

# Digital pen technology and consecutive interpreting: another dimension in note-taking training and assessment

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## Abstract

*Rules of note-taking have been defined and modelled in order to be taught during training of consecutive interpreting. However, not much has been done to find relevant ways of evaluating the progressive acquisition of such systems and of note-taking skills. When instructors want to assess an interpretation, it is generally the quality of the consecutive interpretation and the final notes which allow them to give feedback and evaluate the performance. Such a product evaluation of the interpretation is generally made without being able to clearly distinguish the process of note-taking. Thanks to digital pen technology, trainers have now the possibility to capture simultaneously the video of the notes being taken and the audio of the speech, and therefore can provide better advice and remedial strategies to their students. Such technology is presented in the following article along with pedagogical suggestions for its use and for training in consecutive interpreting.*

## 1. Introduction

The debate about the development of note-taking skills in the training of interpreters has always occupied an important place in the T&I industry as well as in the academic and education field. Ilg (Ilg and Lambert 1996:

78) pointed out that as the technique remains highly personal and individual, some instructors and practitioners are sceptical or neutral about the necessity to teach note-taking while others tend to promote its systematic instruction as a kind of code superimposed on language. Whether it is taught systematically or not, practitioners know that an effective note-taking technique is a necessary tool for any consecutive interpreter to perform well, and that it must be seen as a crutch whose function goes beyond that of a simple summarized reproduction of an utterance on paper, and which really works as a memory reinforcer.

Despite the consensus that to provide a good consecutive interpretation it is recommended to have developed a good system of notes, nothing has been said about how to evaluate these systems during the training of future interpreters. In this article, I would like to discuss a new approach to the teaching of note-taking – and more precisely the assessment of note-taking – which relies largely on the use of new available digital technology. As Peter Lindquist showed in his 2005 study on simultaneous interpreting, advances in technology have begun to help us to examine empirical data in different digital forms and offer trainers the possibility to make assumptions easy to apply practically in the classroom.

## 2. Is note-taking too personal a technique to be taught?

One major problem in the debate on teaching note-taking systematically or not lies in the difficulty to find a clear answer to the question about the system being a too personal one or not. As Ilg pinpoints, “The consensus among those who have taught note-taking in a systematic manner is that any system should be highly individual but based on common-sense rules of *efficiency* and *economy*” (Ilg and Lambert 1996: 78). The system of notes developed by each interpreter is surely very personal, even if symbols and ways of noting ideas and links can be borrowed from existing modelled systems. The problem for trainers in encouraging their students to develop their own personal systems freely is often the impossibility to observe these systems *in the process of being developed* throughout the training, and therefore, the incapacity to provide effective advice or remediation. What future interpreters should be taught through any curriculum is that training in *consecutive interpreting for speeches* (considering *speech interpreting* different to *dialogue interpreting* inasmuch as notes are not required in dialogue interpreting, but both being consecutive interpreting exercises) requires the development of a personal note-taking system, but that this skill is only one of those proper to this mode. Indeed, there are too many variables in a speech interpretation to limit its quality to merely good notes. As all trainers know, interpreting training is not language teaching. Similarly, interpreting students must understand that consecutive interpreting is not limited to

note-taking. Students must be regularly reminded that notes are an essential ally for them to provide a good speech consecutive interpretation, but that they can also become their worst enemy, especially when students try to write the speech in its entirety. Such a task is simply impossible and useless as it generally entails the Nose-in-the-Notes-Syndrome during the interpretation, and an incoherent production, both contrary to and incompatible with the act of communication an interpreter is supposed to perform.

It is possible to teach – and therefore to learn – how to take good notes. But as for any skill to be taught, whatever the field, a clear pedagogical project with a clear progression, a clear evaluation strategy, and clear objectives must be designed. As Gentile alluded to as early as 1991, a good interpretation encapsulates many parameters that need to be broken down to be properly analysed and taught: “The difficulty [of teaching note-taking] lies in separating the teaching of a system from the task of interpretation” (1991: 346).

### 3. Different components to be broken down in the curriculum

The following example of curriculum is implemented at Monash University, Melbourne, in the Master of Translation and Interpreting Studies, with the objective to make trainees aware of the importance of each of the different components. In the interpreting stream, students are trained to develop their personal, efficient and economical system of notes progressively, over three semesters. However, following the same belief as many trainers of the field (Ilg and Lambert 1996, Ficchi 1999), note-taking activities for speech interpreting are introduced after a few weeks of studies, after other exercises have been practised: listening comprehension, analysis and oral production of speeches; memory drills (visual and audio); written and oral paraphrasing and summarizing exercises; but also situations where students develop an aptitude to act and to perform (notably through dialogue interpreting situations).

#### 3.1. Memory capacity

Regarding the challenges of writing notes, researchers have shown that, given the information processing challenges facing many students, the act of writing previously mentioned ideas might cause critical information to be missed and/or be misinterpreted, and that certain note-taking practices can produce notes that are incomplete and ineffectively organized and can contribute to students’ failure to record many important points in a speech or a lecture (DiVesta and Gray 1973, Kiewra and Benton 1988). These problems are underscored in research studies that have identified

the cognitive requirements of successful note-taking. For instance, Kiewra and Benton found that good note-takers have sufficient *working memory capacity* to “attend, store, and manipulate information selected simultaneously, while also transcribing ideas just presented and processed” (1988: 35). Those with limited working memory capacity may experience cognitive overload attempting to execute these multiple tasks integrally. Although note-taking facilitates learning/comprehension for note-takers with greater working memory capacity, it may be detrimental for learners with more limited capacity (DiVesta and Gray 1973, Kiewra 1989).

Alexieva, in her three-stage training of note-taking (1994: 199), quotes Gile’s 1991 study which pointed out too that consecutive interpreting is impossible without notes but that, at the same time, note-taking diminishes focus and processing capacity available for different tasks, and, therefore, impairs memorization. She recommends introducing note-taking instruction in the last stage only. Interestingly, she points out that during this Note-Taking Instruction Stage, students adhere very quickly to the principles stated in existing models or systems of notes (especially the importance of the layout to get a structure in their notes), but also that their performance remains low for a rather long period because their energy is spent on different decision-making steps and, therefore, their memory operational capacity weakens (1994: 200). This suggests that if memory exercises and note-taking are introduced at the same time and too early in the training, students’ performances will suffer from too many information processing challenges.

Consequently, as far as progression and curriculum are concerned, it does not seem relevant to expose interpreters to note-taking exercises too early in their training. Because of the above mentioned reasons, students should be first exposed to memorization exercises and be convinced that their memory capacity will be one major asset in the profession.

### 3.2. Performing and acting

As a good interpreting performance is assessed on the content accuracy, the quality of the expression, and the presentation, it is invaluable for interpreters to be trained to *public speaking*, to *acting*, and to the *production of impromptu structured and coherent speeches*. Exercises such as role plays during domain specific dialogue interpreting situations (e.g. in healthcare, legal or education contexts), mock business meetings, mock trials or conferences, are all opportunities for students to develop their aptitude to act, to perform in public, and are also good memorization exercises as students must learn their lines – their role – before coming to class. Support in phonetics, phonology, voice placement, as well as lectures on kinesics and nonverbal communication, are also arranged and scheduled in the curriculum to ensure better communication skills.

### 3.3. Coherence and *skopos*

The importance of coherence of the interpretation as one main pedagogical objective in consecutive interpreting has been underlined by many (Gile 1983, Gonzalez *et al.* 1991, Bastin 2003) on the grounds that a good interpreter is expected to give a convincing statement. As far as the interpretive act is concerned, Bastin (2003: 175) suggests that the structure of the conceptual relations is important for the purpose of communication. An essential characteristic of a successful interpretation is its *coherence*: a guarantee of the communication effectiveness and of the production quality. Reporting on the evaluation of different consecutive speech interpretations by students, he underlines the essential importance of the macro-structural comprehension of the message, more than its micro-linguistic one. This idea that the interpreter must be able to clearly distinguish a macro-text vs. a micro-text seems to be a key element to elaborate an effective note-taking system. To manage to work at the macro-structural level instead of the micro-linguistic one, and therefore, to train students to deliver coherent interpretations, Bastin (2003: 182) recommends a teaching methodology insisting first on monolingual exercises without notes, then monolingual exercises with notes, then bilingual exercises without notes and finally bilingual exercises with notes. He also insists on the necessity to work from argumentative texts, which are generally logically structured and coherent.

Another important notion students should be made aware of in the early stages of their training is that of the function – the *skopos* – of the source speech to be interpreted. Like the translator of the written word, the translator of the verbal word should always analyse the source text in terms of function and intended effect – and not only in linguistic ones – and should anticipate what this function and effect should be in the target text. As previously discussed by the present author (Orlando 2010) interpreting eloquence is different to interpreting arguments or scientific facts, and requires sometimes a different approach and application of the same techniques. Therefore, following Seleskovitch's speech types distinction – descriptive, argumentative or affective – a large variety of source texts/speeches must be considered to show students that note-taking is not an automatic act and that their system of notes cannot be definite and will change from one type of speech to another. These exercises in text/speech analysis should be introduced in the early stages of the curriculum to enhance the learning of note-taking skills applied to different texts, contexts and functions.

### 4. Teaching and assessing note-taking

Rules of note-taking have been defined and modelled (Rozan 1956, Seleskovitch 1975, Ilg 1980, Matyssek 1989) so that instructors can design

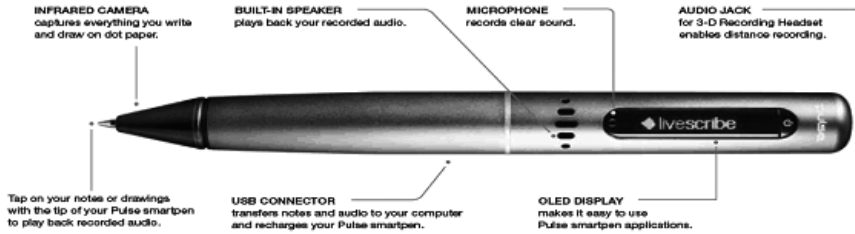
training tools to develop their students' skills, or so that interpreters develop a system by themselves. But not much has been done to find relevant ways of evaluating the progressive acquisition of such systems and of note-taking skills.

#### 4.1. Product or process-oriented assessment of note-taking?

It is relevant to use the concepts of *product-oriented* and *process-oriented* assessment – often used in the written translation assessment field – to deal with the subject of note-taking and interpretation assessment. When instructors want to assess an interpretation, it is generally the quality of the consecutive interpretation (based on criteria to evaluate the linguistic accuracy, as well as their expression and presentation) and the final notes (the product) which allow them to give feedback and evaluate the performance. Such a *product* evaluation of the interpretation is generally made without being able to clearly distinguish the memorization qualities/deficiencies and the note-taking qualities/deficiencies of the interpreter.

One possibility to evaluate the note-taking *process* (the significance of notes being taken 'live') is to find a way to capture simultaneously the notes and the speech. To do so, some instructors have used OHPs and transparent paper to observe and assess 'live' the notes being taken. The capture of the process has also been done by video-recording the interpreter at work and by comparing the recording with the speech from which notes were taken. It is worth mentioning as an example the large and invaluable empirical study on note-taking conducted by Doerte Andres (2002), where one could really follow the note-taking process of 14 students and 14 professional interpreters. Each of them was video recorded taking notes from a speech and rendering the speech, and Andres painstakingly noted the exact second when each element was spoken in the original, appeared in the note-pad, and was spoken by the interpreter. The script of the original speech and that of the interpretation were put together on the same sheet of paper, with the notes in between to allow the visualisation of the links and the evaluation of qualities and defects. It seems that no similar study has been repeated since. However, weekly and all over the world, instructors lead workshops on consecutive interpretation and note-taking techniques, where students' performances and notes are assessed. Unfortunately, the time and resources required prevent most trainers from repeating the colossal work done by Andres, and from analysing the quality of the interpretations in relation to the note-taking process. In most training programs, this results in the incapacity and impossibility to provide well-considered and personalised remedial strategies to improve the students' skills, based on their personal learning.

## 5. New technology



### The Livescribe Smartpen

Recent advances in technology help us now to examine empirical data in different digital forms. A new generation of digital pens, belonging to the category of mobile computing platforms, offer advanced processing power, audio and visual feedback, as well as memory for handwriting capture, audio recording, and additional applications. These pens consist of a microphone, a built-in speaker, 3D recording headsets, and an infrared camera. They are used to take notes – they have a normal ink cartridge and are held as ‘normal’ pens – and to capture data on a microchipped paper. Thanks to the built-in microphone and speaker, and the infrared camera, an application synchronizes what is being filmed/recorded as handwriting with the audio recorded at the same moment.

### 5.1. Two distinct applications for consecutive interpreting

At any time, thanks to the *dot-paper* technology which enables interactive “live” capture using plain paper printed with microdots and a function called Paper Replay, the user of the pen can play back the speech from the notes taken on paper. One simply needs to tap on a word on the page of the notebook to hear the part of the speech related to that same word or a phrase played directly from the pen.

The pen can also be put on a cradle and be connected to any computer through a normal USB port, and both audio and video data can be uploaded and played on the computer. This allows users to backup, search,



and replay notes from their computer. Users can also upload and convert notes to interactive Flash movies or PDF files.

Because such digital pens provide the means to easily capture handwriting and speech – video and audio – and also speech/notes can be replayed simultaneously from the notebook or visualized on a computer, they provide a universal platform for improving note-taking learning among students, the ideal tool for classroom visual activities and immediate collective feedback where students can easily learn from others.

## 5.2. Examples of notes taken using the digital pen

Two examples of notes taken with digital pens can be accessed on the following website:

<https://confluence-vre.its.monash.edu.au/display/DPCI/Digital+Pen+Technology+and+Consecutive+Interpreting+Training>

## 6. A new dimension in training

A variety of approaches and technologies have been developed to help trainees take and review notes during the learning process. However, they all have shortcomings. For example, other technologies exist that permit the recording and rehearing of speeches/lectures in relation to notes, but the audio segments and notes are not synchronized. This synchronicity can exist with Tablet PCs with audio recording capability, but Tablet PCs are more expensive and less portable than a pen and a notepad.

### 6.1. Metacognition and review time in the learning process

It is the present author's belief that teaching is an interactive formative activity where the student is a subject, not an object. The symbolic death, the gradual disappearance of the instructor, and the gradual autonomy of the trainee should, therefore, always be aimed at through a range of problem solving strategies and metacognitive activities.

In any program training future interpreters – and ours at Monash is not an exception – no one would contest the benefit of evaluating students against various professional standards. However, as pointed out by Choi (2006), such evaluation also runs the risk of defeating the purpose of evaluation and assessment from a pedagogical standpoint, hence the importance for assessment to be studied also from the student's perspective. Self-assessment and metacognition play an important part when one wants to give students the possibility to reflect on their progress



and become ‘actors’ in their own learning process; therefore, collective and individual assessment activities should be planned in any curriculum. As defined by Choi (2006: 277), “metacognition in learning can be described as the awareness of the learning process and the ability to adapt to challenges that occur during this process through effective strategies, thereby helping learners improve their learning capacity”.

As far as the learning process of note-taking is concerned, research suggests that the use of text-to-speech technology and efficient and effective note-taking activities, coupled with review, can aid learning and understanding and enhance the comprehension, fluency, accuracy, speed, endurance, and concentration of individuals (Tran and Lawson 2001, Lindstrom 2007). Therefore, one can consider that if the taking of notes is too demanding on a student’s working memory to permit the student to carry out generative processing in real time – and, in the case of interpreting students, leads to a poor performance – the needed generative processing of the content is still capable of occurring during the follow-up review of notes. Given the difficulties many students face when reading their own notes, the synchronous juxtaposition of text and audio provided by this digital pen technology should induce greater learning from the students reading, reviewing and self-evaluating their own notes during assessment activities. Moreover, during these self, peer or class assessment activities, such technology offers the possibility for students and instructors to work together closely and clearly observe and/or show what can be noted down or not, what notes are useful or not, what is detrimental to the rendition, etc. It allows all the participants to make an objective evaluation of what constitute economic and effective notes.

## 6.2. Example of pedagogical sequences

Different pedagogical sequences using such technology to train future interpreters to take notes and assess them effectively (during self-assessment or peer-assessment activities) were introduced in Monash’s interpreting course and could be modelled as follows.

A. Class activity: this sequence is set up on a pair-work basis: student 1 (the interpreter) + student 2 (the assessor) or instructor. Each participant has a pen.

Step 1: The speech to be interpreted is played or read to student 1 (recorded by pen 1) / student 1 takes notes on dot notebook 1 (handwriting is filmed by pen 1).

Step 2: Student 1 stands up and interprets from notes (recorded by pen 2) / Student 2 takes notes about the interpretation-performance on dot notebook 2 (handwriting is filmed by pen 2).

Step 3: The recorded and filmed information is uploaded from pen 1 and pen 2 onto a computer, a laptop or an iPad, and is played one after the

other on the screen for comment and evaluation by both participants (or by the whole class group for collective assessment). First, the notes of the interpreter are observed being taken while the speech is played simultaneously for an evaluation of the note-taking process; then the notes of the assessor are played simultaneously with the performance of the interpreter for a 'live' evaluation of the performance.

B. Class activity: this sequence is set up for a group (up to 5 students). Each student in the group has a pen. The instructor uses a video camera to film the students' performance.

Step 1: The speech to be interpreted is played or read to students who take notes with their digital pen (the speech is audio recorded and the handwriting is filmed).

Step 2: The instructor asks the students one after the other to provide their interpretation of one part of the speech and video records them.

Step 3: One student's filmed interpretation is played and assessed by the group in terms of communication quality (body language, voice, style etc.) and accuracy (the written version of the speech is provided to the students and missing or misinterpreted elements are noted and listed down).

Step 4: The information recorded by this student's pen (speech and handwriting) is played on a computer, a laptop or an iPad (it can be projected to the class). The instructor and students focus on the filmed notes and on the list of misinterpreted or missing elements and try to identify potential reasons in the process of note-taking to explain the deficiencies. This step is repeated for each student and each part of the speech.

C. An activity can also be set up for self-assessment. Each student has a pen and access to a computer, a laptop or an iPad.

Step 1: The speech to be interpreted is played or read to the student (recorded by the pen) / the student takes notes on the dot notebook (handwriting is filmed by the pen).

Step 2: Student interprets from notes (recorded by the pen).

Step 3: The recorded and filmed information is uploaded from the pen onto the student's own computer, laptop, iPad and played for comment and evaluation by the student who can observe his/her notes being taken while the speech is played simultaneously and can observe what is relevant or not, and can then listen to his/her performance from the pen, for further assessment related to the notes. Such an activity can be done in class or as homework, and the student will be asked to write a personal diary of analysis of his/her notes to be handed in regularly to the instructor.

### 6.3. Combined technologies for optimal assessment of a performance

For a performance assessment based on accuracy of meaning but also on appropriate nonverbal expression and presentation, all the activities of our weekly workshops are filmed. The trainee's performance on video can thus be assessed on screen with software like ELAN (Eudico Linguistic Annotator) for example. ELAN is a professional tool used for the creation of complex annotations on video and audio resources. With ELAN a user can add an unlimited number of annotations to audio and/or video streams. An annotation can be a sentence, word or gloss, a comment, a translation or a description of any feature observed in the media. Annotations can be created on multiple layers which can be hierarchically interconnected. An annotation can either be time-aligned to the media or it can refer to other existing annotations. Such software and applications provide any assessor the possibility to annotate comments for the filmed performance of a student on the screen while the video is being played, and allow students to review their performance and visualise their mistakes by simply clicking on the assessor's comment.

The combined use of both technologies – the digital pen and the video annotator – in the classroom allows the ideal performance assessment of speech interpreting because:

- the 'live' notes of the interpreters are simultaneously recorded with the source speech;
- the 'live' notes of the assessor are simultaneously recorded with the interpretation;
- the interpretation is video-recorded 'live';
- the 'live' notes and comments of the assessor are annotated and time-aligned on the video.

The treatment and review of all data on a weekly basis added to the assessment of the interpreter's performance either by the instructor, by a peer, or on a self-assessment basis, undoubtedly helps identify patterns useful to define personal remedial strategies in the learning process.

## 7. Research and pedagogical outcomes

There is no doubt that the digital pen technology will open new doors for research in Interpreting Studies, and more specifically in note-taking for consecutive interpreting. Monash University's interpreting stream is currently looking for funding to enable the data collection of notes taken by students during their training but also by professional experienced interpreters, both in Australia and in Europe. Such a collection would surely lead to the establishment of a best practices repository which would be useful for training purposes, but would also surely allow to identify

patterns in note-taking. The current collection and analysis of data in our program is at a too early stage to allow us to draw any serious conclusions yet, but patterns in the note-taking process have already emerged and students exposed to such a technology have provided interesting feedback.

As I was presented this new technology only a few months ago, digital pens were introduced to students of the interpreting stream at Monash University in the course of their second semester in 2010. The main objective was to trial digital pens in a pedagogical sequence informally, to see how a group of students and their instructor would react, and if any obvious specific pattern would emerge in the students' note-taking. The study was conducted using the pedagogical sequence B, as described above. As the experiment was conducted over five weeks in August and September 2010 and with five students, 25 different sets of notes were collected. This is certainly not enough to draw definite conclusions and more time is needed to analyse this data properly. However, from early observations of the notes and in the classroom, and from the students' answers to a questionnaire given to them after these five weeks (provided below), the use of such a technology in consecutive interpreting training seems really promising. For example, one specific pattern has emerged and deserves to be mentioned and studied more in depth in the future: thanks to the simultaneous capture of the handwriting and of the speech, it is interesting to observe that when the speaker pauses for a few seconds, trainees often go back to earlier notes to add or change elements with information from the previous part of the speech stored in their memory (in 21 notes sets out of 25). Such a pattern cannot be observed when the process of note-taking is not captured and notes are only assessed as a final product. It is also worth mentioning that students had already been training in note-taking in a conventional way for one semester and a half when the digital technology was introduced during their weekly workshop. Interestingly, 3 out of 5 students mentioned the importance of not starting too early to work with the digital pen, but only after having worked with their system for a while.

The following questionnaire was given to the five students after the five week experiment. The answers compiled below show interesting first impressions from users and should encourage pedagogical use of the digital pens.

1. Had you heard of or used digital pens before?  
*1 student out of 5 had heard about such a technology before but had not used the digital pen.*
2. Was using the pen similar or different to conventional note-taking with pen and paper?  
*It was similar (5/5) as it is a pen, ink and paper. [1 student mentioned the pen "is a bit bigger than a usual pen but this is not a problem"].*

3. The digital pen technology allows the playing back of recorded notes and accompanying source text. What were you able to observe/learn about your note-taking conventions through the recording and play-back function?  
*The fact handwriting is not clear and notes not well organised (4/5); the fact notes are too long and not abbreviated enough and that students waste time (3/5); the possibility to measure the time lag between the speech and the notes (3/5); the possibility to see exactly when elements are discarded or not memorized (2/5). [1 student did not answer this question]*
4. Are there features of your note-taking conventions that you believe you need to address or change, after viewing playbacks of your performance? If yes, what are they?  
*Yes (5/5).  
 Students answered they need to write less (5/5); to write in a more legible way (4/5); to use more symbols to represent ideas or words (3/5); to use the page layout in a more efficient way (3/5); to use more linking words (2/5).*
5. You were able to view playbacks of recorded notes from other students. Did the ability to see how others take notes influence your understanding and performance of note-taking?  
*Yes (4/5). Not sure (1/5).  
 It gives a clear idea of what the others do better or not (3/4); it gives new ideas for notes (3/4); it shows what makes sense and what does not (2/4); "it shows clearly how people transcribe what they understand" (1/4).*
6. In semester one, note-taking strategies were taught in a conventional way and you all started developing your system of notes. Do you think digital pen technology has advantages or disadvantages in comparison to conventional note-taking training?  
*[advantages] It enables to record speech and notes simultaneously and to review notes later for improvement (5/5); it shows clearly and for the first time qualities or defects in the system that were not identified so far (4/5); it enables students "to have some distance" with their performance and notes (3/5); it enables students to be more objective in assessing the effectiveness of the notes (2/5); "it is really useful if one already knows some theoretical background on note-taking and the mental processes involved" (1/5).  
 [disadvantages] "It has never happened but what happens if the pen runs out of battery?" (1/5).*
7. Do you have any other comments or impressions about using digital pens that you wish to relate?  
*It is preferable to use the pen after having already developed a system (3/5); it would not be as useful without the videorecording of the individual performance (2/5).*

From these first observations, and despite the lack of data analysis, one can anticipate that, at each stage of the students' training, thanks to the visualization of their own – and other students' – notes, patterns would emerge in the efficiency of note-taking. The audio-visual evaluation, either by an instructor, a peer or as a self exercise, should impact on the student's performance and note-taking skill development.

Last but not least, such data will be highly useful to convince students that notes are not the ally they think they are and not the only point of focus in the learning process. It should help them to accept more easily, especially in the early stage of their training, that a good consecutive interpretation of a speech relies on memory capacity, the ability to provide a coherent, convincing and well-presented interpretation, more than the capacity to elaborate a relevant note system.

#### 8. Beyond classical interpreting modes? Towards a new hybrid mode of interpreting?

Hamidi and Pöchhacker (2007) have already reported an experimental study on a potential new mode of interpreting, *simultaneous consecutive interpreting*, where a digital voice recorder is used to record the original speech which the interpreter then plays back into earphones and renders in the simultaneous mode. Through this experimental study, they tested “the viability or even superiority of technology-assisted consecutive interpreting as a new working method for conference interpreters” (2007: 276). Even if the authors put forward the need “for more research to test the scope of application of this new interpreting mode” (2007: 288), their conclusions showed that “digital voice recorded-assisted consecutive permits enhanced interpreting performance” (2007: 288). Although the digital pen technology offers different applications, it could certainly offer the possibility to investigate this area further. Indeed, thanks to the digital pen application which offers the possibility to record and instantly replay the speech from what is written on the dot paper – with *the option of speeding up or slowing down the audio playback* – using the 3D recording earphones provided with such pens, would it be totally unrealistic to imagine future interpreters being trained to deliver interpretations in a new hybrid mode of interpreting? A *consecutive-simultaneous-interpretation-from-notes* where the professional would interpret the source speech both listening to the replayed speech *and* reading his/her notes? Time will tell, but there is certainly room for new research in this area too.

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For more information on the digital pen, visit [www.livescribe.com](http://www.livescribe.com)

For more information on the ELAN software, visit

[www.lat-mpi.eu/tools/elan](http://www.lat-mpi.eu/tools/elan)

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