* function of *Microsoft Word*.

The project work was performed exclusively through telecollaboration and was supervised by a group leader, who was responsible for coordinating group and individual task performance, as well as contacting the course teacher in case of problems. The Web tools utilised were selected by the students themselves, at their own discretion, and fell into four major categories:

- social networking sites (e.g. *Facebook*)
- online text editors (e.g. *TitanPad, PrimaryPad, Google Docs*)
- resource sharing services (e.g. *Wallwisher, OneDrive, Dropbox, Google Docs*)

- Web communication tools (e.g. chatrooms, *FB Messenger, Skype*)

The project work was evidenced through records of online communication and students' actions, e.g. videos of telecollaborative text processing or screenprints; and on completing the telecollaboration the students submitted the final product, together with raw data files.

2.2. Research questions and instruments

A survey study was conducted in January 2016 with the aim to answer two research questions:

1. What are the student translators' perceptions of their participation in the telecollaboration project with regard to the following:
    - the benefits and learning gains as outcomes of the telecollaboration project;
    - the students' ability to learn about their own collaboration skills;
    - the nature/nurture origins of collaboration skills;
    - reflection on collaboration;
    - self-assessment of teamwork skills;
    - importance of a face-to-face component preceding a telecollaboration project;
    - the translator's most essential soft skills?
2. Which soft skills do the students perceive as most essential for the translator?

The two main research questions were operationalised as follows:

1. Did the telecollaboration project bring you any learning gains?
2. If so, what were they? If not, why did you fail to benefit?
3. What did the telecollaboration project help you realise about your ability to collaborate?
4. Do you believe that collaboration skills can be developed through practice or they are a consequence of an individual's inherent personality traits?
5. Did you reflect on your ability to collaborate with others during or after the project?
6. What is the best means of self-assessing your own teamwork skills?
7. To what extent is it important that a telecollaboration project is preceded by a phase involving face-to-face communication?

8. Which soft skills are the most important for a translator, given his/her professional needs?

In effect, the research instrument was an online survey comprising 8 questions, in all: 4 open-ended (Q2, Q3, Q6, Q7), 3 close-ended ones (Q1, Q4, Q5), 2 of which featured a write-in response option, and 1 ranking question (Q8).

The survey was designed and administered via the *Survey Monkey* service on a convenience sample of 18 university students (N=18) in their first year of an MA programme in Translation Studies. Quantitative data collected through the online survey were analysed with the use of the *Analyse results* tool provided by the *Survey Monkey* purveyors, while qualitative data were quantified manually by identifying response categories within them and ascribing particular responses to the emergent categories.

2.3. Research sample

Prior to the online survey a pen-and-paper questionnaire was run in order to establish the profile of the research sample in terms of gender, the duration of study, the university degree obtained, formal ICT qualifications and the usage of CAT and Web-based tools. Data obtained in this case were processed with the open-source statistical package PSPP, v. 0.10.1-g1082b8.

The results revealed that the research sample was composed of 17 female students and 1 male student. All the participants had completed a BA course and 2 had already obtained a Master's degree. Overall, the subjects had had 5 years' experience in study at university level and 100% claimed to have been using ICT for study purposes. Only 3 students possessed formal ICT qualifications; 2 students held a certificate of participation in a *MB Capgemini* Excel workshop and one had obtained a *Microsoft* certificate. However, all the students used desktop CAT software, such as *Wordfast Pro* or *memoQ*, with nearly 72% using it fairly frequently (often and sometimes) (Table 1). Most of them (67%) also used cloud CAT tools, e.g. *Systran,* fairly frequently (often and sometimes), while 13% used them rarely or never (Table 2).

Table 1.

Percentage distribution of students using desktop CAT tools

Frequency	Value	No. of Ss	Percent	Valid Percent	Mean	SD
Always	1	1	5.56	5.56	2.22	.55
Often	2	12	66.67	66.67		
Sometimes	3	5	27.78	27.78		
Total		18	100.0	100.0		

Source: Own work

Table 2.

Percentage distribution of students using cloud CAT tools

Value label	Value	No. of Ss	Percent	Valid Percent	Mean	SD
Often	2	4	22.22	22.22		
Sometimes	3	8	44.44	44.44		
Rarely	4	3	16.67	16.67	3.28	1.02
Never	5	3	16.67	16.67		
Total		18	100.0	100.0		

Source: Own work

An additional 61% of the participants used online concordancers fairly frequently (often and sometimes), whereas 39% used them rarely (Table 3). Finally, 39% used online termbases, such as *IATE*, fairly frequently, while another 39% used them rarely (Table 4).

Table 3.

Percentage distribution of students using online concordancers

Value label	Value	No. of Ss	Percent	Valid Percent	Mean	SD
Often	2	6	33.33	33.33		
Sometimes	3	5	27.78	27.78	3.06	.87
Rarely	4	7	38.89	38.89		
Total		18	100.0	100.0		

Source: Own work

Table 4.

Percentage distribution of students using online termbases

Value label	Value	No. of Ss	Percent	Valid Percent	Mean	SD
Often	2	3	16.67	16.67		
Sometimes	3	4	22.22	22.22		
Rarely	4	7	38.89	38.89	3.67	1.03
Never	5	4	22.22	22.22		
Total		18	100.0	100.0		

Source: Own work

All in all, it turned out that the sample consisted of students who were not only familiar with desktop and cloud CAT tools and other online resources useful in translation, but also used the tools, at least to a certain degree.

2.4. Survey findings

All the respondents declared that they had benefited from participation in the telecollaboration project (Q1). When answering question 2 (Figure 1), they elaborated on the issue, with the largest proportions of students viewing the major benefits as the opportunity to practise and learn about the nature of teamwork (50%), learn to use CMC tools (44%) and CAT tools (22%), but they also learnt how to manage time effectively (22%) and how to restrain emotions (17%). In addition, 17% of the students claimed to have increased their knowledge of self (17%).

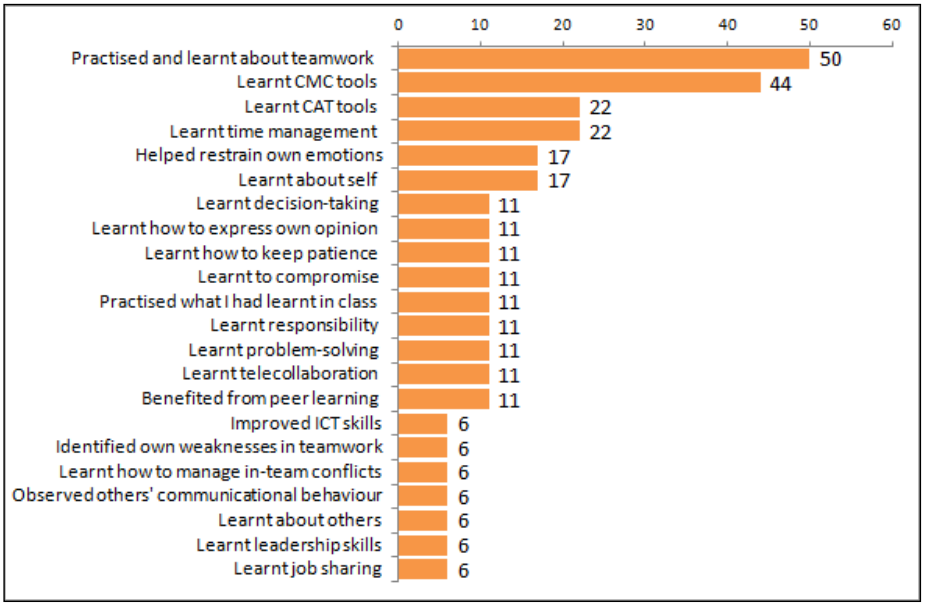

Figure 1. Percentage distribution of students listing particular benefits of telecollaboration

Source: Own work

Question 3 revealed what the participants of the project realised about their ability to telecollaborate. The largest proportion of students gained awareness of the fact that teamwork may be more challenging than individual work (44%), but they can cope with it (22%). They also realised that they are able to assertively lead the team (11%). The remainder of realisations cited by smaller proportions of the students are presented below (Figure 2).

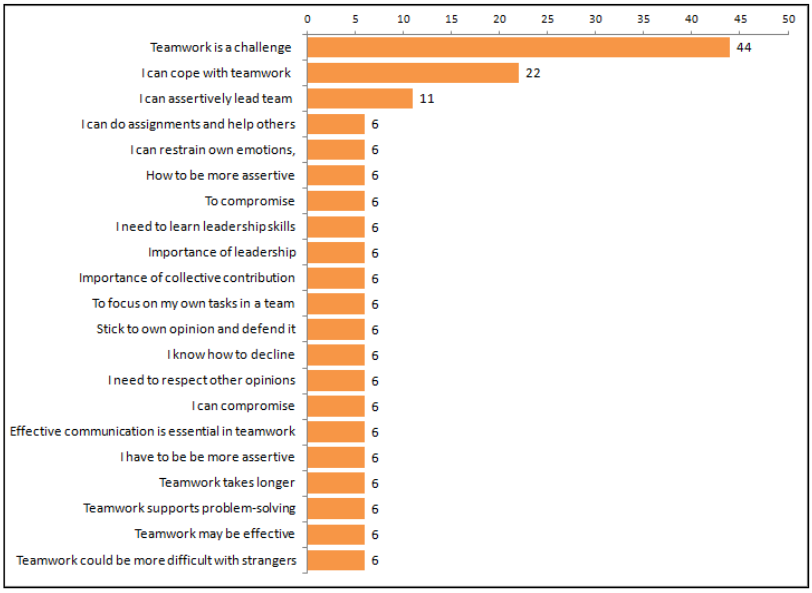

Figure 2. Percentage distribution of students listing own realisations about their ability to telecollaborate as an outcome of the project
Source: Own work

The nature/nurture origins of teamwork skills were tackled in question 4 (Q4), where the majority of the respondents (61%) expressed the belief that teamwork skills can be developed through training. Only 6% stated that the skills derive from a person's natural personality traits, while 33% maintained that teamwork skills are an outcome of interplay between nature and nurture. In consequence, training is necessary to all, even those seemingly naturally predisposed to telecollaborate as there is always room for improvement. At the same time, as the students observed, negative personality traits may obstruct successful collaboration, despite training.

A vast majority of the respondents (96%) claimed that reflections on their own telecollaborative experience appeared automatically in the course of the project. Only 6% did not reflect without stimulation (Q5).

In question 6 (Q6) the respondents proposed the means through which the participants of telecollaboration projects could most effectively reflect on their experience. The largest proportion of students (39%) suggested a questionnaire as a follow-up to the telecollaborative experience, 28% believed that self-reflection would be an effective solution, 22% mentioned a group discussion session with the teacher, 6% opted for student interviews, while another 6% expressed the opinion that reflection would be best evoked through the very participation in telecollaboration.

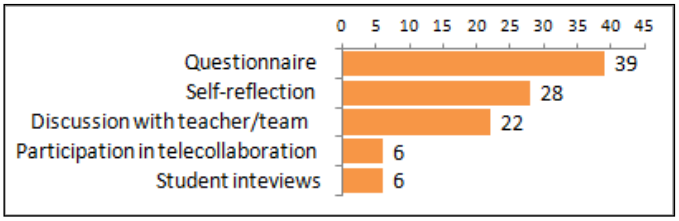

Figure 3. Percentage distribution of students listing means of reflection in telecollaboration projects
Source: Own work

Question 7 (Q7) examined the students' views on the need to incorporate a face-to-face component into a course involving telecollaboration. A vast majority (89%) admitted that face-to-face contact is important in that it has certain advantages over online work (Figure 4). 11% stated that f2f communication is not so essential as online interaction can easily replace it.

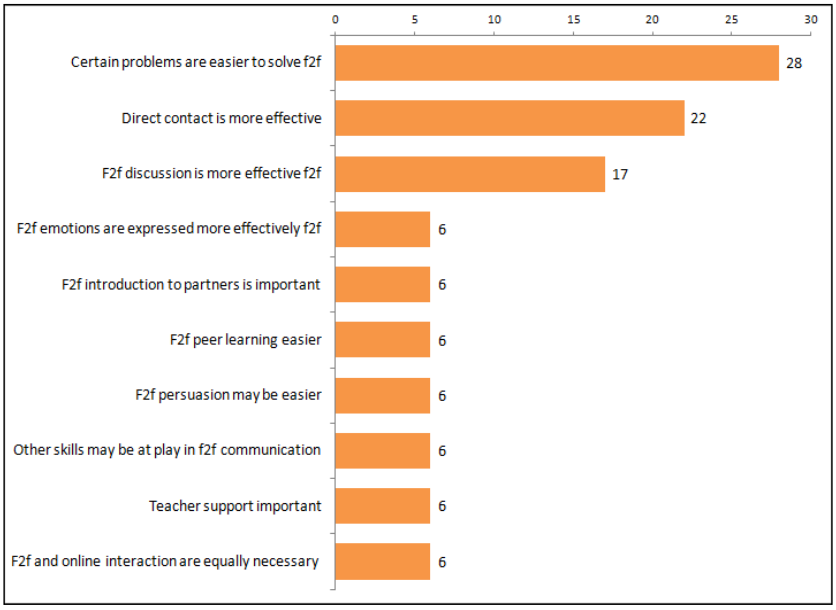

Figure 4. Percentage distribution of students listing means of reflection in telecollaboration projects
Source: Own work

In the final question (Q8) the respondents ranked a group of 27 soft skills in the order of importance for the translator. The 6 topmost skills, arranged according to their weighted average ranks, were communication skills (21), stress management (20), skills in dealing with difficult situations (20), self-confidence (19), teamwork skills (19), emotion regulation (18) and patience (18). The skills considered the least useful were as follows: skills to forgive (12), networking skills (12), self-

promotion skills (11), being savvy in handling office politics (11), facilitating skills (8) and selling skills (6). A full ranking is presented below (Figure 5).

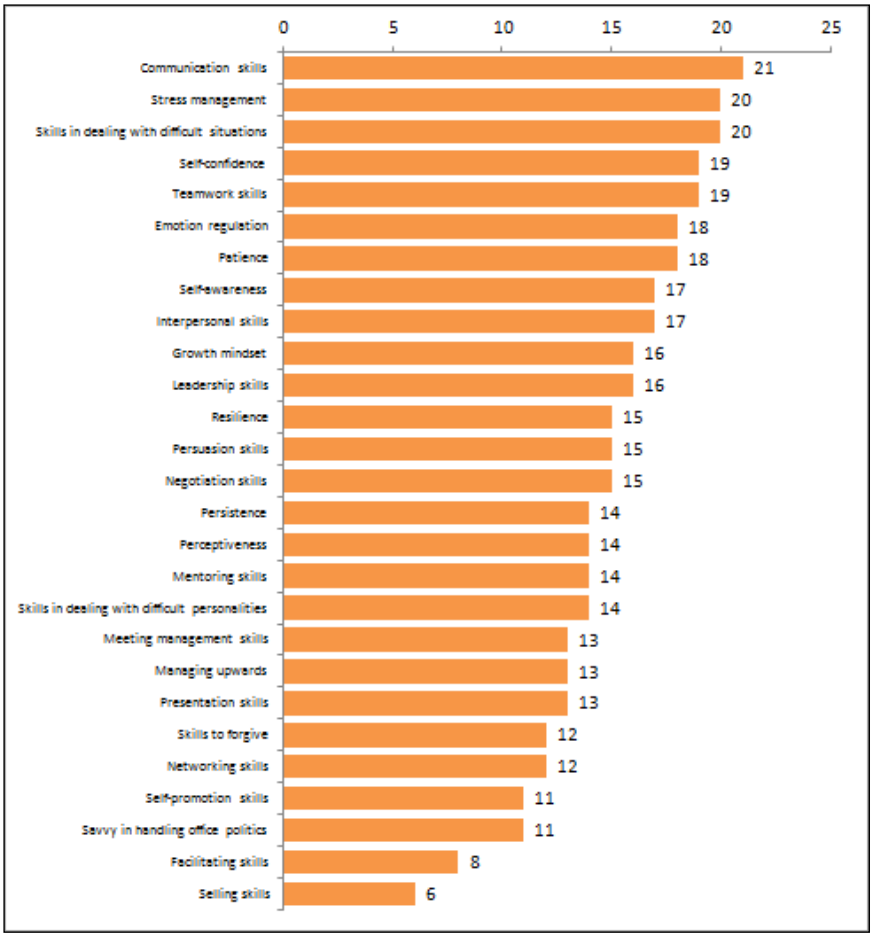

Figure 5. Percentage distribution of students listing means of reflection in telecollaboration projects
Source: Own work

CONCLUSION

In the light of the research findings, it may be concluded that all the participants considered the telecollaboration project beneficial, and for the largest proportions of students the benefits were of both procedural and affective nature. On the one hand, the students learnt teamwork skills, useful cloud-based/local CMC and CAT resources as well as time management; on the other, they had to control their own emotions and had the opportunity to reflect on their own personality.

They also realised that teamwork may be more challenging than individual work, but, at the same time, they gained confidence in their ability to cope with the challenge successfully and take on particular roles in telecollaboration, e.g. that of group leaders.

What draws attention is the fact that the range of benefits and realisations listed by the students is extensive, yet most of them were named by smaller proportions of the respondents, e.g. 6%, which amounted to a single student. What follows logically is that potential benefits and realisations may not be salient enough for the participants of telecollaboration projects to notice automatically, and that, in turn, seems to underline the need for explicit reflection on a telecollaborative experience. Although a vast majority of the students testified to the claim that reflection inherently accompanied their telecollaboration work, the findings demonstrate that such reflection may be superficial, and it requires focusing if certain benefits are not to be overlooked.

As the respondents themselves indicated, reflection could be performed with the use of questionnaires, guided self-reflection techniques and group discussion. Among the less cited means of reflection were student interviews; perhaps, because students may find them stressful and time-consuming. They may, nevertheless, be worth considering as an effective solution as they permit in-depth analysis of the telecollaborative experience.

In the students' view, telecollaboration also requires a face-to-face introductory stage, which could involve a combination of theoretical and practical work, as was the case in the project examined. The theoretical component could involve the study of professional literature in a field relevant to the theme of the telecollaboration project to be conducted, while the practice could introduce students to relevant cloud-based/local CMC and CAT resources.

At the same time, on examining the survey responses closely, one will also notice that some students would simply appreciate face-to-face collaboration instead of telecollaboration as certain problems are easier to solve in that mode, while direct contact may be more effective. However, in recognition of the relevance of telecollaborative practice to contemporary translation, translator educators should not treat the preference as an argument against telecollaboration, but rather as one more reason for which telecollaboration, i.e. cloud-based work, needs to be guaranteed a place in translator education programmes.

The part of the study which did not relate directly to the telecollaboration project in which the students participated but may inform telecollaboration project design concerned the soft skills which they considered most useful for translators. The skills which topped the list were procedural and emotive in nature as the students were aware that success in telecollaboration requires not only communication and teamwork skills but also e.g. resourcefulness in difficult situations, the ability to control emotions and self-confidence. The skills considered the least useful, e.g. networking skills, being savvy in handling office politics or selling skills, may have

simply appeared most abstract to the students, although among them were self-promotion skills, which are instrumental in professional life. Consequently, on the one hand, translator educators could treat the list as an indicator of which skills their students are most likely to be motivated to develop. On the other, the list demonstrates with regard to which skills students' awareness may need to be developed.

To sum up, optimalised practice in cloud-based telecollaborative translation is a necessity, which finds confirmation in the students' belief that telecollaboration/teamwork skills are not inborn and require training, even when students appear naturally predisposed to it. However, it must be meticulously planned and methodologically sound, taking into consideration *inter alia* issues highlighted by the current study.

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