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Università degli Studi di Milano*

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Focus on LSP Teaching: Developments and Issues

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Giuliana Garzone, Dermot Heaney and Giorgia Riboni

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Traditional and Technological Approaches to Learning LSP in Italian to English Consecutive Interpreter Training

Cynthia Jane Kellett Bidoli

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1. INTRODUCTION

Interpreters have had to deal with multilingual and multicultural encounters since the dawn of time. Long before the rapid spread of globalisation in today's modern world, interpreters already worked in a wide range of settings (cf. Kellett Bidoli 1999). Yet, since the mid-twentieth century, these have expanded to include the translation of diverse conference or community interpreting genres ranging from political discourse to medical, scientific to artistic, legal to educational and many more (Kellett Bidoli 2012). Each of these genres contains its own specific Language for Special Purposes (LSP). Interpreters' constant close encounters with LSPs in real life situations implies that, in interpreter training programmes, there must always be a strong LSP component. Over two years of training at the SSLMIT¹ at the University of Trieste, novices learn to cope with whatever is discursively and lexically 'thrown at them'.

This chapter will firstly offer a short description of what the consecutive interpreting mode entails. This will be followed by discussion of some

¹ The former Advanced School of Modern Languages for Interpreters and Translators – *Scuola Superiore di Lingue Moderne per Interpreti e Traduttori*, now the Section of Studies in Modern Languages, Interpreting and Translation – *Sezione di Studi di Lingue Moderne, Interpretazione e Traduzione*, of the Department of Legal, Language, Interpreting and Translation Studies – *Dipartimento di Scienze Giuridiche, del Linguaggio, dell'Interpretazione e della Traduzione*, of the University of Trieste.

of the challenges encountered in teaching consecutive interpretation from the perspective of introducing students to LSP. Not only will traditional terminological approaches to learning specialised terminology (e.g. manual search and memorisation) and the use of recent Information and Communication Technologies be covered (cf. Sandrelli and de Manuel Jerez 2007; Berber 2008; Orlando 2010; Tripepi Winteringham 2010; Sandrelli 2011; Costa et al. 2014a, 2014b), but also the cognitive aspect related to individuals' perception of specialised terms and the note-taking techniques they adopt with regard to them. The digital pen, in particular, is a new tool now available which can be used to overcome some of the challenges of teaching consecutive in the traditional classroom, as well as offer new research horizons regarding this particular mode of interpreting.

2. CONSECUTIVE INTERPRETER TRAINING

Interrupting the interpreting process in order to search for a term or expression in a dictionary or glossary is impossible, therefore, terminological preparation in some form has to be undertaken with care prior to interpreting. Interpreters may hesitate or pause for split seconds to think of an appropriate term, to look at reference material (if provided by the conference organisers) or to receive spontaneous or glossary-aided prompts from booth mates in simultaneous interpreting settings. However, as Jiang (2013, 78) points out, “the consecutive interpreter’s eye and hands are largely engaged in taking or reading notes – a difference which surely limits scope for using a glossary during consecutive interpreting in most settings”. Prior preparation is of the utmost importance and training students about how to approach it entails building up general knowledge about a particular topic and its related LSP, as well as encouraging them to practise with a wide range of real life conference papers or videos.

During distinct stages of their instruction, Consecutive Interpreting (CI) trainees must learn: how to listen to a Source Language (SL) discourse; comprehend it sufficiently to be able to extract its essential meaning; take down key words and points in note form; mentally reformulate the SL discourse in order to translate it into a Target Language (TL), respecting that language’s linguistic and cultural norms with the sole aid of their notes and memory; and lastly, learn the fundamentals of public-speaking skills to provide future clients with a professional interpretation of up to five or six minutes. Interpreting is a formidable, stressful transla-

tion task under a time constraint and it must be learnt in gradual stages. It is not a task everyone with two or more languages can accomplish. It requires enormous cognitive exertion which Daniel Gile (1995, 178-179) describes through his Effort Model for CI as composed of two phases: a listening and note-taking phase, followed by a speech production phase. In the former phase, efforts involve listening and analysis, note-taking and short-term memory. In the latter phase, it calls for an effort to recall SL information and world knowledge, note-reading and speech production into the TL. An additional effort of coordination of the phases is also involved. Each phase requires effort, “some sort of mental “energy” that is only available in limited supply” (ibid., 161). Thus, keeping a good balance between the efforts should produce a good interpretation. An imbalance may occur, for example, with constant recall of complex LSP (e.g. medical terms) into the TL in the reformulation phase. This may cause cognitive stress owing to the need for increased processing capacity that may end up saturating the overall processing capacity of the interpreter, thus leading to TL omissions, hesitations, misinterpretation or even a loss of linguistic control if the interpretation is into an L2.

Notes are an essential part of working in the consecutive mode, helping students and professionals to follow discourses of varying length and complexity from beginning to end. Rudimentary consecutive note-taking developed after the First World War at the *Paris Peace Conference* from 1919-20 out of sheer necessity. Delegates from the numerous Allied Powers gathered for many months to set out peace terms regarding the defeated Central Powers of Germany, Austria-Hungary, the Ottoman Empire and Bulgaria. Many delegates knew no French (hitherto considered the language of diplomacy) and thus ‘interpreters’ including Jean Herbert were hurriedly sought and compelled to work with several new language combinations. It was not long before they devised individual systems of notes to help them through the long sessions of negotiation. In order to aid their memory in interpreting portions of speech consecutively, CI was born (Herbert 1978, 6), and later adopted by the League of Nations and other emerging international organisations. CI was introduced at the first school for interpreters founded in Geneva in 1941 and a few general principles on note-taking were published in volumes by Herbert (1952) and Rozan (1956), classics of early CI literature. These works laid the foundations for future considerations for or against the use of a systematic notation system (cf. Thiéry 1981; Ilg 1980, 1982). Herbert saw notes as being essential to compliment memory but necessarily of individual character (Herbert 1952, 33), but in the ’70s and ’80s attempts

were made to find some form of systematic CI technique based on the cognitive processes involved in interpretation, more in line with Rozan's method. Seleskovich (1975), Director of ESIT in Paris, began to look at 'intangible' aspects of CI, such as non-verbal transfer of meaning (*vouloir dire*), with memory playing a major role over systematic note-taking. Kirchhoff (1979) and Allioni (1989, 1998) explored notation as a parallel language offering notation systems with their own rules that interact with the interpreter's memory. Matyssek's (1989) approach, on the other hand, turned towards language-neutrality, i.e. the interpreter transferring a message with the aid of a cognitive system of graphics based on neither of the two languages involved in the interpretation. No matter which notation systems are used "they should be maximally suited for fast, economical and effective note-taking, easy to learn, and in compliance with the preferences and strengths of the individual interpreter" (Kohn and Albl-Mikasa 2002, 3).

Notation at the SSLMIT may be composed of a mixture of:

- Abbreviations (e.g. committee – C^{cc}, fishing – F^g, finance – fin, research and development – r&d).
- The use of conventional symbols (e.g. at – @, dollars – \$, woman/female – ♀, divided – ÷, carbon – C).
- Invented symbols (e.g. country – □; dead/deaths/victims – †, building/home – △).
- Arrows (e.g. increase/boom/soar/escalate – ↑).
- Acronyms (e.g. EU, OECD, UNHCR).
- Time indicators (e.g. yesterday – ‹, tomorrow – ‹, last year – ‹).
- Capital or small letters in any alphabet students know (Cyrillic, Hellenic or Arabic etc.), or simple Chinese characters to represent a term or concept (e.g. future – F, *Benvenuti*/welcome – B, delegate/delegation – Δ, *accordo*/agreement – α, with – ⊃, big, huge, large – 大, person, people – 人, factory, yard, depot, plant – 厂).
- The use of simple emoticons [e.g. pleased/glad – :-)].
- Short two to three letter words in any language of their choice if students so wish, independent of the TL [e.g. but, however – *ma* (Italian), considering how – *ut* (Latin), there – *da* (German), where – *ou* (French)].

Students learn to take notes in either English or Italian depending on directionality and the mode they feel most comfortable with (sometimes a mixture, cf. Szabó 2006). Notes are taken vertically down the page, divided into two columns, leaving out superfluous words such as articles, modals, prepositions and the like. In time, they must also develop spontaneity of terminological translation into the TL or speedy retrieval of acceptable

equivalents, while delivering an interpreted speech consecutively at the required level of competence.

Because of the wide range of genres encountered by interpreters at conferences and other settings, containing specialised terminology, specific morpho-syntactic forms and generically differing usages of LSP, students have to practise interpreting a wide range of topics, and become aware of situations and linguistic difficulties they may encounter in the real workplace. They need to be confronted with different types of specialised language, learn to recognise and memorise LSP through specific preparation from the start of their courses so as to permit them to think of meaningful abbreviations, symbols or other graphic solutions for their notes. CI notes are essential for highly technical discourses, as explained by Darò (1999, 291), more so than for less specialised, argumentative or humorous ones, where memory can be relied upon to a greater extent. The amount of note-taking varies from text to text:

In cases where the source discourse has a clear macrostructure, strong cohesive ties and an unambiguous linguistic representation, a few well-chosen notes may be sufficient as retrieval cues to reactivate a complex frame, schema or scenario; in instances of poor macrostructure and weak cohesion, however, very precise note taking will be necessary. The noting of details will also be of particular relevance in connection with such things as enumerations, figures, or names. (Kohn and Kalina 1996, 128)

3. TRADITIONAL APPROACHES TO TEACHING LSP IN THE CONSECUTIVE CLASSROOM

At the University of Trieste, Italian to English interpreting courses offer two modules of consecutive in the first and second year respectively (as well as two of Simultaneous Interpreting – SI). In the first year students receive 30 or more hours of CI class contact structured in three parts:

1. *Listening skills* – Students undertake listening exercises to learn how to listen, memorise, extract and reformulate essential information from short oral discourses, at first English-to-English and gradually from Italian-to-English. Reformulation is initially from memory alone and later accompanied by notes.
2. *Note-taking technique* – Students are instructed on the basics of consecutive note-taking (graphic annotations, symbols and abbreviations, etc.) and guided to formulate their own individual note-taking systems.

3. *Italian-to-English consecutive interpreting exercises* – The topics covered in class are on current affairs of an economic or socio-political nature to introduce current Italian and English language usage, LSP and appropriate register. Starting from short chunks of discourse, speeches are lengthened to a maximum of five minutes by the end of the course. At the time of writing, the focus of this academic year is on Italian agricultural production and humanitarian aid from an Italian and international perspective.

Students are expected to work some 100 extra hours during the year, singly or in pairs/groups, practising note-taking technique, working on discourse delivery, building up English vocabulary and working on English language skills with a native English lector².

In the second year the module likewise offers students 30 or more hours that cover a wider range of topics which vary from year to year. These include more technical language, (e.g. medical, science and technology texts). Particular attention is paid not only to TL linguistic accuracy and semantic/pragmatic transfer but also to pronunciation, prosody, and overall performance to attain the level of competence expected in professional settings. Students continue to work many hours outside class to perfect their CI, as well as take part in a full day mock conference organised by the students themselves (in multilingual CI and SI modes). They also take virtual classes in video conference with the Directorate General for Interpretation (ex-SCIC) of the European Commission in Brussels, where professional interpreters give live speeches and then comment on student performance in real time. This academic year, my second year students were presented with speeches on the production of wine and olive oil (typical Italian products that frequently emerge as topics in conference and business settings), fashion and counterfeiting, EU fishing policy, water management, as well as nuclear and renewable energy sources. These all included much technical LSP, as illustrated in the example in *Table 1*. All class texts and more are put on Moodle a virtual learning platform as course support material for practice.

² In the Italian university system, they are called CEL (*Collaboratore Esperto Linguistico*) and are native speakers of a foreign language, assigned a set number of hours for students to practise oral and written skills in parallel with their curricular foreign language courses.

Table 1. – Example of specialised terminology in olive oil production.

Acido grasso saturo	Saturated acid fat
Acido monoinsaturo	Monounsaturated
Acido polinsaturo	Polyunsaturated
Antiossidante	Antioxidant
Antiparassitari	Pesticides
Cultivar (varietà di oliva)	Cultivar (olive variety)
Decantazione	Settling
DOP	PDO, Protected Designation of Origin
Drupa	Drupe
Estrazione	Extraction
Estrazione per centrifugazione	Extraction by centrifugation
Estrazione a freddo	Cold extraction
Estrazione chimica	Chemical extraction
Fenoli	Phenols
Fiscolo	Pressing mat
Fito ormone	Plant hormone
Frangitore a martelli	Hammer crusher
Frangitura	Crushing
Frantoio a molazza	Stone crusher
Gramolatrice	Mixer
Macinare	To grind

It is important that students learn to build up vocabulary from the very first lesson. They have to widen their general knowledge base but also learn how to go about further developing their language skills and understanding of different topics and genres, so that for a real life assignment they know how to prepare and what to expect. Traditional approaches to learning specialised terminology include telling them to begin a manual search in newspapers or online news, alternating between English and Italian sources. They should start by underlining SL economic and socio-political key words (i.e. high frequency terms) and phraseology, checking they know their TL equivalents. They are then encouraged to write them down on paper and as they learn to take notes, associate them with abbreviations, conventional signs and symbols or create personal mnemonic graphics that must in a short time become as immediately decipherable as their native language alphabet. Paper lists are essential at this early stage because there is no ready-made consecutive note system online as yet, although advances in mobile phone technology have led to the development of emoticons and emojis; a wide range of ‘smileys’ or ideograms first developed for Japanese electronic messaging and web pages, and now spreading elsewhere. In future they may evolve to the extent of including technical terms/concepts which interpreters using tablets or smartphones

could use to take notes (see section 5), but I doubt the effort to remember and select an emoji in split seconds while listening to oral discourse will ever compete with traditional note-taking technique, I think it would saturate the efforts involved.

In 2014 I undertook a short survey in class to check my students' preparation with regard to LSP acquisition. I simply gave them an open-ended question on their methodological approach to learning terminology. Of the 11 students (8 female and 3 male, all at the end of their first year of study, mean age 24), traditional methods mentioned were:

- Reading specialised texts (volumes and journals in English or Italian) on specific topics to understand processes and learn the related terminology (3 students).
- Reading lots of newspaper articles (2 students).
- Listening to radio programmes to build up vocabulary (2 students).
- Watching television programmes to build up vocabulary (1 student).
- Creating lists of terms (without specifying if on paper or electronic) (3 students).
- Creating lists of terms on paper in two or more languages according to topic (5 students) (three students specified that the lists also included invented symbols, abbreviations, etc.; another specified she had a different notebook for each topic; yet another specified he makes monolingual lists in order to rely solely on memory during translation).
- Use of traditional paper-based dictionaries (1 student).

Despite their living in the age of mobile phones and Internet, their resort to pen and paper lists rather than electronic ones is probably dictated by the need, in the first year, to create and write down many invented symbols and abbreviations for memorisation which are impossible to devise otherwise.

4. INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) IN INTERPRETER TRAINING

Pen and paper are shunned by most young people today in favour of digital communication through text messaging and social media (Facebook, Twitter, etc.). Traditional letter writing is a thing of the past. The only practice in traditional writing (outside the education system) is through the use of word processing tools on computers or tablets. The results of my first year class survey also revealed the use of digital instruments for terminology acquisition once note-taking technique is ingrained:

- Creation of electronic lists in two or more languages in Excel or Word, separated according to topic (3 students).
- Creation of a complex personal electronic data base to collect LSP (it was abandoned as found too difficult to handle!) (1 student).
- Use of translation memory software (1 student).
- Use of Internet sites like Wikipedia where texts are available in different languages enabling the comparison of LSP in Italian and English for a wide range of topics (6 students).
- Use of online dictionaries/glossaries (e.g. Oxford Dictionary of Collocations on-line) (5 students).
- Use of the Interactive Terminology for Europe termbase at iate.europa.eu (1 student).

The use of Information and Communication Technologies (ICTs) is a recent development among interpreters, unlike translators who have long become accustomed to it since the 1980s. That decade brought word processing and a plethora of Computer Assisted Translation (CAT) tools such as translation memory systems, word banks, electronic dictionaries, terminology databases (cf. Berber 2008, 3-4), incremented in their usefulness by today's machine translation systems and cloud sharing which for many are still futuristic. Costa et al. (2014b) state that "as far as terminology is concerned, interpreters continue to store information on scraps of paper or excel spreadsheets while the use of technologies and terminology management tools is still very low". Interpreters I know, whether working in the simultaneous or consecutive mode, still continue to rely on traditional glossaries, dictionaries, terminology memorisation, pre-assignment preparation, conference documentation (when provided) and experience gained (e.g. recall of LSP through constituted knowledge). Although technology entered the interpreting profession in the 1920s when new discoveries in electronics made it possible to transmit the human voice through the The Filene-Finlay IBM System and thus open the way to simultaneous interpreting with headphones and microphone (Delisle and Woodsworth 1995, 250), few technological advances were made in the profession over the following eighty years (Berber 2008, 5).

It is only little over a decade that research on ICTs in interpretation has gained a foothold in interpreting studies and interpreter training (cf. Berber 2008, 7-9; Tripepi Winteringham 2010, 89). In the late '90s and early noughties, Gran, Carabelli and Merlini (2002), interpreter trainers at the University of Trieste, researched CAIT (Computer Assisted Interpreter Training). Of specific relevance to CI was the development of InterprIT by Merlini (1996), a digital didactic tool, the first of its kind to aid students

with consecutive note-taking technique by training them to pick out key words and learn to arrange them on the screen to pin point concepts in texts. Sandrelli, a former SSLMIT student, was involved in the development of *Interpretations* and *Black Box* for autonomous simultaneous interpreting practice (cf. Sandrelli 2003, 2005).

CI students and professionals are now able to use CAI (Computer Assisted Interpreting) via access to sophisticated software on computers, smartphones or tablets, providing them with terminology databases, translation memory systems, electronic dictionaries, digital pen technology, video-conferencing / remote interpreting capability, personal corpus collection of speeches (script or video), as well as unlimited Internet resources (cf. Costa et al. 2014a). There is the danger however, of information overload, searching through swathes of data. ICT is beginning to enter the profession through younger generations but “there are very few case studies about ICT that encompass their usage in the different conference interpreting settings, both professional and educational” (Berber 2008, 2). Despite the rapid introduction of ICTs in interpreter training, Berber, after conducting two pilot surveys on their use, firstly among professional conference interpreters and secondly among conference interpreter trainers, found:

There still seems to be a certain resistance to technologies in conference interpreting, as seen in the replies to the surveys [...] perhaps because some feel it might pose a threat to their status, not because they want to be on the speaker's dais, but because they feel memory is more important, while others might feel a natural opposition to technological innovation. And of course there are the economic factors and lack of time on the training side. (Berber 2008, 19)

Despite our living in an era of more advanced ICTs since Berber's surveys were undertaken, recent research on SI by Díaz-Galaz, Padilla and Bajo (2015, 80) found that 68.8% of the 18 professional interpreters they surveyed after a United Nations conference “include loose” paper as one of the media and 31.3% use a paper note book. Less than half the sample (43.3%) use MS Word, and a quarter use MS Excel. A small percentage (12.5%) use online applications. The authors conclude that “Despite the increasing importance of computers, ‘paperless’ remains a scenario of the future for interpreters. The importance of having glossary items on a loose sheet may be explained by the requirement for their practically instant accessibility in SI” (ibid., 90).

4.1. *Research on terminology and knowledge acquisition*

Little research has been done on how interpreters cognitively and practically deal with terminology acquisition. “Only recently [...] have there been tendencies to also describe detailed structural processes within the organisation of terminology work for interpreters, but these efforts have not led to the development of a specific model nor method for interpreting” (Will 2007, 3).

Gile (1995, 131) dedicated a chapter to knowledge acquisition in interpreting and translation, highlighting the essential part it plays in building up an interpreter’s knowledge base but stating it is among “[...] the most time-consuming and difficult tasks in translation, while it is probably also the intellectually least gratifying to most people”, mentioning advance preparation, last-minute preparation and in-conference preparation in some detail (*ibid.*, 147-148). As to advance preparation, he included reading conference documents (if available), taking notes, preparing glossaries, writing comments and explanations. He discussed the debate between the focus on terminology rather than extra-linguistic knowledge and vice versa (*ibid.*, 148-149). Regarding glossary preparation, he called for some sort of organisation, pointing out that most interpreters jot down terms on paper having little time for sorting, which in the ’90s was predominantly manual as few interpreters had access to or familiarity with computer technology. It is not easy to estimate how much has changed today with a lack of research in the area of conference preparation and terminology acquisition. The few investigations focus predominantly on SI.

Some insight is gleaned from Choi’s (2005) survey through a questionnaire approach on 69 professional interpreters (of SI and CI) with various language combinations with Korean. She found that the Internet was an essential tool with the majority of interpreters using it after prior access to conference documents in their search for both thematic information and terminology, especially with regard to science and technology. They spent from three to five days on preparation depending on the difficulty of the topic.

Baselli and Pignataro (2012) investigated the strategies adopted by different groups of interpreters in coping with segments containing Pre-modified Noun Phrases (PNPs) in medical discourse in the English-Italian language combination in SI. Six interpreters divided into three groups of two (novices, new graduates and professionals) took part in the study. The complexity of PNPs in translation generated ambiguities in the SI and it was clear from the study that both coping strategies and specialist

knowledge have to be acquired over time: “the correctly translated PNPs were those already familiar to the students, new graduates or professionals” (ibid., 334).

Scaglioni (2013) examined to what extent preparation influences the SI of speeches from German into Italian with a high density of culture-specific items which, “like technical terms are not always easily inferred based on the context alone, thereby leading to disruptions in the interpreter’s output during SI” (ibid., 82). Participants in the study, eight SSLMIT students and two AIIC interpreters, were divided into two groups, one allowed preparation, the other not, before interpreting two speeches in SI. Findings showed that the cultural items were indeed potential obstacles to fluent delivery, often requiring additional mental effort. The students who were given preparation agreed on its usefulness and “that preparation helps activate correct mental frames relevant to the topic of the speech, thus enabling anticipation and correct translation of cultural items. Moreover, [results] revealed a similar trend in the use of a number of strategies by SI students with preparation and by professional interpreters with no preparation” (ibid., 101).

Biagini (2014-2015) undertook a comparative analysis of the advantages and disadvantages of electronic versus paper-based glossaries for his Master’s thesis. His sample comprised SSLMIT students at the beginning and at the end of their second year in the SI modules. He created a glossary through automated terminology extraction from a corpus he collected containing highly specialised LSP in the domain of engineering (hydraulic turbines). He then selected discourses for the students to interpret that were not too difficult conceptually but which contained sufficient unfamiliar terminology to force them to use his glossaries during two SI sessions: one group used InterpretBank; the other group was provided with a paper glossary. Among several interesting findings (for example, the effect of using glossaries in the booth on omissions or *décalage*), it emerged that more real-time terminology searches were done with InterpretBank and translated correctly, compared to those with the paper glossary. The majority of students found InterpretBank easier to use in the booth than the paper-based glossary.

Díaz-Galaz, Padilla and Bajo (2015) report on an experimental study to assess the effect of preparation on the SI of specialised speeches by professionals and interpreting trainees in the English Spanish language combination. Unsurprisingly, advance preparation provided better interpretation. An English Spanish glossary of 30 specialised terms was provided, but the authors also focussed on the provision of materials such as a 250-word

summary of speeches, biosketches of speakers and 9 slides based on each speech “to recreate the type of research and reading done by a professional interpreter before an actual conference” (ibid., 20).

Although some research on terminology and knowledge acquisition has been undertaken, it remains an underexplored area. How do interpreters use glossaries on the job (in SI and CI)? How many effectively use technological devices? How useful are they? Costa et al. (2014a, 32) are right to call for a new phase of research in this direction, i.e. “gathering detailed information to better ascertain interpreters’ technology awareness and real needs in order to design new tools and improve existing ones”.

5. CI NOTE ACQUISITION AND DIGITAL PEN TECHNOLOGY

“Specialized vocabulary is the access key to specialized discourse [...]” (Garzone 2006, 13) – the type of discourse interpreters have to work with. However, in order to interpret specialised discourse consecutively, much prior preparation of LSP and a good note-taking technique are fundamental requirements for students of CI.

In § 4 mention was made of traditional methods of CI preparation and ICTs now adopted, but once students have memorised bilingual terms and expressions, how do they convert them into consecutive notes? At the SSLMIT students have always been encouraged to develop their own personal system with only a few guidelines provided (Gran 1981; Falbo, Russo, e Straniero Sergio 1999). Students thus develop their own cognitively perceived note-taking system, are given advice on how to arrange notes on the page and more importantly, how to represent the logical links between meaningful chunks of information they hear in the ST. The semantic representation of discourse via a structured graphic means creates a conceptual linguistic code that allows trainers to analyse the procedure. It is possible to trace and identify errors of comprehension, translation and TL reconstruction but, because the notes are so individual and largely non-verbal, it is also possible to trace the students’ mental linguistic processes: e.g. logical links of cohesion, speed of translation, chronology of information heard, or memory lapses (terminology or chunks of information).

As students acquire a note system and begin to deliver short chunks of interpreted discourse, trainers provide some form of critique of their interpretation, commenting on points of syntax, lexis, comprehension of the source text, semantic reconstruction of the target text, etc. In the early

stages of note-taking acquisition, I also walk around the class and comment on individual graphic layout and solutions. I often ask a student to write his/her notes on the whiteboard for everyone to see. This gives other students the chance to learn new ways of representing terms and concepts. However, as the discourses become longer, copying them from a note pad is time-consuming, so the class just listens to one student's TL delivery and my subsequent oral critique. This unfortunately leaves the other students present in class trying to compare their own personal notes with what is being said about notes they cannot see. With 20 or more students in a CI class, it is impossible for me to look at all their individual reams of notes for every exercise to point out individual terminological and note-taking problems. Until recently, a more efficient system to evaluate the progressive acquisition of note-taking technique by students had not been developed. However, with modern technology in the form of digital pens, trainers have new innovative tools to teach with and evaluate consecutive in class.

There are several digital pens on the market aimed principally at the business world³ but adaptable to educational purposes and CI (Orlando 2010). Some work directly on tablets, others on paper and here lies the link with traditional CI classroom note-taking with pen and note pad. The use of digital pens has caught on especially with the introduction of high-tech tablets and the development of digital pen technology Apps like, for example: *TopNotes*, *Paper Desk Lite*, *Idea Sketch*, *ABC Notes*, *Penultimate*, *Note Taker HD* and *Notes Plus*. The tablet serves the consecutive interpreter both as note pad and source of information (e-dictionaries, on-line glossaries, internet connections, etc.). Depending on the type of smartpen chosen for tablet or smartphone, the interpreter can change the colour and width of the 'ink', the size of characters (fonts), highlight, cut, copy, paste, and see several pages at a time and even save notes in a cloud. I have encouraged my students to start experimenting with this technology, as it will catch on in the future workplace (Ferrari 2011). However, in class, I have chosen to use the Livescribe™ Smartpen which for the purpose of classroom CI I find very versatile with first year students and which is paper-based. Hence, they practise with the traditional pen and paper method, yet benefit from technology.

The Livescribe™ Smartpen combines the video recording of CI notes as a student writes them with the synchronised sound input of the SL. It works with special paper covered by microdots forming patterns so that the pen 'knows' exactly where it is on the page and records its every movement.

³ For digital pen reviews see: <http://digital-pen-review.toptenreviews.com/>.

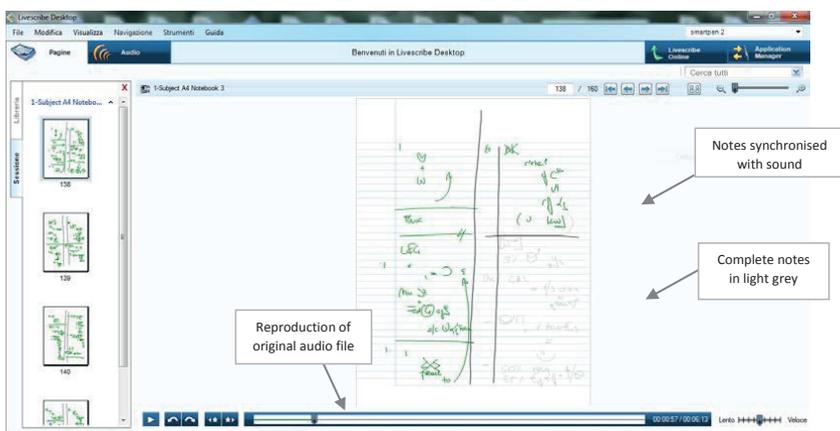


Figure 1. – A consecutive notes screenshot using Livescribe™ Desktop (Kellett Bidoli and Vardé forthcoming).

The graphics and sound are memorised and can be transferred digitally from the pen to any computer that has the Livescribe™ Desktop software installed. Figure 1 shows a screenshot of consecutive notes in grey. By clicking on any part of the notes they turn green and scroll down as you see them being written in the TL. One can hear the original SL at the same time.

This way a single student's notes can be shown to the whole class after they have been quickly uploaded and all the students present can follow my observations and add their own. Thus, it is possible to discuss the notes (the choice of abbreviations, symbols, etc.) and students can quickly pick up new solutions and dispel any doubts. Discussion may ensue as to ways of depicting, for example, agricultural terminology: various crops and animals, agricultural equipment, farming methods, harvesting, processing, retail, etc.

Research is possible with Livescribe as files of notation can be collected to form corpora. Sonia Vardé (2012-2013), a master's student of mine, collected 60 consecutive interpretations of rhetorical and technical speeches⁴

⁴ Two rhetorical speeches: David Cameron's *First Speech as Prime Minister of Great Britain*, Downing Street, 11/05/2010; Giorgio Napolitano, President of the Republic of Italy, *Messaggio di fine anno* ('End of Year Speech to the Nation'), Quirinale Palace, 31/12/2012. Two technical speeches: Janez Potočnik, European Commissioner for Environment, *Planet, People and Profits: How to Deliver a Sustainable Exit from the Crisis*,

from first- and second-year students and from professional interpreters: two speeches each from English to Italian and two from Italian to English. Notes are often indecipherable because of different handwriting and personal technique, so it is necessary to record the interpreted TL rendition and transcribe it in order to check the notes. Transcription presents a major challenge to compiling CI notational corpora. It is time consuming and probably a major reason why there is much less research done on CI than on SI (cf. Kellett Bidoli 2016). To overcome this problem, Marc Orlando (2010, 81) suggests that digital pen technology and ELAN software (Eudico Linguistic Annotator), which creates annotations on video and audio resources, could be used in combination: digital pen to assess SL interpreter's and CI notes, ELAN for assessor's comments and video of the performance and TL.

Vardé investigated what she labelled as 'problems' in CI during the reception stage, which could trigger a deficiency both in the interpreting process and in the TL. She also talked about 'strategy' as the procedure followed to solve or to minimise the effect of 'problems', according to Abuín González's (2007, 32) definitions. She analysed the notation of each participant searching for objective problems (expected difficulties which she identified in the speeches a priori). This included terminology, or subjective problems (unanticipated problems which emerged during note-taking) and she then attempted a classification of the relative 'strategies' adopted to overcome 'problems' in the corpus. This was done by painstaking scrutiny of the CI notes and sound input on the Livescribe™ Desktop files, as well as the TL recordings and transcriptions. Analysis took into account text typology, language directionality and level of training and experience.

For the purpose of this chapter on LSP in CI, the first set of results concerning note-taking methodology is of interest as it was found that there was greater accuracy:

- during rendition of the technical texts;
- when the source text was delivered in the mother tongue;
- and, as expected, in the renditions of the more experienced interpreters.

Technical texts tend to contain more LSP which one would expect to cause greater problems for interpreters, such as inaccuracy rather than greater accuracy. Vardé's finding might be explained because, while listening to technical discourses, the interpreters took down more notes (Kohn and Kalina 1996, 128; Darò 1999, 291), or paid more attention in

Berlin, 13/11/2012; Antonio Tajani, Vice president of the European Commission, *Presentazione del piano d'azione Imprenditoria 2020* ('Presentation of the Entrepreneurship 2020 Action Plan'), Berlaymont (Bruxelles), 09/01/2013.

the expectation of hearing specialised terminology. More accurate reformulation from the L1 is logical as comprehension of technical terms and concepts is easier in one's mother tongue. Equally logical is that the more experienced the interpreter the better the rendition. Albl-Mikasa's study on developing and cultivating interpreter competence reflects:

[...] a transitional process from novice to expert, in which regular and targeted efforts and measures (in the sense of deliberate practice) are confined to the competence *development* stages and are then superseded, in the competence *cultivation* phase, by mostly intuitive and experience-enhanced, and to some extent meta-reflective and self-regulatory activity, which is predominantly on-the-job and assignment-based. (Albl-Mikasa 2013, 33; original italics)

Vardé (2012-2013) confirmed that with note/sound synchronisation it is possible to observe, trace and count features of the interpreted text which, during normal oral critique sessions in class, are inaccessible to such a high degree of accuracy. The correct use of LSP terminology can be investigated among other features like ear-voice span, additions, corrections, hesitations, false starts, repetitions, figures of speech, names, facts and figures.

CAI tools available to simultaneous interpreters are extendable termbases, or terminology management systems (Tripepi Winteringham 2010, 93; Costa et al. 2014a) which allow interpreters 'hidden away' in the interpreting booth to retrieve a term quickly on-screen at the push of a button. This is not possible in a CI situation, but an alternative now exists in the form of digital interactive glossaries with Livescribe. Such glossaries have to be compiled manually in a Livescribe Notebook by the SI or CI interpreter before meetings or conferences. Michael Ferrari illustrates an example of fishing terminology (2011, 5). Fish species or other terms related to fishing are written manually in the SL in an alphabetically ordered list with a smartpen and their translation in the other working languages is pre-recorded by the pen. While taking notes during a meeting, the interpreter can tap on a dot next to the term in the TL language required, and hear it through headphones attached to the pen.

6. CONCLUDING REMARKS

Interpreting as a profession thrives on globalisation which is generating a multitude of multilingual and multicultural encounters throughout the world. As these encounters increase, so too do the numerous occasions in which Languages for Special Purposes in institutional, scientific, aca-

dem, business and other professional settings become incorporated in discourse. This chapter has focused on CI, a very specialised though little researched form of translation, taught in interpreter trainer institutions worldwide and has outlined some of the challenges encountered in teaching CI trainees how to acquire LSP and translate it adequately.

At the SSLMIT in Trieste, as mentioned, students develop their own personal CI note-taking system with only a few guidelines provided (Gran 1981; Falbo, Russo, e Straniero Sergio 1999). The semantic representation of discourse via a structured graphic creates a conceptual linguistic code that allows trainers to analyse a one-off-event: the finished product, i.e. the consecutively interpreted text which according to the genre and topic of the discourse will contain different types of LSP. Students are taught traditional methods of handling LSP in CI as well as an introduction to modern technologies available for terminology management and specialised knowledge acquisition. An innovative technological tool can aid trainers of CI. With digital pen technology it is now possible to record notes as they are written, upload the notation and observe it on-screen and thus follow the cognitive process. One can go back innumerable times to trace and identify errors of comprehension, translation and TL reformulation, for example specialised terminology. Because the notes are so individual and largely non-verbal, it is now possible to trace the students' mental linguistic processes not only in LSP translation, but also in logical links of cohesion, speed of translation, chronology of information heard, memory lapses (of terminology or chunks of information) and *décalage* (ear-voice span), etc.

The principle aim of this chapter has been to introduce linguists to some of the practicalities of teaching CI, explaining how interpreters learn to cope with LSP acquisition in a university environment from a pedagogical and translational point of view. A second aim has been to illustrate how technology is playing an ever increasing role that can be useful both in the classroom and in academically researching the linguistic challenges posed by LSP contained in consecutively interpreted discourses.

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