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Student satisfaction with a micro-learning approach in distance translation and interpreting training: an empirical investigation

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ABSTRACT

The new contexts in higher education, shifting from face-to-face to online scenarios, encourage the application of disruptive methodologies adapted to distance learning. Translation and interpreting (T&I) programmes ideally foster the acquisition of competencies such as self-study, which graduates need to enter a largely freelance and assignment-based labour market. The aim of this study is to describe a micro-learning-based experience delivered at the undergraduate programme in T&I at the University of Granada (Spain), as well as to analyse student satisfaction with the experience. To meet this aim, a survey was conducted among 61 students to evaluate their satisfaction with the course, with distance learning and with the micro-learning methodology on a 1–5 Likert scale. The data were analysed by means of frequency, correlations and stepwise forward regression analysis. The results showed that students were notably satisfied with the methodology proposed but dissatisfied with environmental and interaction issues.

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1. Introduction

The 2020/2021 academic year posed a general social challenge. The massive shift from face-to-face interactions to teleworking was mirrored by higher education (HE). This new context has encouraged the application of new, disruptive methodologies adapted to distance learning, which promote the acquisition of competencies (such as self-study) necessary to enter a global market where teleworking is becoming increasingly common. In the case of translation and interpreting (T&I) training, given the predominance of freelance translation and distance working in the profession, HE needs to keep pace and train future translators to acquire these skills.

The use of methodologies enhancing distance learning was a common issue of discussion in T&I training long before the COVID-19 crisis. However, it was the health crisis that has made it a burning issue, as reported within studies describing some of the first experiences with web-based T&I training at the beginning of the 21st century and its evolution in recent decades (Gómez and Weinreb 2002; Perramon and Ugarte 2020). The last two years have seen a proliferation of papers describing the sudden global shift to online learning in terms of teaching experiences, didactic methodologies and student

perceptions (Ahrens, Beaton-Thome, and Rütten 2021; Kornacki and Pietrzak 2021; Valentine and Wong 2021). A common feature of most of these studies is their focus on student satisfaction and perceptions.

Several factors have been identified influencing student satisfaction with distance and web-based learning in HE, notably learner attitude towards technology, instructor attitude, course flexibility, course quality and design, use of technology, use of e-learning systems and peer interaction (Al-Marouf et al. 2021; Arbaugh 2000, 2002; Piccoli, Ahmad, and Ives 2001; Thurmond et al. 2002; Tsang et al. 2021). In the specific case of T&I training, factors such as lecturer attitude, attitude towards technology, logistical flexibility, peer interaction and engagement, use of tools enhancing online learning, and didactic methodologies have been identified as predictors of student satisfaction (Ahrens, Beaton-Thome, and Rütten 2021; Durantón and Mason 2012; Gómez and Weinreb 2002; Karnedi 2015; Kornacki and Pietrzak 2021; Mangiron 2021; Valentine and Wong 2021).

The main focus of this study is the use of disruptive methodologies by translation trainers and their impact on student satisfaction. It proposes a disruptive methodology aimed at adapting training in the undergraduate programme in Translation and Interpreting at the University of Granada (Spain) to the needs of distance learning: micro-learning. It is an approach based on micro-videos that provide short learning units of course-related content allowing students the flexibility to decide when they want to learn (Leach and Hadi 2017; Nikou and Economides 2018; Wen and Zhang 2015).

First, an overview of some of the disruptive methodologies for HE in general and for T&I training in particular is outlined. Then, the experience of applying a micro-learning methodology is presented. This is followed by the questionnaire used to assess student satisfaction and the results of the statistical tests conducted using the SPSS package. Finally, the results are discussed in relation to previous literature on distance learning and T&I training, and conclusions are drawn.

2. Overview of disruptive didactic methodologies

Change is a constant in today's world. It forces us to keep up with ever faster trends that affect our personal, educational and professional lives (Rivera-Trigueros et al. 2022). Therefore, the field of education is – or should be – rapidly evolving. This is particularly true in HE, where programmes and curricula need to be adapted to the new demands and professional profiles of the labour market. These changes are undoubtedly driven by the emergence and development of information and communication technologies (ICTs), but also by advances in research and the changes in the social, health and economic context, to name but a few. This was the case with the crisis caused by COVID-19, which meant a change in the traditional education paradigms, as in many countries, education shifted from face-to-face contexts to online learning environments in a matter of days.

In another sense, the universalisation and democratisation of teaching and learning processes has shifted the centre of power and attention from the teacher and formal learning to other agents, contexts and means. Consequently, educational methodologies have emerged in recent decades that focus on meaningful learning (Ausubel 1963), discovery learning (Bruner 1961), service-learning (Furco 1996) or problem-based learning (Barrows 1996). These methodologies still exist, but they

have been shaped by the development of ICT (Rifkin 2000; Serroy and Lipovetsky 2007).

In light of the above, teaching professionals are forced to continually update their skills and to be aware of the training potential of innovative and disruptive methodologies that are emerging in education (Díaz-Millón et al. 2020). In this sense, innovation is understood as the successful exploitation of new ideas (Moral Pérez and Fernández García 2015). For its part, disruptive innovation, whose origin is set in the business sphere, is the process whereby a small company succeeds in challenging the established order by improving a product in such an unexpected way that it often represents a challenge to the leading companies in the industry (Christensen, Raynor, and McDonald 2016). In education, disruptive innovation means challenging and redefining traditional methodologies and formal institutions, which involves rethinking the role of students and teachers, the implementation of ICTs and the promotion of transversal skills (Burden et al. 2019). These innovative practices promote holistic models of collaborative and reflective student-centred learning – heutagogy – where ICTs are often a key element in the teaching and learning process (Cochrane et al. 2014).

Some disruptive methodologies, such as cooperative or collaborative learning, are based on encouraging peer interaction by implementing models in which students have to contribute to achieve a common end result (Kokotsaki, Menzies, and Wiggins 2016). They have shown to promote student engagement and cross-curricular competencies such as problem solving, critical thinking and communication (Sung, En Chang, and Chien Liu 2016). In the specific case of T&I studies, there are examples of the implementation of situated learning, involving students in a real ongoing research project dealing with translation processes at workplaces, to foster students' academic research skills (Risku 2016). It is worth noting that these methodologies usually rely on the use of ICTs and mobile technologies to support learning and skills development (Sung, En Chang, and Chien Liu 2016). Moreover, the use of mobile collaborative platforms in foreign language (Yu et al. 2018) and translation learning (Olvera-Lobo et al. 2007) has been shown to positively impact student satisfaction. In this sense, Yu et al. (2018) reported an improvement in students' English proficiency as well as a reduction in learners' cognitive loads. For its part, the research conducted by the AulaInt team (Olvera-Lobo et al. 2007) showed that translation students were satisfied and felt more confident about their computer and translation skills after using a collaborative work platform.

Project-based (PjBL) and problem-based learning (PBL) are pedagogical approaches based on cooperation. PjBL aims to culminate in an end product, whereas PBL focuses on the process of learning itself (Kokotsaki, Menzies, and Wiggins 2016). In T&I education, PjBL has been explored from a social-constructivist perspective, which aims to involve students in authentic work experiences in order to develop professional skills and competencies (Király 2012). Other authors propose the simulated project, a project-based methodology that provides learners with a classroom setting similar to a real workplace without its stress and time pressure, aligning as well with collaborative and cooperative learning while promoting the use of ICTs (Hansen-Schirra, Hoffman, and Nitzke 2018; Robinson, Olvera-Lobo, and Gutiérrez-Artacho 2016).

The methodologies described above can be implemented along with ICTs, although this is highly advisable, but not essential for their implementation. The following paragraphs describe disruptive methodologies relying solely on ICTs.

E-learning is based on electronic media and devices to improve access to training, communication and interaction (Sangrà, Vlachopoulos, and Cabrera 2012). Ubiquitous learning (u-learning) refers to learning with mobile devices, which allows students to learn anytime and anywhere (Burden et al. 2019). Similarly, mobile learning (m-learning) focuses on the use of mobile or wireless devices for the purpose of learning, whether in the classroom or at a distance (Park 2011).

Other ICT-based methodologies aim to change the traditional paradigm of teaching from a teacher-centred perspective to a student-centred paradigm. This is the case of flipped classroom and micro-learning. The core idea behind flipped classroom is that students have access to teacher-created videos and interactive lessons at home, therefore, formal class time is dedicated to students actively engaging and participating in their knowledge construction through interaction with their peers and teachers (Kong 2014). In the field of T&I studies, flipped learning has been shown to increase students' motivation, engagement and participation, as well as their self-assessment of translation competence (Su 2022). Similarly, the micro-learning approach uses micro-videos to deliver short learning units with course-related content, allowing for flexibility as learners can decide what and when to learn (Jomah et al. 2016; Leach and Hadi 2017; Nikou and Economides 2018; Wen and Zhang 2015). Micro-learning has been reported to have a positive impact on academic performance and knowledge acquisition (Jomah et al. 2016; Wen and Zhang 2015), as well as on learner satisfaction (Nikou and Economides 2018). Nevertheless, despite its benefits and potential, to the best of the authors' knowledge, this area of research is still understudied when it comes to the implementation of micro-learning in T&I training. However, the use of micro-learning has the potential to foster competencies and skills that are essential for professional translators and interpreters, such as self-study and autonomous work, as remote and freelance work is common. For this reason, the authors seek to test the potential of this methodology, as no examples of its use in T&I training have been found in the literature.

3. Micro-learning applied in the computer tools for translators and interpreters course

The 2020/21 academic year at the University of Granada (Spain) began with a blended mode of delivery, with half of the students attending classes in person and the other half attending remotely via video-calling services. However, the public health crisis forced a rapid switch to 100% distance learning when the authors began to teach the course titled Computer Tools for Translators and Interpreters. The course is eminently practical in nature and requires step-by-step explanations of the operation of the various software programs used. It is a core subject in the academic curriculum of the undergraduate programme in Translation and Interpreting at the University of Granada. In order to overcome the difficulties posed by this situation, a micro-learning methodology was designed.

Although the name of the course refers to translation training and interpreting training, the curriculum focuses on computer tools to enhance translation learning and

performance. The authors do not intend to imply that the methodology described in this paper has been used for interpreting training.

3.1. Materials

A series of videos with brief explanations of course contents were recorded by the lecturers before the start of the course. The duration of the videos ranged in length from 1 to 14 minutes. They contained practical contents for the course, in particular instructions on how to perform certain actions using computer assisted tools (CAT) and image editing software. Given the highly practical nature of the course and its content, the format of the videos consisted of a recording of the lecturer's computer screen, who narrated and explained various tasks and actions while performing them at the same time. These videos were available on the online learning platform used by the University of Granada, PRADO, so that students could watch them at any time during the development of the course.

3.2. Course dynamics

Each lesson involved a practical task. The lesson would begin with the instructor explaining the basic concepts needed to complete the task. Then, the lecturer would perform the task, sharing their screen with the students via the video-calling services mentioned above, narrating and explaining it step by step, while receiving questions from the students. The students were then asked to perform the same task and submit a set of files resulting from their performance using CAT tools or image editing software. The students were instructed to watch the videos before each lesson, so that they could use their time during the lecture to ask questions to the instructor, and they were referred to the videos available on the platform if they had any doubts after the lesson. In this way, they could re-watch the explanation and instructions as many times as they needed, pausing the video when necessary, to guide them through the task performance. This approach is in line with some of the didactic methodologies described above, in particular u-learning, which allows students to own their learning process and to choose when and where they want to learn. It is also in line with the principles of universal design for learning (UDL), which advocates the use of technology to ensure accessibility to learning and to provide students with multiple means of representation (textual, audio-visual, graphical, etc.) (Al-Azawei and Lundqvist 2015; Alba Pastor, Zubillaga Del Río, and Sánchez Serrano 2015).

4. Methodology

Student satisfaction was measured using a satisfaction questionnaire sent to students enrolled in the course. The authors sought to know the weight of different variables influencing student satisfaction, and to limit any possible bias in student responses. The online questionnaire was considered a suitable tool for collecting data from students, as its effectiveness has been documented in research in different field, and especially in education. Some of its advantages are as follows: low-cost and easy accessibility, which allows information to be provided and collected in a short period of time, automation,

protection against possible loss of data and the maintenance of participant anonymity, which is essential in this type of study (Dewaele 2018; Lefever, Dal, and Matthíasdóttir 2007).

4.1. Research objectives

The main objectives of the study were to: (a) explore students' reflections on the course experience with regard to the attitude of the lecturers, flexibility of the course, quality of the course, use of ICTs, use of online learning platforms, environmental issues and micro-learning methodology, and (b) to examine students' overall satisfaction with the course.

4.2. Participants

The participants were students enrolled in the Computer Tools for Translators and Interpreters course, a compulsory course taught in the third semester of the undergraduate programme in Translation and Interpreting from the University of Granada (Spain). Of the 156 students enrolled in five groups of the course, 61 responded to the questionnaire, giving a response rate of 39.1%. Table 1 summarises the demographic profile and descriptive statistics of the respondents. Most participants were women (49, 80.3%), versus a minority of men (12, 19.7%). The average age of the participants was 20.3 years, ranging from 19 to 45. They were enrolled in the second, third or fourth year of the undergraduate programme in Translation and Interpreting, though from a strictly curricular perspective, the course is positioned in the third semester of the programme. The majority of participants were taking the course for the first time (see Table 1 for distribution).

The questionnaire was delivered online using Google Forms, and the participants gave their informed consent before completing it. They received information about the details of the study, including its objectives and motivation. The anonymity and confidentiality of the responses and the voluntary character of the questionnaire were guaranteed. The questionnaire was sent to the students after they had received their course credits in order to prevent them from feeling coerced by the possible consequences of completing the survey.

Table 1. Demographic profile and descriptive statistics.

Characteristic	Value	Frequency	Percentage
Gender	Female	49	80.3
	Male	12	19.7
Age	19	35	57.4
	20	15	24.6
	21	7	11.5
	22	2	3.3
	37	1	1.6
	45	1	1.6
Year	Second	44	72.1
	Third	15	24.6
	Fourth	2	3.3
First time taking the course	Yes	57	93.4
	No	4	6.6

4.3. Design and procedure

The satisfaction questionnaire was based on previous work on student satisfaction analysis (Meng et al. 2018; Sun et al. 2008). These two models were considered appropriate, as they address student satisfaction with the use of disruptive methodologies in distance education.

The main basis for the final questionnaire was the work by Sun et al. (2008), which assessed student satisfaction (categorised as a dependent variable) with e-learning according to a number of dimensions (independent variables). The dimensions proposed in said study were used as a basis for the final questionnaire and were modified to assess students' perceptions of distance learning and micro-learning. A 5-point Likert scale was used, with 1 being 'strongly disagree' and 5 being 'strongly agree' (see the Appendix for the English translation of the final version of the questionnaire). It should be clarified that some of the items of the questionnaire were positively rephrased to facilitate the students' understanding and the later coding of the items, as well as to maintain the reliability of the instrument (Chyung, Barkin and Shamsy 2018; Solís Salazar 2015). The dimensions included as independent variables in the final questionnaire were the following:

- Attitude of the lecturers: this dimension evaluates students' perceptions of lecturers' attitudes and preparation for the course.
- Flexibility of the course: this dimension includes items evaluating students' perceptions of practical advantages or disadvantages of taking online courses.
- Quality of the course: in this dimension the items included evaluate students' perceptions of the quality of the course and the materials proposed by lecturers.
- Use of ICT: this dimension evaluates students' perceptions of ICT tools used to support distance learning. In this context, ICTs are understood as the set of technologies used to improve and facilitate communication, notably distance communication. In particular, for this study, video-calling services used to conduct classes and tutorials were considered, such as Google Meet or Zoom.
- Use of online learning platforms: this dimension evaluates students' perceptions of the usefulness of the online learning platform implemented by the University of Granada, PRADO, during the course.
- Environmental issues: this dimension evaluates students' perceptions of their interactions with other fellow students and with the lecturers.
- Micro-learning methodology: this dimension evaluates students' perceptions of the quality and usefulness of the micro-learning methodology employed, as well as their satisfaction with it.

Finally, the dependent variable was:

- Perceived satisfaction: this final dimension assesses the students' overall satisfaction with the course.

The data were analysed using the SPSS statistical package. A stepwise forward regression analysis was used to demonstrate the significance of the variables and

a P-P plot was conducted to assess the assumption of normality. The plot showed a normal distribution following an almost straight line. Therefore, it was assumed that the data used in this study were normal. The Durbin-Watson statistic was used to detect autocorrelation problems. The value of 1.86 (less than 2) indicated that said problems did not exist (Gujarati 2003). Finally, collinearity statistics were carried out to rule out the presence of correlation between the independent variables. Values greater than 0.1 for tolerance and less than 10 for VIF, as suggested by Meyers, Gamst, and Guarino (2006), ruled out this presence. Once these analyses were completed, the remaining tests were carried out.

5. Results

5.1. Reliability testing

Cronbach's alpha was calculated to test the internal consistency of the questionnaire. The results showed high reliability with a value of $\alpha = .979$, a value above the minimum requirement of .7 (De Vaus 2014). The reliability of each dimension is as follows: Attitude of the lecturers = 0.770; Flexibility of the course = 0.885; Quality of the course = 0.816; Use of ICT = 0.879; Use of online learning platforms = 0.967; Environmental issues = 0.946; Micro-learning methodology = 0.975; and Perceived satisfaction = 0.917. Hence, the questionnaire proved to be reliable and internally consistent.

5.2. Frequency analysis

5.2.1. Attitude of the lecturers

A significant proportion of students considered that their lecturers were highly motivated: 45 students (73.7%), which is a conflated value for responses 4 and 5 (agree or strongly agree). Similarly, 54 students (88.5%) felt that their lecturers were well prepared for the course. Thus, the general perception of the lecturer dimension is rather positive.

5.2.2. Flexibility of the course

On this dimension, the students' perceptions are again quite positive, with response rates of 4 and 5 for almost all items. It is worth noting that a considerable percentage, 75.4% (46 students), did not find serious disadvantages in taking the course online and that more than half of them, 55.7% (34), claimed that online courses had allowed them to organise their course work more effectively. Conversely, 70.5% (43), that is the sum of the responses rated as 1 and 2, did not feel that taking the course online had allowed them to attend classes they would otherwise have had to miss. Furthermore, this was the item with more responses rated 1 and 2. Thus, the overall perception indicated that students felt there were advantages to taking online courses and did not see serious disadvantages in terms of flexibility.

5.2.3. Quality of the course

Again, the general perception in this dimension is positive. More than two thirds of students (67.2%, 41) agreed with the statement 'The quality of the course compared favourably to my other courses'. On other note, 44.2% (27) agreed with 'I feel the quality

of the course was largely affected by conducting it online' and 39.3% (24) neither agreed nor disagreed. In general, students perceived an overall favourable quality of the course (only 11.5%, 7 students, disagreed).

5.2.4. Use of ICT

For this dimension, all items received a majority of responses of 4 or 5, denoting that students had a positive opinion of the ICT tools employed during the course. The participants agree that these tools are useful (86.9%, 53 students), flexible (72.1%, 44), easy to use (67.2%, 41) and accessible (60.6%, 37). Therefore, ICT tools supporting online learning (especially video-calling services) are perceived positively by students.

5.2.5. Use of online learning platforms

Students' perceptions of the use of online learning platforms are generally positive, but less so than their perceptions of the use of other types of ICT. For example, only 52.5% (32 students) felt that these platforms had increased their effectiveness and productivity in the course, and 57.4% (35) agreed that they had improved their performance. In general, the majority of participants (65.6%, 40 students) considered that using online learning platforms had been useful during the course.

5.2.6. Environmental issues

In this dimension, some examples of negative perceptions are found. A considerable proportion of students did not find student-to-student interaction easier (45.9%, 28 students), did not find it easier to participate in class discussions (42.6%, 26), did not find that they learned more from their peers (45.9%, 28) than in other face-to-face courses, nor did they consider that the quality of class discussions was high (47.5%, 29). In addition, 41% (25) did not think that lecturers had often encouraged interaction between students, whereas 47.5% (29) thought that they did. In contrast, only 24.6% (15) believed that class discussions were not easy to follow.

Nevertheless, the majority of students (63.9%, 39) felt that they had been able to actively participate in the course and that the working atmosphere had been positive (70.5%, 43). Although there are examples of positive perceptions of environmental issues, there are also enough examples of negative perceptions to consider it an issue to tackle.

5.2.7. Micro-learning methodology

Responses to items in this dimension show that students' opinions of micro-learning methodology are predominantly positive. The majority of participants agreed or strongly agreed with all the items, with percentages ranging from 78.7 to 93.4. Students found course content videos useful (90.2%, 55 students) and easy to access (93.4%, 57); they felt that their availability had improved their effectiveness (85.2%, 52) and performance (78.7%, 48) in the course, and agreed that they would like to be able to use the videos again if they had to repeat the course (93.4%, 57). They also felt that the use of videos was appropriate to the course content (90.2%, 55) and that they had made the course easier

than other courses (82.0%, 50). Finally, participants also felt that the videos had largely improved the quality of the course (83.6%, 51).

5.2.8. *Perceived satisfaction*

Students showed general satisfaction with the course. When asked about their agreement with the statement ‘I am very satisfied with this course’, 42 of them (68.9%) agreed or strongly agreed. Similarly, 78.7% considered that the course had met all their needs and 65.6% were happy with the way the course had developed.

When asked about distance learning, however, students seemed less satisfied. Only 21 students (34.4%) agreed that they would like to take as many online courses as possible, compared to 34 students (55.7%) who disagreed or strongly disagreed. This rejection of online learning contrasts with participants’ responses to item 53, ‘If I were to take this course again, I would take it online’, where 32 students (52.5%) agreed or strongly agreed with it. This apparent contradiction is reinforced by their responses to the item 54, ‘Taking this course online has made it easier than other courses I have taken’, where there does not seem to be a clear agreement among students: 22 (36.1%) disagreed, 13 (21.3%) neither agreed nor disagreed and 26 (42.6%) agreed.

Regarding the teaching methodology, 47 students (77%) thought it was appropriate to the course content and 42 (68.9%) felt that an appropriate amount of time was devoted to each topic. Furthermore, 55 (90.2%) found the topics covered to be appropriate. So, generally, their satisfaction with the teaching methods was high.

Finally, the items assessing their perception of their learning process showed that students did indeed have a positive perception of their learning: 51 students (83.6%) felt that they had learnt a lot during the course. In addition, 32 (52.5%) thought the tasks set were easy to do and 41 (67.2%) considered they were clear and precise. Hence, it can be assumed that the students perceived that their experience in the course was positive.

5.3. *Correlation analysis*

A bivariate Pearson correlation analysis was conducted. All dimensions correlated positively with a high significance with the dependent variable ‘Perceived satisfaction’. The most highly correlated dimension was ‘Quality of the course’ ($r = 0.880$, $p = 0.000$), meaning that the more students agreed with the items of this dimension, the more satisfied they were. In decreasing order, the remaining independent variables were correlated according to the following values: ‘Environmental issues’ ($r = 0.779$, $p = 0.000$), ‘Flexibility of the course’ ($r = 0.774$, $p = 0.000$), ‘Attitude of the lecturers’ ($r = 0.760$, $p = 0.000$), ‘Use of online learning platforms’ ($r = 0.716$, $p = 0.000$), ‘Use of ICT’ ($r = 0.678$, $p = 0.000$), and ‘Micro-learning methodology’ ($r = 0.677$, $p = 0.000$).

Table 2 presents the means, standard deviations and correlations between variables. It can be observed that all variables correlate positively and significantly between them, with values ranging from medium to strong correlations.

5.4. *Stepwise linear regression*

A stepwise linear regression analysis was conducted to examine the relationships between the independent variables and the dependent variable. Among seven independent

Table 2. Means, standard deviations and person correlations between variables.

		1	2	3	4	5	6	7	8
1 Perceived satisfaction	<i>r</i>	1							
	<i>p</i>								
	Mean	3.71							
	SD	0.89							
2 Attitude of the lecturers	<i>r</i>	.760**	1						
	<i>p</i>	0.000							
	Mean	4.21							
	SD	0.91							
3 Flexibility of the course	<i>r</i>	.774**	.491**	1					
	<i>p</i>	0.000	0.000						
	Mean	3.40							
	SD	1.03							
4 Quality of the course	<i>r</i>	.880**	.722**	.698**	1				
	<i>p</i>	0.000	0.000	0.000					
	Mean	3.76							
	SD	0.92							
5 Use of ICT	<i>r</i>	.678**	.569**	.501**	.589**	1			
	<i>p</i>	0.000	0.000	0.000	0.000				
	Mean	3.93							
	SD	0.97							
6 Use of online learning platforms	<i>r</i>	.716**	.705**	.583**	.783**	.494**	1		
	<i>p</i>	0.000	0.000	0.000	0.000	0.000			
	Mean	3.50							
	SD	1.23							
7 Environmental issues	<i>r</i>	.779**	.694**	.522**	.698**	.592**	.719**	1	
	<i>p</i>	0.000	0.000	0.000	0.000	0.000	0.000		
	Mean	3.21							
	SD	1.09							
8 Micro-learning methodology	<i>r</i>	.677**	.595**	.455**	.721**	.495**	.574**	.533**	1
	<i>p</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	Mean	4.47							
	SD	0.80							

**Correlation is significant at the 0.01 level (2-tailed).

Table 3. Variables entered in the final model.

Final model	Unstandardized coefficients		Standardized coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.087	.205		.423	.674
Quality of the course	.368	.082	.380	4.512	.000
Environmental issues	.193	.057	.235	3.378	.001
Flexibility of the course	.261	.056	.299	4.663	.000
Attitude of the lecturers	.173	.071	.175	2.443	.018

Dependent variable: Perceived satisfaction.

R² = 0.882.

Adjusted R² = 0.874.

Durbin-Watson: 1.86.

Table 4. Variables excluded from the final model.

Final model	Beta In	t	Sig.	Partial correlation	Collinearity statistics
					Tolerance
Use of ICT	.116*	1.952	.056	.255	.562
Use of online learning platforms	-.155*	-1.944	.057	-.254	.313
Micro-learning methodology	.080*	1.200	.235	.160	.465

1. Dependent variable: Perceived satisfaction.

*. Predictors in the model: (Constant), Quality of the course, Environmental issues, Flexibility of the course, Attitude of the lecturers.

variables, four are considered to have critical relationships with students' perceived satisfaction, with significance values close to 0.000 (Table 3). These variables are, in order of relevance: 'Quality of the course', 'Environmental issues', 'Flexibility of the course', and 'Attitude of the lecturers'. These four variables explained approximately 87% of the variance of 'Perceived satisfaction' ($R^2 = 0.882$, adjusted $R^2 = 0.874$). Moreover, according to the correlation analysis, these were the most highly correlated variables to the dependent variable.

The other three dimensions, 'Use of ICT', 'Use of online learning platforms' and 'Micro-learning methodology', did not seem to have an impact on students' perceived satisfaction (Table 4).

6. Discussion

This paper analyses student satisfaction with online learning and micro-learning applied in a course on computer translation tools according to a number of dimensions that influence learning. These factors have been theorised to predict student satisfaction. However, the stepwise linear regression analysis conducted revealed that not all dimensions had an impact on students' perceived satisfaction.

For the first dimension, 'Attitude of the lecturers', the linear regression analysis demonstrated its influence on student satisfaction. Although it appeared as the less influential variable in the final model, the Pearson coefficient showed a moderate positive correlation between this variable and student satisfaction. Students' opinions of their lecturers and their attitude were very positive, showing that this dimension has a significant positive impact and influence on students' perceptions. Thus, if students perceive their lecturers as motivated and well prepared, their satisfaction with the course will be high. Hence, these data support previous theory pinpointing lecturer attitude as a key factor influencing student satisfaction, both in HE in general (Arbaugh 2002; Tsang et al. 2021), and T&I education in particular (Karnedi 2015).

The second dimension was 'Flexibility of the course'. The linear regression analysis revealed it as a predictor of student satisfaction, and the Pearson coefficient showed a moderate positive correlation between this variable and student satisfaction. Students' responses to the questionnaire indicate that no serious disadvantages of online learning were found, and that students were able to organise their work schedule in a more efficient manner thanks to online learning. However, the results for this dimension contrast with the responses to items from the dependent variable, in particular item 51. 'If I were able to choose, I would like to take as many online courses as possible', where more than half of the participants showed a clear rejection of online learning. This contradiction becomes greater when responses for item 53 point out to the fact that students would prefer to take this specific course online if they had to do it again. The reason behind this may be the fact that distance online learning during the 2020/2021 academic year was an unplanned and unsolicited situation, which was surrounded by a context of public health crisis and uncertainty. This may have led students to reject online learning, although they agree with it being an advantageous learning methodology in line with previous studies, which identified that learners perceived e-learning and distance learning as an efficient methodology (Arbaugh 2002). Evidence also suggests that distance learning is appropriate for training in translation tools because it mirrors

the professional reality in which a significant part of translators usually work in an asynchronous or remote manner (Duranton and Mason 2012). Ultimately, the results for this dimension indicate that when the course is flexible and facilitates organisation, student satisfaction increases.

The third dimension, 'Quality of the course', proved to be the most influential factor in student satisfaction both in the linear regression analysis and in the Pearson coefficient, which revealed a strong positive correlation between the two variables. Participants' responses showed a positive perception of the quality of the course, although the rejection of online learning appeared again, when only 44.2% believed that the quality of the course was positively influenced by this methodology. In general, students perceived a highly positive quality of the course, and this perception ended up being the strongest predictor for their general satisfaction with the course. These results are in line with previous theory and corroborate that a well-designed course programme has an impact on student motivation and, subsequently, on perceived student satisfaction (Piccoli, Ahmad, and Ives 2001).

The next dimension was 'Use of ICT'. Although the Pearson coefficient showed a moderate positive correlation with the dependent variable, the linear regression analysis revealed that this was not a predictor of student satisfaction. This contrasts with the positive responses to the items belonging to this dimension. Thus, although students' opinion about the use of ICT tools employed to support online learning was positive, it did not have a significant influence in their general satisfaction with the course. These results support previous empirical studies which concluded that the use of technology does not have a significant impact on perceived student satisfaction (Sun et al. 2008). Still, the use of ICT tools is an important factor in distance learning (Piccoli, Ahmad, and Ives 2001), as they are essential for synchronous communication between lecturers and students, and the results from this study confirm it has a positive impact on student satisfaction.

The dimension 'Use of online learning platforms' was not a significant predictor for student satisfaction, either, although it presented a moderate positive correlation to the dependent variable. In general, students' perceptions of the online learning platform were positive, but, even though students considered these platforms to be useful, their overall satisfaction is not determined by them. This fact contrasts with previous studies in which learning platforms and systems showed a significant impact on student satisfaction in HE (Sun et al. 2008). In the same vein, the pivotal role of learning systems in T&I training has also been discussed as they allow for content distribution, synchronous communication and evaluation of students' progress (Mangiron 2021). Indeed, the use of these technologies has been suggested to reduce students' cognitive loads and increase their confidence about their computer skills (Olvera-Lobo et al. 2007; Yu et al. 2018). This contradiction between the results of the study and existing theory may be due to the limited number of participants in the study, or to the fact that the questionnaire only evaluated students' opinions about the use of learning platforms in one course.

The dimension 'Environmental issues', according to the linear regression analysis, was one of the most influential variables for student satisfaction, and it presented a moderate positive correlation to it. This is in line with previous theory analysing the correlation between environmental issues and student satisfaction, both in HE in general (Arbaugh 2000), and in T&I training in particular (Ahrens, Beaton-Thome,

and Rütten 2021; Duranton and Mason 2012; Gómez and Weinreb 2002; Valentine and Wong 2021). At the same time, 'Environmental issues' was the variable where more negative opinions were expressed by students, and this might be a reason behind the identified rejection of online learning. Approximately half of participants expressed negative perceptions about student-to-student interaction and participation in class discussions. As such, online learning does not seem to serve students' needs regarding peer interaction and class participation. It should be noted that participants in the study were a young group (20.3 years old on average) who were enrolled in an undergraduate programme originally designed to be attended face to face, which was shifted to online teaching in a sudden manner, and who had to face a series of difficulties due to an unknown and unprecedented situation and the short planning time on the part of education institutions and teaching staff. All this may be the reason behind the considerable rejection of online learning identified among participants.

The last independent variable, 'Micro-learning methodology', was not a predictor of student satisfaction. In fact, it showed the weakest correlation to the dependent variable. Nevertheless, the frequency analysis for this dimension showed an overwhelmingly positive experience on the part of the students. This is in line with existing evidence on the benefits of applying a micro-learning methodology, as it allows for course flexibility and positively influences academic performance, knowledge acquisition and student satisfaction (Jomah et al. 2016; Leach and Hadi 2017; Nikou and Economides 2018; Wen and Zhang 2015). The findings on the role of micro-learning cannot be discussed in relation to previous theory in T&I training, as no studies were found on the use of this methodology. Nonetheless, previous theory discusses the positive impact of other disruptive methodologies, such as situated learning (Kiraly 2012; Risku 2016), or PjBL (Hansen-Schirra, Hoffman, and Nitzke 2018; Robinson, Olvera-Lobo, and Gutiérrez-Artacho 2016). Thus, the application of new methodologies seems to have a positive impact on student satisfaction, which is supported by the results of this study.

7. Conclusion

The literature on student satisfaction considers a number of factors that influence students' final perceptions. The results of this study revealed that for the Computer Tools for Translators and Interpreters course, delivered online in 2020/21, the four factors that significantly influenced student satisfaction were: 'Quality of the course', 'Environmental issues', 'Flexibility of the course' and 'Attitude of the lecturers'. Conversely, 'Use of ICT', 'Use of online learning platforms' and 'Micro-learning methodology' did not turn out to be predictors of student satisfaction.

The results of this study disclose students' perceptions of online learning and the use of innovative teaching methodologies in a context of crisis. Firstly, perhaps most revealing is the fact that more than half of the students rejected online learning and indicated that they would not want to follow online courses if they were given the option. The reasons for this rejection, according to the results, may be the imposition of online learning and a decline in peer interaction. These are issues that should be addressed by educators and HE institutions, as the current context and the global market seem to be moving towards teleworking,

especially in a field where remote working is already common practice. In this sense, the actions carried out during this course reinforced this perception, as the results show that the students considered themselves satisfied with the development and outcomes of the course and indicated that they would prefer to take this course online if they had to do it again.

Secondly, the students' opinions about the use of innovative teaching methodologies are highly encouraging, as they reveal that the use of a micro-learning methodology was very positively received. Although the use of this methodology was not considered a strong predictor of student satisfaction, the authors feel encouraged to continue applying this methodology, even after regular face-to-face teaching resumes, given the overwhelmingly positive perceptions expressed by the students. In addition, the proposed methodology could easily be transferred to other T&I courses with practical and technological aspects, such as audio-visual translation or documentation. Moreover, future lines of research may include the exploration of other innovative teaching methodologies for T&I training.

This study has shown that the strongest predictor of student satisfaction is the perception of good course quality. When students perceived that the course dynamics, teaching methodologies and materials were well prepared and designed, their ultimate satisfaction increased. Therefore, good online learning design and implementation is key to ensuring that students have a good experience with this mode of delivery. It is also important to encourage interaction between teachers and learners to ensure that learning is flexible and for instructors to show a motivated attitude. In conclusion, although innovative teaching methodologies enhance student satisfaction, they are not the determining factor. Instead, good curriculum design, environmental factors and lecturers' attitude are far more decisive and, as such, these are the elements that require closest attention in T&I training.

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Appendix

Course dimensions	Item
Independent variables	
Attitude of the lecturers	(1) The motivation of the lecturers was high (2) Lecturers were well prepared
Flexibility of the course	(3) Taking this course online allowed me to arrange my work for the course more effectively (4) The advantages of taking this course online outweighed any disadvantages (5) Taking this course online allowed me to spend more time on non-related activities (6) There were no serious disadvantages to taking this course online (7) Taking this course online allowed me to arrange my work schedule more effectively (8) Taking this course online saved me a lot of time commuting to class (9) Taking this course online allowed me to take a class I would otherwise have to miss
Quality of the course	(10) Conducting the course online improved the quality of the course compared to other courses (11) The quality of the course compared favourably to my other courses (12) I feel the quality of the course was largely affected by conducting it online (13) All materials were available on time
Use of ICTs	(14) I feel that the ICTs used in this course are easy to use (15) I feel that the ICTs used in this course have many useful functions (16) I feel that the ICTs used in this course have good flexibility (17) I feel that the ICTs used in this course are easy to access
Use of online learning platforms	(18) Using an online learning platform has enhanced my effectiveness in the course (19) Using an online learning platform has improved my performance in the course (20) I feel that using online learning platforms has been useful in the course (21) Using an online learning platform has enhanced my productivity in the course
Environmental issues	(22) Student-to-student interaction was easier than in other courses (23) Using an online learning platform has enhanced my productivity in the course (24) I learned more from my fellow students in this class than in other courses (25) Lecturers have often encouraged student-to-student interaction (26) Interacting with other students and the instructor using an online learning platform became more natural as the course progressed (27) Lecturers have often encouraged student-to-student interaction (28) I feel that the quality of class discussions was high throughout the course (28) It was easy to follow class discussions (29) Classroom dynamics were not much different than in other face-to-face courses (30) Once we became familiar with the online learning platform, it had very little impact on the class (31) The work atmosphere was positive (32) I was able to actively participate in this course
Micro-learning methodology	(33) The availability of videos with course contents improved the quality of the course compared to other courses (34) I feel the quality of this course was largely affected by the availability of videos with course contents (35) All videos were available on time (36) I feel that the videos used in this course are easy to use (37) I feel that the videos used in this course have very useful contents (38) I feel that the videos used in this course have an appropriate duration

(Continued)

(Continued).

- (39) I feel that the videos used in this course are easy to access
- (40) Watching the videos has enhanced my effectiveness in the course
- (41) Watching the videos has improved my performance in the course
- (42) I feel that the availability of videos with course contents has been useful in the course
- (43) Watching the videos has enhanced my productivity in the course
- (44) I am very satisfied with the availability of videos with course contents
- (45) I feel that the videos used in the course served all my needs
- (46) If I were to take this course again, I would like to be able to use the videos again
- (47) The availability of the videos has made it easier than other courses I have taken
- (48) Using the videos has been appropriate for the content of the course

Dependent variable

Perceived satisfaction

- (49) I am very satisfied with this course
 - (50) I feel that this course served all my needs
 - (51) If I were able to choose, I would like to take as many online courses as possible
 - (52) I am happy with the way this course has developed
 - (53) If I were to take this course again, I would take it online
 - (54) Taking this course online has made it easier than other courses I have taken
 - (55) The teaching methodology used has been appropriate to the contents of the course
 - (56) An appropriate amount of time has been devoted to each topic
 - (57) I have learnt a lot in this course
 - (58) The assigned tasks were easy to do
 - (59) The assigned tasks were clear and precise
 - (60) The topics covered have been appropriate
-