BEYOND THE MEETING ROOM – ON-SITE VS. REMOTE INTERPRETING: A SET OF EXPERIMENTAL STUDIES

Marco António Cerqueira Mendes Furtado
ISCAP
Portugal
mfurtado@iscap.ipp.pt

Abstract

This paper presents the background of a doctoral investigation in interpreting studies and is mainly focused on a set of experiments carried out in on-site (OSI) and remote interpreting (RI) settings, involving two groups of interpreter trainees and one group of professional interpreters. The procedures adopted to evaluate both the performance of these subjects and the quality of the interpreting tasks in the two different environments revealed the absence of statistically significant differences in the two scenarios compared. This research is therefore also devoted to reflect upon the reluctance shown by professional interpreters towards RI, even though discrepancies between both distinct settings may not necessarily be perceived.

Resumo

O presente artigo insere-se no âmbito de um trabalho de investigação doutoral em estudos da interpretação e centra-se num conjunto de experiências realizadas em ambientes de interpretação in situ e remota, envolvendo dois grupos de alunos-intérpretes e um grupo de intérpretes profissionais. Os procedimentos adotados para avaliar tanto o desempenho dos sujeitos experimentais como a qualidade das tarefas interpretativas nos dois ambientes acima referidos revelaram a ausência de discrepâncias estatisticamente significantes nos dois cenários comparados. Como tal, este trabalho de investigação propõe-se igualmente refletir sobre a relutância mostrada por intérpretes profissionais face à interpretação remota, não obstante o facto de não terem necessariamente a perceção de diferenças entre os dois ambientes.

Keywords: On-site interpreting, remote interpreting, experimental studies in interpreting, quality, performance, interpreter training

Palavras-chave: Interpretação *in situ*, interpretação remota, estudos experimentais em interpretação, qualidade, desempenho, formação em interpretação.

1. Introduction

In an era marked by significant changes in a globalized world as a result of the development of sophisticated information and communication technologies, professional translators and interpreters are confronted with revolutionising working methods: remote interpreting (RI) appears as a relatively new mode which becomes viable due precisely to this technological advance.

The first experimental studies within the European Union, the United Nations, Higher Education Institutions, etc., and essays concerning RI reveal that most professional interpreters have shown reluctance towards this new variant of interpretation, and therefore still prefer the traditional on-site interpreting (OSI) mode. There are many reasons pointed out: interpreters consider that their performance might be negatively influenced, for instance as a consequence of the effort resulting from the fact of additionally having to deal with the technological paraphernalia involved; because of unsatisfactory conditions regarding the transmission of both audio and/or visual elements; due to psychological reasons, e.g. loss of concentration and motivation, a strong feeling of alienation, since interpreters lack the perception of being physically present in the meeting room and active participants in the communication process under these working conditions; because of physiological reasons, once interpreters complain about higher levels of fatigue, stress, headaches, nausea; etc. Despite this less positive attitude towards RI, assessment processes designed mainly to evaluate the impact of RI working conditions on human factors have shown no significant differences in quality between on-site and remote interpretation tasks in most experiments mentioned above.

The training of new interpreters under these working methods, i.e. both OSI and RI, is increasingly considered fundamental, as is attested by the addition of RI related courses and subject matter to both graduate and postgraduate programs. One of the first institutions to do this in Portugal was the School of Accounting and Administration of Porto (ISCAP), by integrating the course unit "Teleconferencing and Remote Interpreting" into the Master's Programme in Specialised Translation and Interpreting during the academic year 2007/2008.

The first part of this paper will begin with a theoretical presentation of the concepts of OSI and RI. Additionally, the impact of both working modes on human factors is also to be focused upon. The second part is devoted to experimental studies under both OSI and RI modes. These experiments were conducted not only within the teaching activity developed in the above referred course unit, i.e. with interpreter trainees, but also with professional interpreters. Thus, this section will deal with the detailed description of the experiments, i.e. participants, materials used, procedures, assessment criteria, and results. Despite the fact that the members of the two groups, i.e. both interpreter trainees and professional interpreters all seem to prefer to work under OSI conditions, the results reveal that no significant differences were perceived, according to the quality assessment criteria proposed for these experiments.

2. Interpreting

Interpreting is a specialised profession in which the role of the interpreter is to deliver to his/her audience a speech in a different language, whose content is equivalent and identical to the original speech delivered in a source language. Nevertheless, the interpreter should not convert anything that was said in a source language, word for word, into a target language. In this sense, Wadensjö (2009: 286) alerts that the interpreter's profession goes beyond this activity, referring that interpreting involves "more than […] lip service". Pistillo (2002: 3) shares the same point of view and states that "[...] an interpreter can 'mediate' rather than merely 'translate' in order to improve the communication flow". Thus, the role of the interpreter is – in a wider sense of what is meant by communication process – to

convey a message, in which the performer explains in a different language the content of the original message, as referred by Jones:

> Imagine two people […]. They wish to discuss their work but speak different languages, and neither speaks the other's language […]. So they call in someone else, who speaks both languages, to explain what each is saying in turn. That person is an interpreter. This scenario gives a better idea of what interpreting is all about than a pat definition such as 'immediate oral translation'. Interpreting is about communication. (Jones 2002: 3)

In a wider sense, this specific communication form within the interpretation process can often be very complex. Among speakers of different languages, from different countries, there may be not just the language barrier but many other conditions that must be overcome: communication problems may also arise due to different ideologies, differences in cultural and/or social conceptions which can hamper the communication itself. As regards the interpreter's role, Angelelli (2004: 8) states as follows: "Interpreters have always been necessary, not only for bridging communication between individuals from multilingual and highly advanced civilizations, but also in brokering the social differences among them".

3. On-site and remote interpreting

Both consecutive and simultaneous interpretation methods are suitable to the OSI and RI modalities. That is to say, a small meeting or a large multilingual conference may be interpreted remotely or they may involve interpretation carried out by professionals at the venue. The OSI modality refers to situations in which the interpreter is physically present and gathers with speakers, delegates, target audience, etc. The scenarios can be numerous: the interpreter may be either in the same room, sitting at the same table with all other interlocutors – this is the spot where the interpreter is closer to speakers – or carrying out interpreting tasks inside a booth.

In the current digital era of globalisation and new technologies, the possibility of RI arises. This is a fairly recent interpretation mode, which, according to Almeida, Furtado &

Pascoal (2009), is actually viable due to technological advance. The possibility of the interpreter being shifted from the site of action of its interlocutors, i.e. speakers, delegates, audience, etc., should be highlighted in this context. Although it may be widely accepted that this is a relatively new modality, Moser-Mercer (2003) states that "Despite its air of novelty remote interpreting is not an entirely new idea. The first major experiments were carried out in the 1970s: the Paris-Nairobi ("Symphonie Satellite") experiment by UNESCO in 1976 and the New York-Buenos Aires experiment by the United Nations in 1978".

This variant is fundamentally based on computer technology, yet making use of various other resources, such as audio and/or video conferencing tools. Regarding the importance of computer equipment, and particularly as far as the work of the interpreter is concerned, Sandrelli (2003: 72-73) states that "[…] las tecnologías TIC también poden resultar útiles a los intérpretes […]. En los últimos años los ordenadores han adquirido un papel aún más importante en la vida profesional de los intérpretes […], como soporte tecnológico en las cabinas de interpretación". In this context, and taking into consideration the above mentioned technological advance in the digital age, Baigorri-Jalón (2004) appeals to the need for students' training: "[…] it is better to move with the times and […] specialised schools should incorporate new technologies into their programs so that they can prepare future interpreters in accordance with the evolution of time" (p. 165).

In this form of distance communication various modalities may be enumerated. In an interview by Vincent Buck (2000), Panayotis Mouzourakis refers to two different situations. On the one hand, the concept of teleconferencing should be considered:

> Remote conferencing generally refers to any meeting where all of the participants are not physically present in one place but are linked via video and/or audio. In the specific context of interpreting, this implies that interpreters work in front of a screen without direct view of the meeting room or the speaker. Mouzourakis (2000)

In this first case, all the participants in a given communicative situation are physically distant from each other, but able to communicate by means of audio and/or video links. On the other hand, and particularly within the context of interpretation in videoconference

communication settings, the interpreter is physically present at the same spot of at least one of the interlocutors. Thus, Mouzourakis (2000) states in the same interview that "This is different from video-conferencing where the interpreter is still physically present in the meeting room where most delegates are gathered, except for one or more participants who are attending remotely via a video link-up".

These forms of distance interpretation, however, do not apply only to teleconferencing or videoconferencing settings. In this mode, interpretation services are also found in many countries within the context of community services, for instance in telephone interpretation settings, that is to say, audioconferencing scenarios: "[it] refers to sound-only teleconferencing, as for instance in a conventional conference call" (Mouzourakis 1996: 22). As far as these environments are concerned, Lee points out that "Telephone interpreting […] is closely linked with community interpreting in general, which serves to assist immigrants and other language minorities in their access provided by the host countries" (Kalina 2002, in Lee 2007: 231).

In the context of interpreting services via telephone, Lee suggests three different situations: either the interpreter is placed at the same location of at least one of the two interlocutors of the telephone conversation; at a different location, whilst the two interlocutors are at the same spot location; or both interlocutors as well as the interpreter are located at different sites. The above illustrated RI features would not apply to the first situation pointed out by Lee, according to the differentiation presented by Mouzourakis; on the contrary they are patent in the other two settings referred by Lee, once the interpreter is not physically present at the same location of the interlocutors in the telephone conversation.

There is evidence of some parallelism between the approach suggested by Mouzourakis (2000) and the differentiation presented by Braun & Taylor (2011). In the context of distance interpretation, and more specifically in the field of interpreting in criminal proceedings, they state that

> To cover the increasing diversification of interpreting situations involving a video link, a broad distinction was made in the project between videoconference interpreting (VCI) and remote interpreting (RI). Videoconference interpreting is the

> form of interpreting that is used when the proceedings take place at two video-linked locations (e.g. court and prison), with the interpreter being situated at either end of the link. Remote interpreting (RI) is the form of interpreting that is used when the proceedings take place at a single location (e.g. a courtroom), with the interpreter working via video link from a remote location (e.g. another courthouse). (Braun & Taylor 2011: 2)

As regards this study, this will be the RI concept considered to assess the interpreting tasks carried out remotely by the participants in those situations in which they had no direct eye contact, neither with a speaker, nor a possible audience.

The above mentioned reluctance towards the RI mode is closely linked to the situation reported by Baigorri-Jalón (2004), when he points out the similar resistance regarding the transition phase between the consecutive and the simultaneous interpreting modes within the United Nations:

> […] for the time being, any new interpreters at the UN in the immediate future will respond to the present model: […] Together with the established interpreters, they will constitute a strong resistance to the introduction of the new technologies, just as the old consecutive interpreters fought against simultaneous or the veteran translators fought against the use of computers. (Baigorri-Jalón 2004: 165)

The aspects underlined by Baigorri-Jalón are certainly related to different interactional communication forms, lying beneath the two different interpreting methods to be compared within this research. As far as pragmatic features are concerned, particularly the ones related to interactional communication forms in interpretation settings, it is widely accepted that professional interpreters traditionally still prefer to work in OSI environments. A reflection upon the reasons that make interpreters reveal preference for the OSI working modality and show reluctance and a less positive attitude towards RI is essential. Although in some circumstances the pragmatic features of interactional communication found in both interpreting modalities do not necessarily differ (Furtado 2014&forthcoming), interpreters claim to have a better perception of the atmosphere in OSI settings as a whole. Under these circumstances, they state to have stronger feelings of presence in the events in which they

actively intervene and where there are other forms of interacting with interlocutors, which presumably are not found in RI environments. Therefore, as far as remote settings are concerned, and once these do not allow interpreters to interact similarly as in on-site environments, they often complain about strong feelings of isolation and alienation.

4. The impact of osi and ri on human factors

Conference interpreting as a profession is indeed challenging and demanding, for it relies on a variety of skills. As a matter of fact, there are certain elements which may actually cause, for instance, high levels of fatigue and stress when interpreting tasks are carried out both consecutively and/or simultaneously. There may be several reasons: when doubts occur and interpreters have to ask interlocutors to repeat what has been said before, in case they actually have the opportunity to do so; moments of hesitations; frequent situations in which it is impossible to hear what is being said due to interference in sound and/or video equipment, which all per se might negatively affect the fluency of any interpretation; etc. These are all factors that may raise reasonable doubts regarding interpreters' abilities. In addition, the profession itself frequently involves a huge cognitive load because of all the effort expended, especially during simultaneous interpreting. Gile presents the following model in which he explains that

> [...] simultaneous interpretation (SI) can be modelled as a process consisting of […] three Efforts […], namely the Listening and Analysis Effort L, the Short term memory Effort M, and the Speech production Effort P, plus a Coordination Effort C, which is required to coordinate the three other Efforts […]: SI=L+P+M+C [.] At each point in time, each Effort has specific processing capacity requirements that depend on the tasks(s) it is engaged in, namely the particular comprehension, short-term memory, or production operations being performed on speech segments. Due to the high variability of requirements depending on the incoming speech segments, processing capacity requirements of individual Efforts can vary rapidly over time, in seconds or fractions of seconds (Gile 1995: 169).

The different degrees of speed at which the source speech is delivered are another element that may influence significantly the quality of the interpreting tasks and intensify levels of pressure. When converting an original speech into a target language, both the processing of the cognitive load as well as the difficulty in dealing with the information units in the original text will tend to proportionally rise in situations when there is evidence of a concomitant increase of the delivery of the original source text. Bacigalupe refers in this respect that

> […] cuando aumentaba la carga cognitiva como consecuencia del incremento de la velocidad de producción del TO, aumentaban también los problemas de cotenido en las ISs […] y disminuían los de expresión y producción, porque una mayor velocidad de producción (y una mayor carga cognitiva, por tanto) obliga a macrogestionar las unidades entrantes, […] a utilizar estrategias de condensación […]. (Bacigalupe 2009: 177)

However, the opposite may also be observed: a too slow delivery of the original speech will obviously result consequently in a slower interpretation. Under these circumstances, and particularly when the interpreter is stuck too closely to the original text, interpretation errors may still occur, even if the cognitive load is reduced. To put it in another way, "[…] una velocidad lenta (menor carga cognitiva) invita a la gestión de todas y cada una de las unidades de TO, y tiene como resultado la profusión de traducciones literales, a menudo poco idiomáticas, y de errores de producción" (Bacigalupe 2009: 177).

In order to somehow overcome these obstacles, interpreters may eventually use other visual means, in case these are used by speakers in their original texts – when handed out before – PowerPoint presentations, etc. Nowadays, these visual aids are very frequently used, as underlined by Seeber:

> Professional conference interpreters are regularly confronted with multimodal input, be it because speakers use facial expressions and gestures while they are speaking, or because they resort to visual aids like slides with text and images to complement or emphasize what they are saying. (Seeber, 2012, p. 342)

However, Gile's perspective (2011), which in this context must not be ignored, clearly points out that the interpreter's exposure to additional visual elements may negatively affect the performance of interpreters, as the reading process of these additional elements may also lead to an increase of the cognitive load.

The use of visual elements within interpreting tasks is also closely linked to RI. As has already been mentioned, the introduction of this new modality has raised many issues and caused reluctance among the professional interpreters' community. RI is considered to be a new specialised field within this profession which also requires a completely new and different professional profile. As a new modality, RI relies also on the new technologies of the current digital era, which despite being necessary in our daily lives, are not always faced with the same enthusiasm and optimism by their users. Under these circumstances, it seems legitimate to dispute professional interpreters' motivations regarding different perspectives towards the features of this new working method. As far as this is concerned, not all professional interpreters may be willing to accept the challenges imposed by RI working conditions. This would require a huge investment in financial resources and time in training sessions. In any case, this does actually neither seem to cause inconvenience nor is it the cause of the main problem. Major issues may lie beneath the actual reluctance towards both RI itself and the use of new technologies. Adaptation will probably be easier for professionals belonging to younger generations, as mentioned by Mouzourakis, in the above mentioned interview by Vincent Buck:

> Introducing new technologies will not make a lot of sense unless the necessary training is provided for interpreters to use them. This will be relatively easy for the new generation of interpreters who have come to take such things as the Internet for granted – much less so for older colleagues. (Mouzourakis, 2000)

However, it should be taken into consideration that lower efficiency ratings do not necessarily have to occur in RI situations mediated by technology. On account of this, high levels of the cognitive load may also be encountered in OSI scenarios. Braun (2011: 269) states that "Interpreting is cognitively demanding, and problems associated with an overload of cognitive processing capacity can be observed in almost any interpreting situation".

Furthermore, the following aspect has to be taken into account: many professional interpreters consider RI tasks to be performed within a virtual space in which feelings of isolation and alienation might cause discomfort. Mouzourakis (2000) states that interpreters are confronted not only with psychological but also physical uneasiness, referring that "As for the intense physical and psychological discomfort experienced by the remote interpreter, these are […] consequence of having to contend with an artificial, inconsistent, virtual environment while already engaged in an extremely demanding cognitive task".

Besides that, not all individuals share the same perspectives and points of view regarding immersive experiences in virtual reality settings, since these perceptions rely heavily on individual and personal features and motivations. For this reason, one must not in any case expect professional interpreters to act differently from other individuals and to embrace new technologies with the same enthusiasm. This form of demotivation and discomfort may cause high levels of stress and affect negatively the interpreters' health and well-being which per se may result in performance below established interpreting quality standards.

Yet, it may probably be considered that today's technological means could possibly provide their users a better response, and hence the enumerated problems might be overcome by means of more appropriate solutions. However, no matter how sophisticated technological tools may be, these will not serve their purpose unless potential users feel properly motivated and willing to optimistically face immersive experiences and develop feelings of presence within virtual environment, being completely unaware of undergoing experiences mediated by technology experience. In this sense, Mouzourakis (2003) states as follows:

> Whether or not presence is the right metaphor for the remote interpreter's predicament, the time has perhaps come for a radical reappraisal of the way in which the administrations of international organisations as well as private conference organisers have dealt with RI till now. Believing that the problems faced by interpreters will go away just by throwing more megapixels at them, or by 'ergonomically' rearranging screens and monitors, amounts to mere wishful thinking […]. The use of sophisticated, necessarily expensive technology, with all its attendant

> complexity, might help in restoring a certain sense of presence, thus alleviating some of the interpreter's discomfort. But it is still unlikely to be able to eliminate it altogether.

Thus, it may be quite difficult for many people to have that sense of presence in virtual worlds, as this depends on many factors regarding inner motivation. Moreover, the absence of these immersive sensations may rely on other factors which are relevant in particular within the interpretation context.

Today's advanced and sophisticated technologies enable people who are distant from each other to participate in conference calls in which they experience communication forms with the transmission of high quality audio and video signals. In several tests conducted to assess differences between OSI and RI working conditions, not only in terms of quality of interpreting tasks and interpreters' performance, but also regarding issues related to health, technology, ergonomics, etc., interpreters frequently complained about several failures in the transmission of both sound and image signals. Too many technical faults mean automatically anomalies during the whole interpreting communication process. This will result in the absence of feelings of presence, which per se will lead to feelings of alienation within a virtual space and feelings of being distant from environments interpreters are traditionally used to work in. All these factors related to professional and psycho-social aspects will thus certainly have a negative influence on interpreters' performance and health due to higher levels of stress, fatigue, etc.

This concern shown by professional interpreters towards RI is indeed an alarming factor. Not indifferent to these issues, several institutions organised a series of studies, namely the joint project between the International Telecommunication Union (ITU) and the École de Traduction et d'Interpretation (ETI), the 3rd Remote Interpretation Test within the European Union, and the AVIDICUS project conducted by the University of Surrey and the EU Criminal Justice Programme. These aimed specifically at comparing and assessing working conditions and the quality of interpreting tasks in both OSI and RI environments in terms of performance, quality, health, stress, fatigue, ergonomics, etc.

On the one hand, the objective results obtained from these studies and projects revealed, in general, the absence of significant differences between interpreters'

performance and the quality of interpreting tasks carried out in the distinct environments observed. At the same time, and despite the similarities found between these projects and studies, interpreters' self-assessment regarding the different communicative situations revealed feelings of having had less positive results and lower performance ratings in RI environments than in OSI situations.

Taking into account all issues raised regarding aspects and perspectives involving the similarities and/or differences between OSI and RI settings, the following section will focus upon the experimental studies conducted with two groups of interpreter trainees and one of professional interpreters, and the assessment of several interpreting tasks carried out in the above mentioned interpreting scenarios, i.e. on site and remotely.

5. Experiments with interpreter trainees and professional interpreters

5.1 Background

This research has been developed for almost five years within the course unit earlier mentioned and is focused on the general background of a doctoral investigation. Thus, several experimental studies in interpretation, which took place at ISCAP's "Multimedia Language Centre" (CML)1, have been structured and planned, bearing in mind the assessment and comparison regarding the quality of the performance of interpreter trainees and professional interpreters in the two different working environments referred to throughout this paper. The main purpose is therefore, by means of these experiments, to come to additional answers to the questions raised within these issues, or rather to find out whether there are significant differences in the quality of interpreting tasks carried out on site and/or remotely by several subjects who participated in the experiments mentioned.

The following sections will firstly deal with the detailed description of the conditions under which all these experimental studies were conducted, the subjects involved, and the materials used. Finally, and after presenting the results of the experiments regarding the

[1] By the time the experimental studies were conducted, the Centre had this designation. It is currently integrated in ISCAP's Support Office for Innovation in Education (GAIE).

quality of the interpretations, a global comparison between the results obtained by students and professional interpreters shall be additionally established.

5.2 Participants

The first study involved a group of twelve interpreter trainees enrolled in the course unit "Teleconferencing and Remote Interpreting" in the Master's Programme in Specialised Translation and Interpreting. Due to the large number of students in this group, they were randomly divided into two groups of six subjects each. While one group performed their task under conditions similar to OSI environments the other group converted the same speech under RI conditions.

The second experimental study involved another group of nine interpreter trainees, also enrolled in the above mentioned course unit. Unlike the procedure of the first experiment, this group was not divided, as this study was based on a speech, which was divided into two different parts and in which a PowerPoint presentation was used. Hence, the first part of the speech was delivered in an on-site environment whereas the other part was held remotely.

These experiments were performed at a later stage with a group of five professional interpreters who had a professional experience of between two and fifteen years.

5.3 Materials

All original source texts chosen for these experiments were in English. The topic selected for the first experiment with students was "Child Abuse and Child Neglect". The two very similar speeches with about 1,500 words each – under both RI and OSI conditions – were held by an ISCAP lecturer, who is an American English native speaker.

In order to create a working environment similar to the conditions found under RI, i.e. a simulated live remote conference, the speech was recorded on videotape and edited with video editing software. The edited video clip – a windows media video (wmv) with high quality features, i.e. a resolution of 720x576 pixels and 16-bit stereo sound properties with a sample rate of 48 kHz – was approximately 12 ½ minutes long. Each student was

able to follow the projected video streaming in the laboratory used for the task, and to convert it into Portuguese.

The environment under OSI conditions was slightly different. While under RI conditions the students and the speaker did not even have the possibility to establish visual contact with each other, these students had direct view of the speaker and vice-versa. This means that the speaker could adapt the speed of her speech in accordance to the students' interpreting performance, which resulted obviously in the fact that this speech, i.e. the same text was now, under these conditions, 17 minutes long.

The materials used in this first experiment conducted with students were almost the same as the ones used in the first study, which involved the group of professional interpreters. However, due to the reduced number of these participants, another speech had necessarily to be included to be interpreted in the OSI environment. This allowed procedures similar to the ones in the first experimental study. The topic selected for that speech, with approximately 1570 words, was "Video and Computers Games"; its features in terms of vocabulary, language style, number of words, level of difficulty, etc. were very similar to the ones found in the speech held remotely, which was also used during the experimental study with the first group of students (see above). These were the two original texts in the first experiment with the group of professional interpreters.

In order to make this first experience with the group of professional interpreters as similar as possible to the one conducted with the students, the same ISCAP lecturer was asked to deliver the speech while physically together with this group at the same location. This allowed participants to have direct view of the speaker. Under these circumstances, the text had the duration of about 16 minutes.

The second experimental study was, as previously mentioned, carried out exactly under the same conditions in both groups, i.e. interpreter trainees and professional interpreters. Each participant converted a speech divided in two parts from English into Portuguese. During the first part, interpreting tasks were carried out on site, whilst the second part of the exercise was performed in a RI environment. Each of these interpreting tasks were done with the visual help of PowerPoint presentations about a simulated flight of a Boeing 747-400 between the airports of Hamburg and Frankfurt, Germany. The slides of the presentation mentioned had pictures and two short video clips (about five minutes

each) of the different stages of the simulated flight. These visual elements were previously withdrawn from the software "Microsoft Flight Simulator X". These pictures and video clips were then edited, subtitled and placed in the PowerPoint presentations used for the two different parts of the speech held and the corresponding interpreting tasks.

During the first part of the presentation the speaker and the participants were in the same language laboratory. While the speech was being delivered in the presence of the subjects, these were visualizing the PowerPoint presentation with the images and the first short video clip and performing their interpreting tasks.

During the second part of the speech and the presentation of the above mentioned flight simulation the speaker was not physically present at the same location where the interpreter trainees and the professional interpreters were. Therefore, this speech had also to be recorded on videotape and edited with video editing software (see above). In order to ensure the same quality features of the edited video clip, that is to say, in terms of sound and image, as found in the video used in the first set of experiments, the windows media video (wmv) file now created had also a resolution of 720x576 pixels and 16-bit stereo sound properties with a sample rate of 48 kHz. When edited with these features, the video file was placed in a small box in the bottom right corner of the PowerPoint presentation, which was held in automatic narration mode. In this case the participants in this experiment performed their interpretation tasks while listening to the original text and visualizing both the slides and the speaker's rostrum inserted in the PowerPoint presentation.

Both parts of the speech were supposed to have approximately the same number of words and the same duration. Thus, whereas the first part of the original text had about 1910 words and the corresponding speech was delivered on site during approximately 24 minutes (when held during both experiments conducted with trainees and professional interpreters), the second part of the speech held remotely, with approximately 2050 words, had also the duration of about 24 minutes – a feature known beforehand, once the videotape had previously been recorded and placed inside the PowerPoint presentation. Although the first part of the speech had a slightly lower number of words than the second, both texts were presented within approximately the same time limits. This was possible due to improvisations and unforeseen situations during the first part of the task carried out on site.

Although the participants in this second experience were asked to convert the two texts with a simplified, current language style, they had been provided with a glossary with technical terms related to the field of aeronautics, in order to prepare them to be able to carry out their interpretations more easily.

Unlike the previous experiments, both parts of the speech were not held by an English native speaker; this task was performed by the author of this research, who is equally fluent in that language, due to his professional career and experience.

5.4 Procedure

After interpreting each speech into Portuguese, each participant's recorded interpretation was saved as an mp3 audio file with SANAKO digital recorder software. In order to identify each audio file, these were given names like "exp_01_student_A_onsite.mp3", "exp_02_professional_B_onsite.mp3", "exp_01_student_A_remote.mp3", "exp_02_professional_B_remote.mp3", etc.

Each recorded audio file was then transcribed carefully and as accurately as possible on a Word document file. The interpreting mistakes were marked on these files, according to the following assessment criteria: Senseless Expressions; Omission/Lack of Accuracy; Unfinished Segments; Corrections/Repetitions; Unnatural Speech Rhythm/Intonation; Hesitations and Noises; Incomprehensibility; Inappropriate Expressions; Grammar Mistakes; and Terminology.

5.5 Results

All experiments conducted with the groups of interpreter trainees and the group of professional interpreters revealed the absence of statistically significant differences between the quality of the interpreting tasks done under the OSI and the RI environments. The results obtained in the first experimental study though (average ratings 194.67 (OSI) vs. 173.67 (RI); $p=0.3355$), showed a more unbalanced performance between both working conditions, once the participants – interpreter trainees – were divided into two different groups. Due to the fact that in all other experiments the interpreting tasks had been

accomplished by the same subjects, students and professional interpreters, in both distinct working environments, i.e. on site and remotely, no significant difference regarding the quality of the interpretations could be perceived. The evidence for the slight difference regarding this statistical similarity, as far as quality and interpreter performance are concerned, can be found in the following values: average ratings 251.78 (OSI) vs. 255.11 (RI); p=0.9425 – second experience with interpreter trainees; average ratings 111 (OSI) vs. 116 (RI); p=0.8724 – first experience with professional interpreters; and average ratings 128.6 (OSI) vs. 127.6 (RI); p=0.9732 – second experience with professional interpreters.

Furthermore, the overall results accomplished by the groups of interpreter trainees and professional interpreters, as far as similar interpreting situations, i.e. interpreting environments within the various experiments are concerned, were also submitted to a direct comparison. On a first approach, and in general terms, both groups of trainees and professional interpreters were found to reveal quite similar behaviours while performing interpretation tasks. However, this first analysis also showed that professional interpreters generally had lower levels of error average ratings than the group of interpreter trainees, according to the assessment criteria selected. Moreover, despite the fact that statistically irrelevant differences regarding the quality of all interpreting tasks carried out by both groups in both OSI and RI settings were revealed (average ratings 185.28 (OSI) vs. 182.24 (RI); p=0.9025), the group of trainees achieved better results while performing tasks in RI environments (average ratings 228.93 (OSI) vs. 222.53 (RI); p=0.8363). On the contrary, the results obtained by professional interpreters pointed out a better performance in OSI settings (average ratings 119.8 (OSI) vs. 121.8 (RI); p=0.9214). Nevertheless, the above stated p-values also show evidence of statistically insignificant differences between the two environments studied and observed.

The fact that graduates have achieved better global results in RI environments may suggest that interpreters belonging to younger generations are probably more willing and able to cope more easily with information and communication technologies of the current digital era, or they might be more dependent on these technologies, rather than the interpreters of older generations. These might be the factors which may lie beneath the global results obtained within the group of interpreter trainees. On the contrary, the results achieved by the group of professional interpreters favour a better performance in OSI

environments, probably as a consequence of having stated to have greater professional experience in OSI scenarios – only one member of this working group has stated to have working experience in RI environments. As a matter of fact, the majority of the members in this working group expressed preference for the OSI variant. As far as these circumstances are concerned, this did not, however, compromise in any case the quality of the tasks performed under RI conditions.

6. Conclusion

RI remains a variant many professional interpreters still feel reluctant to accept. To many professionals in this area it may still be unthinkable to work far from the environment or the place they are usually familiar with and in which they feel most comfortable, i.e. the OSI mode.

As regards the comparison of the overall performance of the subjects who participated in the experimental studies within this research, it appears that the interpreter trainees had better performance in interpreting tasks carried out remotely, while professional interpreters were more successful in the tasks in OSI environments, yet defining the barrier between the real and virtual worlds will probably be always connected to matters of individual character.

This research actually revealed the absence of substantial discrepancies between the work performed in both environments, that is to say, their accomplishment was practically very similar and convergent. Nevertheless, the feelings that interpreters have within their profession should be taken into account, without forgetting the impact and effects these working conditions may have on their health and well-being, especially in the latest RI mode. Interpreters generally consider that they need to make an additional effort to overcome the less positive aspects of RI in order to ensure quality standards similar to the ones achieved in OSI working environments.

Although they may have shown preference for the OSI modality, both trainees and some professional interpreters stated, on several occasions, they had had identical feelings and felt little difference between the physical conditions of the working environments compared. The behaviours revealed by the subjects who participated in this investigation

suggest therefore that their feelings about their own performance in both settings were, in general, positive, regardless of the objective assessment of the quality of their work. Moreover, the observations and conclusions of this research do not indicate divergent results regarding the objective quality assessment of the tasks performed in the various experimental studies. Thus, it should also be considered, on the one hand, whether the reluctance confirmed by professional interpreters towards the RI mode is not related to working habits in the traditional OSI environments, and on the other, related to prejudiced ideas against this latest interpreting method.

References

ALMEIDA, Paula & CUNHA, Suzana (2005) "Imagem com Som ou Som com Imagem?: Uma Experiência Laboratorial em Interpretação Simultânea". *Tradução e Comunicação: Revista Brasileira de Tradutores*, *n.º 14*. São Paulo. 119-147.

ALMEIDA, Paula, FURTADO, Marco & PASCOAL, Sara (2009) 'Formar Intérpretes à Distância: o Ensino da Interpretação Remota e de Teleconferência no ISCAP". *Polissema – Revista de Letras do Instituto Superior de Contabilidade e Administração do Porto, n.º 9*. Porto: Polissema – Instituto Superior de Contabilidade e Administração Porto. 141-162.

ANDERSON, Linda (1994) "Simultaneous Interpretation: Contextual and Translation Aspects". *Bridging the Gap – Empirical research in simultaneous interpretation*. In Sylvie Lambert & Barbara Moser-Mercer (eds.). Amsterdam/Philadelphia: John Benjamins. 101-120.

ANGELELLI, Claudia V. (2004) *Revisiting the Interpreter's Role – A study of conference, court, and medical interpreters in Canada, Mexico, and the United States*. Amsterdam/Philadelphia: John Benjamins

BACIGALUPE, Luis Alonso (1999) "Visual Contact in Simultaneous Interpreting: Results of an Experimental Study". *Anovar/anosar – Estudios de traducción e interpretación, volume* 1. In Alberto Álvarez Lugrís & Anxo Fernández Ocampo (eds.). Vigo: Servicio de Publicacións da Universidade de Vigo. 123-138.

BACIGALUPE, Luis Alonso (2009) *El procesamiento de la información durante la interpretación simultánea: un modelo en tres niveles*. Granada: Atrio.

BAIGORRI-JALÓN, Jesús (2000) *La Interpretación de conferencias: el nacimiento de una profesión – de Paris a Nuremberg*. Granada: Comares.

BAIGORRI-JALÓN, Jesús (2004) *Interpreters at the United Nations: A History (Translated from Spanish by Anne Barr)*. Salamanca: Ediciones Universidad de Salamanca.

BEHR, Martina (2013) "Zur Einbeziehung kommuniaktionswissenschaftlicher Erkenntnisse bei der Evaluation von Dolmetschleistungen". *Quality in interpreting: widening the scope, vol. 1*. In Rafael Barranco-Droege, E. Macarena Pradas Macías & Olalla García Becerra (eds.). Granada: Comares. 83-99.

BRAUN, Sabine (2006) "Multimedia communication technologies and their impact on interpreting". Disponível em: http://www.euroconferences.info/proceedings/2006_Proceedings/2006_Braun_Sabine.pdf (última consulta: 05/07/2010).

BRAUN, Sabine (2011) "Recommendations for the use of video-mediated interpreting in criminal proceedings". *Videoconference and Remote Interpreting in Criminal Proceedings*. In Sabine Braun & Judith Taylor (eds.). Guildford: Centre for Translation Studies, University of Surrey. 265-287.

BRAUN, Sabine, KOHN, Kurt & MIKASA, Hans (1999) "Kommunikation in der mehrsprachigen Videokonferenz: Implikationen für das Dolmetschen". *Wege der Übersetzungs- und Dolmetscherforschung*. In Heidrun Gerzymisch-Arbogast, Daniel Gile, Juliane House & Annely Rothkegel (eds.). Tübingen: Gunter Narr. 267-305.

BRAUN, Sabine & TAYLOR, Judith. (eds.) (2011) *Videoconference and Remote Interpreting in Criminal Proceedings*. Guildford: Centre for Translation Studies, University of Surrey.

BUCK, Vincent (2000) *An Interview with Panayotis Mouzourakis*. Disponível em: http://www.aiic.net/ViewPage.cfm/article66 (última consulta: 05/07/2010).

CARRERA, Pilar & FERNANDÉZ-DOLS, José-Miguel (2011) "To be seen or not to be seen: the presentation of facial information in everyday telecommunications". *Face-to-face Communication over the Internet – Emotions in a web of culture, language and technology*. In Arvid Kappas & Nicole C. Krämer (eds.). Cambridge/New York: Cambridge University Press. 39-53.

CAUSO, José (2003) "La interpretación en el siglo 21: desafíos para los profesionales y profesores de interpretación". *Nuevas tecnologías y formación de intérpretes*. In Jesús de Manuel Jerez (coord.). Granada: Atrio. 143-185.

CRAIG, Robert T., & ROBLES, Jessica S. (2009) "Pragmatics". *Encyclopedia of Communication Theory, vol. 2*. In Stephen W. Littlejohn & Karen A. Foss (eds.). Thousand Oaks/London/New Delhi/Singapore: SAGE. 790-793.

CUNHA, Maria Clara (2007) "Como convive a Interpretação com os Aspectos não verbais da Comunicação?". *Polissema – Revista de Letras do Instituto Superior de Contabilidade e Administração do Porto, n.º 7*. Porto: Polissema – Instituto Superior de Contabilidade e Administração do Porto. 151-158.

DUARTE, Pedro (2008) *A Tecnologia no Ensino da Interpretação: Implementação da Unidade Curricular de Interpretação Remota e de Teleconferência*. Dissertação de Mestrado policopiada. Porto: Instituto Superior de Contabilidade e Administração do Porto.

European Parliament (2005).*Report on the 3rd Remote Interpretation Test, 22.11 - 10.12.2005 – Study concerning the constraints arising from Remote Interpreting*. Brussels: European Parliament, Interpretation Directorate. Disponível em: http://www.euractiv.com/29/images/EPremoteinterpretingreportexecutive_summery_tcm29-151942.pdf (última consulta: 05/07/2010).

FOSS, Karen. A. & LITTLEJOHN, Stephen W. (2005) *Theories of Human Communication (8th edition)*. Belmont: Thomson Wadsworth.

FURTADO, Marco (2011) "Being there or being elsewhere: on site vs. remote interpreting – a case study within interpreter training environments". *Actas do Congreso Internacional de Traducción e Interpretación CITI4 - Hacia Nuevos Horizontes*. Mexicali: Facultad de Idiomas de la Universidad Autónoma de Baja California. ISBN 978-607-607-020-8. 52-61.

FURTADO, Marco (2014a) "A Interpretação de Línguas – Reflexões sobre a Evolução de uma Profissão (Um Ensaio)". *Polissema – Revista de Letras do Instituto Superior de Contabilidade e Administração do Porto, n.º 14*. Porto: Polissema – Instituto Superior de Contabilidade e Administração Porto. 211-226.

FURTADO, Marco (2014b) *A Interpretação* In Situ *e a Interpretação Remota – Realização e Análise Científica de um Conjunto de Estudos Experimentais*. Tese de doutoramento não publicada. Universidade de Vigo, Espanha.

FURTADO, Marco (2014c) "Trabalhar com apresentações na interpretação *in situ* e na interpretação remota – um estudo experimental". *O papel das línguas aplicadas no cenário pós-Bolonha: fomento da autonomia e mobilidade num mundo globalizado? – Actas do XI CONGRESSO INTERNACIONAL AELFE 2012*. In Ivone Cardoso, Gisela Soares & Teresa Pataco (Eds.). ISBN 978-989-95290-5-2. 146-156.

FURTADO, Marco (2015) "Os Conceitos de 'Presença' e 'Pragmática da Comunicação' na Interpretação Remota". *Semióticas da Comunicação Intercultural: da Teoria às Práticas*. In Clara Sarmento & Carlota Moreira (eds.). Porto: Centro de Estudos Interculturais e Edições Afrontamento. 479-495.

GAIBA, Francesca (1998) *The Origins of Simultaneous Interpreting: The Nuremberg Trial*. Ottawa: University of Ottawa Press.

GILE, Daniel (1995) *Basic Concepts and Models for Interpreter and Translator Training*. Amsterdam/Philadelphia: John Benjamins.

GILE, Daniel (2011) "Errors, omissions and infelicities in broadcast interpreting – Preliminary findings from a case study". *Methods and Strategies of Process Research. Integrative approaches in Translation Studies*. In: Cecilia Alvstad, Adelina Hild & Elisabet Tiselius (eds.). Amsterdam/Philadelphia: John Benjamins. 201-218. Disponível em: http://cirinandgile.com/2011%20EOIs.pdf (última consulta: 11/10/2013).

IJSSELSTEIN, Wijnand & RIVA, Giuseppe (2003) "Being There: The experience of presence in mediated environments". *Being There: Concepts, effects and measurement of user presence in synthetic*

environments. In: G. Riva, F. Davide & W.A. IJsselstein (eds.). Amsterdam: Ios Press. 3-16. Disponível em: http://www.neurovr.org/emerging/book4/4_01RIVA.PDF (última consulta: 05/07/2010).

JIMÉNEZ SERRANO, Óscar (2003) "La formación de intérpretes profesionales ante las nuevas tecnologías". *Nuevas tecnologías y formación de intérpretes*. In Jesús de Manuel Jerez (coord.). Granada: Atrio. 187-201.

JONES, Roderick (2002) *Conference Interpreting Explained (2nd edition)*. Manchester/Northampton: St Jerome.

KALINA, Sylvia (2002) "Interpreters as Professionals". *Across languages and cultures, 3* (2). Budapest: Akadémiai Kiadó.169-187.

KAPPAS, Arvid & KRÄMER, Nicole C. (2011) "Electronically mediated face-to-face communication: issues, questions, and challenges". *Face-to-face Communication over the Internet – Emotions in a web of culture, language and technology*. In Arvid Kappas & Nicole C. Krämer (eds.). Cambridge/New York: Cambridge University Press. 1-13.

KO, Leong (2006) "Teaching interpreting by distance mode – Possibilities and constraints". *Interpreting, volume VIII, no.1*. Amsterdam/Philadelphia: John Benjamins. 67-96.

KOMIYA, Ryoichi (2002) "Towards Person-to-Person Virtual Reality Telecommunications Systems". *Virtual Reality Technologies for Future Telecommunications Systems*. In Algirdas Pakstas & Ryoichi Komiya (eds.). West Sussex: John Wiley & Sons Ltd. 9-12).

KRÄMER, Sybille (1998) "Was haben die Medien, der Computer und die Realität miteinander zu tun?". *Medien Computer Realität – Wirklichkeitsvorstellungen und Neue Medien*. In Sybille Krämer (ed.). Frankfurt am Main: Suhrkamp. 9-26.

KURZ, Ingrid (2003) "Live TV interpreting – a high wire act?". *Interlingua 36: Avances en la investigación sobre interpretación* In Angela Collados Aís, & José António Sabio Pinilla (eds.). Granada: Comares. 159-171.

LÄMMERT, Eberhard (1998) "Der Kopf und die Denkmaschinen". *Medien Computer Realität – Wirklichkeitsvorstellungen und Neue Medien*. In Sybille Krämer (ed.). Frankfurt am Main: Suhrkamp. 95-118.

LEA, Martin & PARKINSON, Brian (2011) "Video-linking emotions". *Face-to-face Communication over the Internet – Emotions in a web of culture, language and technology*. In Arvid Kappas & Nicole C. Krämer (eds.). Cambridge/New York: Cambridge University Press. 100-126.

LEE, Jieun (2007) Telephone interpreting – seen from the interpreters' perspective. *Interpreting, 9* (2), 231-252.

LOMBARD, Matthew & DITTON, Theresa (1997) "At the Heart of It All: The Concept of Presence". Disponível em: http://jcmc.indiana.edu/vol3/issue2/lombard.html (última consulta: 05/07/2010).

MOSER-MERCER, Barbara (2003) "Remote interpreting: Assessment of human factors and performance parameters – Joint project International Telecommunication Union (ITU)-Ecole de Traduction et d'Interpretation". Université de Genève (ETI). Disponível em: http://www.aiic.net/ViewPage.cfm/article879 (última consulta: 05/07/2010).

MOUZOURAKIS, Panayotis (1996) "Videoconferencing: Techniques and challenges". *Interpreting, volume I, no. 1*. Amsterdam/Philadelphia: John Benjamins. 21-38.

MOUZOURAKIS, Panayotis (2003) "That feeling of being there: vision and Presence in Remote Interpreting". Disponível em:http://www.aiic.net/ViewPage.cfm/article911 (última consulta: 05/07/2010).

MOUZOURAKIS, Panayotis (2006) "Remote interpreting – A technical perspective on recent experiments". *Interpreting, volume VIII, no.1*. Amsterdam/Philadelphia: John Benjamins. 45-66.

PISTILLO, Giovanna (2002) "The Interpreter as a Cultural Mediator". *Intercultural Communication, 6*. 1-20. Disponível em: http://www.immi.se/intercultural/ (última consulta: 13/11/ 2012).

PÖCHHACKER, Franz (2004) *Introducing Interpreting Studies*. London/New York: Routledge Taylor & Francis Group.

PÖCHHACKER, Franz (2013) "Researching quality: A two-pronged approach". *Quality in interpreting: widening the scope, vol. 1*. In Rafael Barranco-Droege, E. Macarena Pradas Macías & Olalla García Becerra (eds.). Granada: Comares. 33-55.

POYATOS, Fernando (2002a) *Nonverbal Communication across Disciplines – Culture, Sensory Interaction, Speech, Conversation, volume 1*. Amsterdam/Philadelphia: John Benjamins.

POYATOS, Fernando (2002b) *Nonverbal Communication across Disciplines – Paralanguage, Kinesics, Science, Personal and Environmental Interaction, volume 2*. Amsterdam/Philadelphia: John Benjamins.

SANDRELLI, Annalisa (2003) "Herramientas informáticas para la formación de intérpretes: Interpretations y Black Box". *Nuevas tecnologías y formación de intérpretes.* In Jesús de Manuel Jerez (coord.). Granada: Atrio. 67-120.

SEEBER, Kilian G. (2012) "Multimodal Input in Simultaneous Interpreting: An Eye-Tracking Experiment". 341-347. Disponível em: http://kilianseeber.ch/research/p-bl-ka-shns_files/Seeber,%20K.G.%20%282012%29.Multimodal%20input%20in%20simultaneous%20interpreting_An%20eye-tracking%20experiment.pdf (última consulta: 11/10/2013).

SLATER, Mel (1999) "Measuring Presence: A Response to the Witmer and Singer Presence Questionnaire". *Presence: Teleoperators and Virtual Environments 8*. Disponível em: http://www.cs.ucl.ac.uk/staff/m.slater/Papers/pq.pdf (última consulta: 05/07/2010).

SLATER, Mel, LINAKIS, Vasilis, USOH, Martin. & KOOPER, Rob (1996) "Immersion, Presence, and Performance in Virtual Environments: An Experiment with Tri-Dimensional Chess". London: Department of Computer Science University College. Disponível em:

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.34.6594&rep=rep18type=pdf (última consulta: 05/07/2010).

VARELA GARCIA, Mónica (2010) "A interpretación nas Nacións Unidas: dende os seus albores ata hoxe en día". *Inserción profesional d@s estudantes de tradución e interpretación*. In Luis Alonso Bacigalupe (ed.). Granada: Atrio. 27-39.

VIAGGIO, Sergio (1997) "Kinesics and the Simultaneous Interpreter: The Advantages of Listening with One's Eyes and Speaking with One's Body". *Nonverbal Communication and Translation*. In Fernando Poyatos (ed.). Amsterdam/Philadelphia: John Benjamins. 283-293.

WADENSJÖ, Cecilia (1999) "Telephone interpreting & the Synchronization of Talk in Social Interaction". *The Translator, 5*(2). Manchester: St Jerome. 247-264.

WADENSJÖ, Cecilia (2009) *Interpreting as Interaction*. London/New York: Longman.

WATZLAWICK, Paul *et al.* (2011) *Pragmatics of Human Communication: A Study of Interactional Patterns, Pathologies, and Paradoxes*. New York: W. W. Norton & Company, Inc.

WELSCH, Wolfgang (1998) >"Wirklich<. Bedeutungsvarianten – Modelle – Wirklichkeit und Virtualität". *Medien Computer Realität – Wirklichkeitsvorstellungen und Neue Medien*. In Sybille Krämer (ed.). Frankfurt am Main: Suhrkamp. 169-212.

ZEIER, Hans (1997) "Psychophysiological stress research". *Interpreting, 2*(1/2). Amsterdam/Philadelphia: John Benjamins. 231-249.