Self-regulating activity: use of metacognitive guides in the interpreting classroom

This research studies the development of metacognitive skills in students of consecutive interpreting from German into Spanish. The purpose is to discover which self-regulating processes appear after introducing a specific pedagogical action based on metacognitive guides. Our hypothesis is that self-regulating activity will increase as work with the guides advances. We also analyse the changes which occur as the course progresses. The analysis of the corpus enables us to describe metacognitive activity in consecutive interpretation students and also to justify the introduction of a component of self-regulation in teaching and learning processes. The research contributes to pedagogical development in consecutive interpretation since it sheds light on how to use effective teaching and learning patterns that can lead to self-regulation.

Key words: self-regulation; consecutive interpreting; metacognitive guides; learning autonomy; pedagogical action.

1. Introduction

Translator and interpreter training is a relatively new area, so it is not surprising that research in this field still has a long way to go. Some authors define the present situation as "pedagogical emptiness" (Kiraly, 2000) and point out the non-existence of clear objectives, a lack of teaching and learning materials and methods, and too few attempts to apply pedagogical principles to interpreter training programmes.

There are gaps in the research carried out within translation and interpreting studies that can be bridged by recent contributions from foreign-language learning and teaching, given the clear affinities between the two fields (González Davies, 2001). In recent years, modern language teaching has devoted much interest to studying self-regulating processes. According to Kiraly, self-regulation has gradually become a constituent element of the teaching and learning process, since teaching based on transmitting knowledge has given way to a paradigm of learner-centredness and to the importance of the context of learning (Kiraly, 2001). Thus, it has become important to encourage reflective practice in the classroom (Main, 1985) through the key processes of planning, controlling and evaluating (Wenden, 2001). It is hoped that the development of metacognitive skills will help students to gain control of their cognitive processes and achieve a better understanding of the problems and challenges that they face in their learning, and perhaps even solutions to them (Brown *et al.*, 1983).

Taking these premises as our starting point, our work falls within the scope of applied research. Thus, the corpus description undertaken makes it possible, first, to know more about cognitive and metacognitive activities in students of consecutive interpreting and, further, to contribute towards developing proposals to improve the teaching of interpreting. To that end, we have introduced metacognitive guides in the classroom. These are written guides designed to prompt personal reflection on the part of the students, to guide them and help them to put into words reflections on their individual learning processes and specific interpreting skills (Arumí, 2006).

The primary objective of the study is to analyse how students behave as they work with material designed to foster the process of reflection. Our conclusions should contribute to improving the teaching of interpretation.

2. Metacognition and self-regulation: the contributions of sociocultural theory

In the area of language learning, autonomy is usually defined as "the capacity to manage one's own learning" and the first step towards achieving it is thought to lie in "taking responsibility for one's own learning" (Holec, 1981: 74). Benson (2001) adds that the capacity to take responsibility for one's own learning is described in terms of control over the cognitive processes involved in the effective self-regulation of learning. This author suggests that a suitable description of autonomy in language learning should recognise and include the importance of three interdependent levels over which the learner can exercise control: a) the management of learning, b) the cognitive processes and c) the content of learning. From the studies in learner autonomy (Sinclair *et al.*, 2000), two main points deserve special attention:

The development of autonomy requires awareness and conscious thinking about the learning process itself and what it involves.

It is not only a matter of adding strategies and resources onto the practices and activities of teaching and learning, but also of promoting a much deeper dimension regarding "knowing about knowing" (Flavell, 1979).

Coined by Flavell (1979), the concept of metacognition originally referred to the knowledge about and regulation of the individual's cognitive activities (Flavell, 1979; Brown, 1978). According to Von Wright (1992), a clear-cut distinction is generally made between metacognitive knowledge and metacognitive skills, referring to the steps that people take to regulate and modify the progress of their cognitive activity: to learn such skills is to acquire procedures which regulate cognitive processes (Brown & DeLoache, 1978; Veenman, 2005, 2006).

In sociocultural theory, the construct of self-regulation refers to the degree that individuals are metacognitively, motivationally, and behaviourally active participants in their own learning (Schunk & Zimmerman, 1994). Awareness and control, on one hand, and interaction on the other are the fundamental pillars of self-regulation.

Sociocultural theory notes the idea that cognitive development always goes from the external, social world towards the internal, individual world: this means that the move to self-regulation is not spontaneous. Instead, it is the result of a socially mediated process in which the help of external elements or instruments encouraging mediation and internal dialogue play an important role (Vygotsky, 1978). In this context, discourse is the psychological tool through which mediation is produced as language constitutes the tool that learners use to put into words the various aspects related to their learning process. By interaction with other individuals or by using various tools, higher cognitive processes are encouraged. Furthermore, discourse is not only an external representation of ideas, nor is it the voicing of thoughts that exist in the mind waiting to be shaped into words. As one speaks or writes, one gradually shapes one's ideas and builds knowledge. Therefore, discourse, beyond its communicative function, has a private function, which involves organising and producing mental activity. The way in which discourse is generated when the learner is carrying out the learning task (in this case answering questions in the guide) shows the development stage of the subject's cognitive development. In the sociocultural perspective, the concept of inner discourse is defined as a complex concept in the make-up and working of the human mind. Thus, it is the result of the convergence of thought and discourse at an intra-psychological level; it is the mechanism that makes it possible to verbalise thought (Guerrero, 2005).

3. Applying sociocultural principles to the interpreting classroom

The research presented in this article belongs to the field of classroom research and involves applying the principles of sociocultural theory to the consecutive interpreting

classroom. In this section we shall briefly explain what consecutive interpreting is, and then we shall give an in-depth description of the pedagogical action on which our study is based; *i.e.,* the systematic use of metacognitive guides as a tool in the training of student interpreters; the section will conclude with information about the context in which the data have been generated.

Consecutive interpreting is a mode of oral translation in which the interpreter begins the rendition of a complete message after the speaker has stopped producing the source utterance. The interpreter must be able to receive and understand the incoming message and then express its meaning in the target language. To accomplish this task, the interpreter must go through an overlapping series of cognitive processing activities. These include: attending to the message, concentrating on the task, remembering the message and taking notes, comprehending the meaning of the message, analysing the message, visualising the message non-verbally, and finally reformulating the message in the target language.

In Spain, interpreting is a discipline studied in the second cycle of the Translation and Interpreting Degree, with the aim of introducing the main characteristics of interpreting and providing students with an introduction to the most common techniques and strategies of interpreting. We gathered data in 2003-2004 at the Translation and Interpreting Faculty of the Universitat Autònoma de Barcelona. The research was focused on a course in consecutive interpreting from German into Catalan and Spanish in the first semester. The group was made up of 15 students of both sexes, although the majority were female; the average age was around twenty. As tends to be the case in Catalonia, they were by and large bilingual (in Catalan and Spanish), and their language competence in German was also quite high. As interpreting was a completely new discipline to them, the aims they declared were quite varied, as also were their beliefs regarding the discipline prior to starting the course.

On the first day of the course, the teacher explained to the students the teaching methodology that would be used (including the guides as an important component) and informed them that they would be participating in the research presented here.

The pedagogical action analysed in this paper consisted in regularly introducing into the class some metacognitive guides in order to encourage students to think about their learning processes. Metacognitive guides are all based on cognitive processes, since cognition is the means of achieving metacognition. Quoting Veenman (2006), “In fact, metacognition draws on cognition. It is very hard to have adequate metacognitive knowledge of one's competencies in a domain without substantial (cognitive) domain-specific knowledge (...).”

The purpose of using the guides was therefore to encourage students to review the process followed when interpreting and to evaluate the product. Specifically, the objectives for working with the guides were:

- to break down and reflect on the steps in consecutive interpreting;
- to take stock of progress, as well as areas where results fall short of expectations;
- to concentrate on skills gaps and errors;
- to reinforce in the learners the skills which they have mastered and to encourage them to specify which strategies they find useful;
- to facilitate a dynamic approach to the learning process.

From a methodological point of view, metacognitive guides are closed tools that incorporate a series of open questions on the skills that are being developed. Students are asked to answer these questions and spaces are provided where they may include additional comments if they wish.

The guides, hereafter referred to in this research as partial guides (PG), set out the previously mentioned cognitive skills that learners perform when carrying out consecutive interpreting (see appendices 1 to 5):

- listening, attention and concentration (PG1)
- memorising and analysing (PG2)
- note-taking (PG3)
- understanding the source speech (PG4)
- presenting and rendering the speech in the target language (PG5)

Each one of these skills was further broken down into sub-skills, going into great detail; the aim was for learners to think about the most micro level of their cognitive and metacognitive activity. The tool was always used retrospectively as a guide for thinking about a specific oral performance.

After working independently on the five competencies mentioned above, and at the final stage of the learning and teaching process, students worked with a general guide (GG) that covered all of the previous competencies (see Appendix 6); in all, students worked individually with nine metacognitive guides: 5 partial guides corresponding to the 5 above-mentioned competencies and 1 general guide which was used on 4 occasions. Usually, the students worked individually in class for twenty to thirty minutes, sometimes with a recording of their production, sometimes only with what they remembered about the task. As stated in chapter 2, interaction is a crucial concept in any sociocultural approach to the classroom. Nevertheless, we should not forget that classroom interaction can be with others (teacher and class mates) and with oneself, being that the kind of interaction that triggers reflective thinking. In the study at hand is the interaction with oneself the one in which we focus our research.

4. Aim and research questions

As already stated, the aim of the research is to study the development of metacognitive skills in undergraduate students of consecutive interpreting. We are interested in discovering self-regulating processes that emerge as a result of bringing into the classroom a specific pedagogical action, *i.e.,* working with metacognitive guides.

An earlier study, based on two case studies following an ethnographic approach (Arumí, 2006), showed that integrating such educational activities causes the emergence and development of self-regulating processes. The main conclusions drawn are that self-regulation appears through discourse, and in particular that metacognitive guides encourage the verbalization of learning, give rise to processes of reflection and lead to a process of self-regulating learning.

The purpose of the present research is to focus on one of the aspects that was likely to be significant, *i.e.,* that metacognitive guides lead to a process of self-regulating learning and thereby try to determine whether there are shared patterns in the progress of work done by students using the metacognitive tool. To this end, we increased the number of participants and undertook a longitudinal study to describe how their self-regulation process is developed and whether there are significant similarities. The main hypothesis is that self-regulating activity will increase as work with the metacognitive guides progresses. This hypothesis is spelled out in the following research questions:

- Which metacognitive processes are triggered by the use of the guide?
- Are there any significant changes as the course progresses?
- Is there any distinct behaviour among the learners?
- Which guides boost metacognitive activity the most?
- Does the degree of guidance affect the results (skills guide v. global guide)?

5. Method

As tends to be frequent in the paradigm of classroom research, the method used for generating and collecting data to be researched was the same tool whose effect we intended to study, *i.e.*, metacognitive guides. Data were collected longitudinally during a 4-month period in class. Although not all the students attended class regularly, 80% of the students completed 80% of the guides, giving a total of 77 pieces of work, based on the questions in the guides. First, we segmented them into units of analysis: each answer was regarded as a unit of analysis. In a second stage, each unit was subdivided into statements: one for each mental process identified. Our interpretation of the students' comments was inspired by speech act theory, as it is defined in the context of discourse analysis and pragmatics. In such a theory, the speech act is the basic unit of linguistic communication (Austin, 1962; Searle, 1969). Specifically, one of the dimensions of speech acts is their illocutionary force, or their intention. In our analysis the illocutionary force of the answers enabled us to generalise a set of metacognitive functions. Thus, we were able to identify the mental processes for each of the units. Where a statement could be included in more than one function corresponding to different levels, we chose to systematically assign it to the higher function; considering that the higher level subsumes the lower one (to determine a consequence, an observation must first be made). In order to avoid problems of reliability of the results, only one of the two researchers coded.

A few examples of the methodological approach adopted may be seen in the following table[1]:

Table 1. Examples of the analysis applied.

Register	**Learner, guide and question in the guide**	**Text**[2/3]	**Function**
169	L4, PG3, Q8	**I have noticed a change in the way I interpret**, but I have noticed a change in other people, too. Some people do it really well.	Evaluate
134	L3, PG5, Q3g	**Mostly what I feel is embarrassment, and stress, too, but no anxiety at all.** I can control it quite well, at least my voice does not tremble, **I just have a feeling of butterflies in my stomach,** but it doesn't bother me too much.	Express emotional reactions
	L1, PG2, Q3	Yes, it's more the fear of not being able to remember that makes me really lose concentration and throws me off track. I think **I need some trick or way of learning how to shut out my surroundings and listen and concentrate."**	Find needs
457	L9, PG3, Q4	As far as I'm able, but I'd like to use a lot more. I'm sure I would find it easier if I did, but **I think I need a lot more practice before I can reach that level.**	Formulate hypothesis

		I try to practise at home and write out the lists of symbols over and over again (I only copy out the symbols that I use and know work well for me).	
095	L2, GG3, Q4	In general, **I have managed to reproduce the speech without changing the content.** I need to be more precise in my use of language, though, when I organize some ideas in the sentences, and more fluent in my speech	Locate achievements
107	L3, PG2, Q3	**I don't really trust my memory, and my concentration even less.**	Locate shortcomings.
504	L10, PG3, Q4	"Yes, I try to use symbols, but I can't always think of what to write. **I've got to work more on this. I try to look at my notes at home and establish a symbol for each item.**	Plan
012	L1, PG2, Q3	Yes, **it's more the fear of not being able to remember that makes me really lose concentration and throws me off track.** I think I need some trick or way of learning how to shut out my surroundings and listen and concentrate".	Search for causes
366	L7, GG4, Q3	**I failed to connect my notes and that means that when it came to doing the sentences I had to add information** (I tried to make it as neutral as I could) so that I could finish them and make them hang together.	Search for consequences

This second segmentation gave rise to a total number of 529 subunits—fairly balanced among the various participants, except for learners L1 and L8, with a lower (6%) and a higher (14%) generation of units, respectively.

However, major differences existed in the number of units, depending on the tool. Whereas the percentage corresponding to the majority of the guides was around 10%, guide PG5 – on the presentation and rendering of the utterance in the target language – stood out because of the high number of units (149 units, 28.2% of the total), and guide GG4 stood out as having a very small number of units (3.4%). These differences could be accounted for by the greater degree of comprehensiveness of Guide PG5, by the complexity of the sub-competency undertaken and by the smaller number of students who completed the whole process.

Table 2. Source of the collected data.

Learner	PG1	PG2	PG3	PG4	PG5	GG1	GG2	GG3	GG4	total
L1	✓	✓	✓	✓		✓	✓			6
L2	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
L3	✓	✓	✓	✓	✓	✓	✓	✓		8
L4	✓	✓	✓		✓	✓	✓	✓	✓	8
L5	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
L6	✓	✓	✓	✓		✓	✓	✓		7
L7	✓	✓	✓		✓	✓	✓	✓	✓	8
L8		✓	✓	✓	✓	✓	✓	✓	✓	8
L9	✓	✓	✓		✓	✓	✓	✓	✓	8

L10	✓	✓	✓	✓	✓	✓				6
total	9	10	10	7	8	10	9	8	6	77

The information obtained was collected in a database by using the following variables: learner, guide number, question number within the guide, process/processes observed and discourse markers. The database was treated statistically with SPSS software.

6. Discussion

Data can be discussed in two stages. First (6.1), we shall discuss the functions that we have observed in the corpus and propose a categorisation that will permit us to answer our first research question. We shall then (6.2) analyse in depth the incidence of the variables "guide" and "learner" to answer the other questions posed.

6.1. Categorising the process

One of the working hypotheses was that over time, systematic work with the tool would favour the development of metacognitive processes. With a view to confirming or refuting this hypothesis, we considered it useful to group the processes observed into three categories (C1, C2 and C3), defined according to the degree of self-regulation that they express. These groupings are plotted onto the map of processes illustrated in Figure 1.

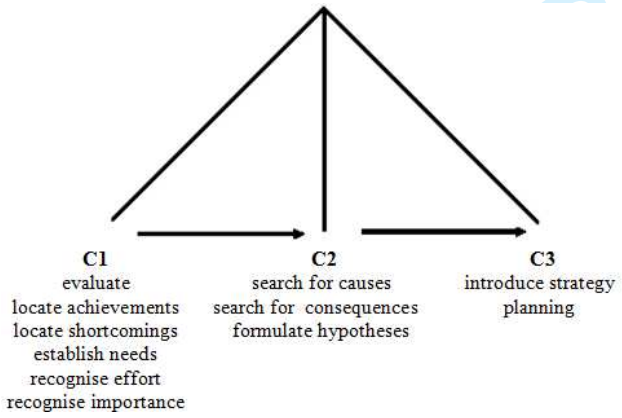

Figure 1. Grouping of the observed processes.

This grouping represents a continuum which sets out the varying levels of the students' reflections. At one end of the scale C1 is an awareness of aspects which impose external regulation (for example, with respect to the objectives to be attained). Somewhere in the middle appear attempts to explain the observations and anticipate the consequences of these observations. At the other extreme, a more internalised regulation appears which corresponds to the application of strategies (C3). This categorisation can be related to the studies of van Lier (1998) in the field of language awareness. Van Lier presents a model which includes different types or levels of consciousness. Applied to our model, in the first category, *awareness* (consciousness of something) refers to the activity of perceiving objects and events in the environment, including attention, focusing, and vigilance. The second and higher category corresponds to *meta-*

consciousness (awareness of the activity of the mind) and finally, category 3, the highest one, stands for *voluntary action, reflective processes, i.e.*, deliberate and purposeful engagement in actions.

6.2. Incidence of the variables

In this section we shall present the results obtained using statistical analysis of the data. As stated above, our aim is to determine whether changes occur in the emerging processes with the use of the guides, and in the event of such changes occurring, to determine whether they can be attributed to one or other of the variables considered ("guide" and "learner").

6.2.1. Incidence of the variable "guide"

Table 3. Distribution of the occurrences of C1, C2 and C3 according to the guides.

	PG1	PG2	PG3	PG4	PG5	GG1	GG2	GG3	GG4	Total
C1	23	40	50	35	104	61	38	35	17	403
C2	13	14	16	19	32	16	13	13	9	145
C3	6	5	10	3	12	4	3	6	1	50
Total	42	59	76	57	148	81	54	54	27	598

As shown in Table 3, the greater number of occurrences corresponded to C1 (67.3%). Therefore, it seems that metacognitive processes of a lower level are more predominant in the participants' thoughts. However, it is necessary to undertake a more detailed analysis in order to answer research questions 1, 2 and 3. In the case of general guides, it would be interesting to analyse whether a certain progress is related to time.

Regarding category C1, substantial differences from one tool to another were found. PG5 stood out due to the high number of units. The number of occurrences of processes included in C2 was distributed quite homogeneously, with figures at around 10%. Finally, the data corresponding to category C3 presented a markedly higher number of cases for PG3 (20%) and PG5 (24%).

In all three categories PG5 stood out from the other partial guides. This could be because it was a significantly more complete guide in terms of the number of questions. At the same time, the sub-skill "rendering and performance of the speech" included aspects related to sub-skills dealt with in previous guides (note-taking, analysis of the original speech, etc.). On the other hand, this guide represented a turning point since it is not only ambitious, but it also introduces the learner to a process of thinking simultaneously about the total set of skills and sub-skills involved in the practice of consecutive interpreting.

The 148 processes generated by the answers to PG5 were distributed as follows: *locate shortcomings and needs* (61); *search for causes* (26); *introduce strategies* (7); *search for consequences* (6), and *plan* (5). The most frequent functions were those associated with an assessment that tended to highlight the weak points of the individual's performance (41.2% of the total), which contrasted with the number of improvement items observed (13.5%). Although the most prominent function was under C1, second place was occupied by a second-level function, *i.e.*, *search for causes* (17.5%). We could conclude, therefore, that the less frequent processes were those that involved a greater degree of metacognition on the part of the learner (C2 and C3).

Turning to the progress of the learners in the general guides, similar tendencies could be observed in all three categories of processes, as shown in Figure 2.

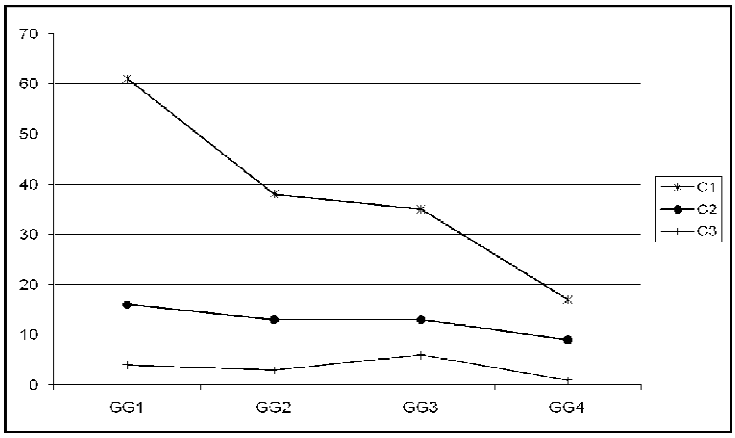

Figure 2. Evolution of the number of occurrences of the processes corresponding to C1, C2 and C3 in the general guides.

As for the number of occurrences, there was a decline from C1 to C3, the first-level processes being more frequent. On the whole, there was a pattern of decline from GG1 to GG4, although the step from GG2 to GG3 varied in each of the three categories.

After analysing the number of occurrences for each category (C1, C2 and C3) over time, and as the instrument used by the students changed a more qualitative analysis for each of the categories was undertaken to identify the most recurrent processes.

6.2.1.1. Description of the functions in Category 1.

The most frequent process was *locate shortcomings and needs* (62.25%), followed by *locate achievements* (24.25%), and *evaluate* (13.5%).

Table 4. Functions in Category 1, according to the guides.

	PG1	PG2	PG3	PG4	PG5	GG1	GG2	GG3	GG4	Total
locate shortcomings and needs	12	23	32	20	60	46	21	25	10	249
locate achievements	4	13	9	11	20	13	13	9	5	97
evaluate	5	4	9	4	23	2	4	1	2	55

The incidence of the "guide" variable in the distribution of the function *locate shortcomings and needs* was striking: PG5 had the highest number of occurrences (25.75%). Therefore, "rendering and performance of the speech" constituted a problematic skill for learners. They commented on the deficiencies (lack of agility and fluency, utterance of onomatopoeic sounds, lack of coherence and cohesion, trouble with the accurate use of language, etc.), which led them to draw conclusions that could remedy these shortcomings.

On the other hand, *locate shortcomings and needs* presented marked differences in terms of the number of occurrences: the greatest number concerned the production of the speech (PG5) while the smallest number concerned attention (PG1) or comprehension of the original (PG4) for example.

Focusing on the general guides, however, we find that the number of occurrences decreased. Surprisingly, this decrease did not go hand in hand with a greater awareness of the learners' achievements.

The function *locate achievements* presented an elevated number of occurrences (25.75%) with a fairly balanced distribution among the various guides. Only Guide PG5 stood out, due to its high number of occurrences, as did global guides GG4 and GG5

due to the low number of cases of this function. The tendency decreased, as stated, in the *locate shortcomings and needs* function.

Lastly, the function *evaluate* showed that the "guide" variable is of great significance. 42.5% of occurrences appeared in PG5, and 16.6% in PG3, on note-taking. The other guides carried far fewer occurrences. As for the general guides, the number of cases was on the whole lower and quite stable.

6.2.1.2. Description of the functions in Category 2

Table 5. Functions in Category 2, according to the guides.

	PG1	PG2	PG3	PG4	PG5	GG1	GG2	GG3	GG4	Total
search for causes	7	9	9	12	26	13	11	11	7	105
search for consequences	4	3	5	6	6	2	2	2	1	30
formulate hypotheses	2	2	2	1	0	1	0	0	1	9

As seen under C1, Guide PG5 (dealing with *rendering and performance of speech*) provided the largest number of cases (22%). The other guides showed percentages that varied between 6% and 13%. The same tendency could be seen in the function *search for causes*: 25% of the cases appear in PG5, whereas the other guides varied between 7% and 12%. Regarding the function *search for consequences*, the highest percentages were found in PG4 and PG5, both accounting for 20% of the total amount; PG3 also stood out, with 16%; the rest showed between 3% and 13%. Students searched for consequences in a wider range of skills, which was particularly interesting since one of the aims of introducing guides was to strengthen second-degree thinking. Finally, the corpus provided only nine occurrences of the function *formulate hypotheses*.

6.2.1.3. Description of the functions in Category 3

Table 6. Functions in Category 3, according to the guides.

	PG1	PG2	PG3	PG4	PG5	GG1	GG2	GG3	GG4	Total
introduce strategy	4	3	5	6	6	2	2	2	1	31
plan	4	2	6	0	5	2	1	4	1	25

The analysis of the corpus yielded 56 occurrences of Category 3 processes, distributed according to two functions: *introduce strategy* and *plan*. Two guides brought about the highest number of operations at this level: PG5 and PG3. The other guides showed fewer occurrences.

With regard to *planning*, PG3 and PG5 stood out because of their fairly significant number of cases (24% and 20%, respectively). PG1 and GG3 came next, with 16%, while the remaining guides showed very low percentages. Finally, out of the 31 cases of *introducing strategies*, most appeared in the partial guides: PG4 and PG5 have 20% each, followed by PG3 (16%) and PG1 (13%). The remaining guides showed values between 3% and 13%. Again, the incidence of the "guide" variable spread over a wider range of guides.

6.2.2. Incidence of the "learner" variable

As seen in the following table, the process with the largest number of cases corresponded to the first category (C1). Three distinguishable behaviours could be detected: six learners yielded around 40 occurrences and two learners (L1 and L5) around 30 cases; L8 stood out as having a high number of first-level functions (15.6%

of the total amount) and, finally, L7 stood out as having a far smaller number, although this could be explained by the learner in question having worked with fewer guides.

Table 7. Distribution of the occurrences C1, C2 and C3, according to the learners.

	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	Total
C1	27	42	40	46	33	44	19	61	40	38	390
C2	10	13	14	1	20	6	20	26	17	18	145
C3	0	8	0	11	0	5	6	8	7	6	51

The analysis of the processes under category 2 made it possible to group the learners into three distinguishable groups. L8 was different again in presenting the largest number of cases (26 cases, 17%); in six learners we noticed values between 7% and 14%; two learners produced a very insignificant number of occurrences (L4 and L6).

Finally, as already mentioned, C3 appears the least frequently, to the extent that three learners (L1, L3, and L5) did not reach this level. Most learners, however, showed a similar number of cases, between 5 and 8 occurrences. Lastly, only one learner (L4) produced 11 processes (21.5%). Below, we analyse the results more closely to see whether there is any kind of pattern in the behaviour of the learners.

6.2.2.1. Description of the functions in Category 1

As far as the function *locate shortcomings and needs* was concerned, the influence of the "learner" variable was shown by the appearance of three learner behaviours. L8 showed the highest percentage of cases (20%), while L1 and L6 were at the other end of the scale, accounting for around 5% of instances. The other learners fell within levels between 8% and 12%. When analysing the process *locate achievements,* again students clustered around three profiles of distinguishable behaviour. L2 and L6 showed numerous cases (17% and 23%, respectively), four learners showed between 8% and 10%, and the rest were below 6%. For the process *evaluate*, distribution was less marked: two learners (L3 and L4) were between 22% and 24%, four (L5, L6, L7 and L9) were between 9% and 17%, and the remaining learners were below 6%.

Table 8. Functions in Category 1, according to the learners.

	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	Total
locate shortcomings and needs	13	22	21	24	23	12	26	51	29	28	249
locate achievements	6	17	9	10	4	23	8	9	5	5	96
evaluate	3	3	12	13	5	7	9	3	7	1	54

Taking the three functions together, for four of the ten learners there was an increase from *evaluation* to *location of shortcomings and needs*, passing through their *achievements*. This meant that when these students carried out C1 metacognitive activity, they mainly detected the existence of problematic aspects in their learning of interpreting independently of the "time" variable.

Another profile, quite similar to the previous one, corresponded to learners L3, L4, L5, L7, and L9, for whom the number of occurrences of the *evaluate* process was higher than the number of achievements.

Finally, only one learner (L6) showed a different pattern of behaviour, in the sense that most occurrences were produced in the *locate achievements* function. This was the only learner for whom the *locate shortcomings* function was not the most important process.

6.2.2.2. Description of the functions in Category 2

In this section we comment on the differences observed among students for each of the most recurrent processes in Category C2.

Table 9. Functions in Category 2, according to the learners.

	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	Total
search for causes	8	13	12	1	18	1	10	22	5	15	105
search for consequences	1	0	1	0	2	5	8	3	8	3	31
formulate hypotheses	1	0	1	0	0	0	2	1	4	0	9

On the one hand, some students performed a marked tendency to search for causes (L8 and L5, with values of 26% and 20% respectively), while others were not inclined to do so (L9, and, especially, L4 and L6). The other learners presented values that range between 8% and 14%. On the other hand, unlike the previous case, two students did not show the presence of the *search for consequences* process (L2 and L4). Five learners showed a low rate, between one and three cases; only three learners tended to search for consequences more frequently: L6 and, especially, L7 and L9 (eight cases, 26% of the total amount) and finally, five learners did not formulate hypotheses; of the other five, only L9 showed some evidence of this process.

Three groups of students could be distinguished. In the first place, for most students the process that appeared most frequently was *search for causes*, clearly ahead of the number of cases of the *search for consequences* function. The second profile corresponded to the two students for whom the most frequent metacognitive process was *search for consequences*. Moreover, the number of occurrences fo*r formulate hypotheses* was lower than the number of *search for causes*. The last profile corresponded to the two students who only showed causes. However, no direct relation could be found between the presence of *search for causes* and the *search for consequences* activities.

6.2.2.3. Description of the functions in Category 3

Table 10. Functions in Category 3, according to the learners.

	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	Total
introduce strategy	0	5	0	4	0	4	5	5	2	1	26
plan	0	3	0	7	0	1	1	3	5	5	25

The global number of occurrences in this category was lower than in the other two. The influence of the "learner" variable on the *introduce strategy* function showed important distinguishable behaviours, as seen in Table 10. The same tendency could be observed for the *plan* function.

It was therefore possible to detect two distinguishable profiles for behaviour within C3. First, four students (L2, L6, L7 and L8) showed more instances of *introducing strategies* than *planning*. Conversely, learners L4, L9 and L10 showed the opposite tendency.

8. Conclusions

The present research is an initial attempt to study self-regulating processes in students of consecutive interpreting. From a methodological point of view, the "metacognitive guide" is a very interesting tool for collecting data about the learning process. This study, like other previous research (Monereo, 1995; Arumí, 2006; Arumí & Esteve, 2006), sheds light on how discourse, expressed in writing, enables learners to reflect on

their individual mental activity. The guide becomes a genuine tool for self-dialogue: cognition and metacognition are shaped by writing.

The analysis we have carried out has enabled us to relate fragments of discourse with cognitive and metacognitive functions and to process these data from a statistical point of view in order to analyse the influence of two variables (guide and learners). One of the contributions of this paper is the identification of a wide range of metacognitive processes grouped into three categories. Each category corresponds to a different degree of complexity and they are organised on a continuum from lower complexity (such as *evaluate*) to quite complex metacognitive processes (such as *planning*). In short, the student starts to become aware of his or her actions and, if the process of reflection develops appropriately, will become able to monitor and even pre-plan these actions. As stated by other authors (Mezirow, 1991; Kember *et al.* 1999; Kreber 2005; Wallman *et al.* 2008), self-regulation has proven to be a dynamic process that goes from the initial stage of gaining awareness to planning, learning and revising the plan.

Our first hypothesis was that self-regulating activity would increase as work on the metacognitive guides progressed. This initial question was only partly confirmed and needs to be reworded: the increase in processes that was observed cannot be attributed exclusively to the time variable. It is therefore worth asking about the time necessary for processes of this nature to be internalised by learners, given that a period of sixteen weeks seems insufficient. In addition, other strategies must be devised to improve the tool if we wish to encourage higher-level metacognitive processes, which some students fail to achieve because they do not spontaneously achieve the C3 processes. For example, "planning", which is a very important metacognitive strategy for controlling the learning process, is not very frequent, so from a didactic point of view it is important to find ways of giving greater prominence to planning, gradually incorporating this function into the learning process.

The "guide" and "learner" variables introduce important differences with regard to the frequency of the processes in one category or another. The lower-level processes abound throughout the learning process in all of the learners, but the high-level processes are always less frequent and they do not increase over time. This has allowed us to draw three distinct learner profiles. In the first group (L2, L8, L9 and L10) the students are often able to comment on and, to a lesser extent, analyse and plan their work; this group of students therefore confirms the initial hypothesis of our research. The second group (L4, L6) is distinguished from the previous one by the fact that the difference between their use of Category C1 and Category C2 processes is very considerable; these students are able to make comments on their learning process but, on the other hand, they experience difficulty when it comes to analysing them in a systematic way. Finally, although the learners in the third group (L1, L3, L5) progress to C1 and C2 processes, in all cases they fail to project their actions in the future and never achieve the planning process.

Furthermore, this research has clear repercussions in the field of interpreter training. Identifying the various degrees of self-regulation can help to introduce the metacognitive component into the classroom, as it helps us to understand the process followed by each learner. We are convinced that this is the only way to design teaching and learning methods and materials that will have a more positive impact on the process at a stage when outside help is seen as most necessary. Here the students' comments reveal that the guides have proved useful, especially at the outset of the process, enabling them to reflect on errors committed. The students also admit that, at times and

for various reasons, they did not take full advantage of the opportunities for reflexion that the guides offered. Some of them consider the degree of internalisation of the processes that they have acquired.

The results have led us to rethink the design of the guides. We suggest providing more supportive scaffolding in the initial stages, which can all but disappear by the final stage. For example, the competencies involved in the teaching and learning activities of interpreting could be broken down to include other aspects such as those related with emotional processes. Unfortunately, the students did not make much use of the space provided in the guides for free expression to include information which could contribute to the instrument being redesigned to cater more precisely to their needs. On the other hand, given that affective aspects are also important in the teaching/learning process, in future it would be interesting to collect data on how the students react to an experience such as this and how much importance they attach to a methodology like the one presented in the present article. We could ask them (by means of questionnaires or interviews) if they felt comfortable using the tool, if they think that the guides are useful if they believe their learning experience has been enhanced by systematically working with this tool.

Finally, this research demonstrates that it is possible to integrate a metacognitive component into classroom teaching and facilitate the design of teaching and learning methods and materials whose focus is on learning how to learn.

Notes

1. The maximum is not reached in cases where the learner fails to answer the last question in which s/he is invited to include complementary thoughts on the other questions.
2. The original texts by the students were written in their mother tongue (Spanish or Catalan). The translations into English are by the authors.
3. The utterance categorized is indicated in bold.

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Appendix 1. Partial Guide 1

ON LISTENING, ATTENTION AND CONCENTRATION

In this first reflection guide, we start from the premise that listening and understanding are two different, albeit very closely linked processes: listening is the first stage of the understanding process. However, when thinking about the following aspects, we would like you try to bear in mind that we are only referring to the fact of listening. Later we will focus on the understanding of the foreign language.
Think about the following aspects and answer:

1. Am I used to listening in my everyday life?
2. In these first consecutive interpreting classes, how do I prepare to listen to a short speech in my mother tongue such as those we've been working on?
3. Attention and concentration are two essential abilities when interpreting. Do I concentrate enough on the speech? If not, what do I think that I could do to concentrate more on the speech and focus my attention?
4. After listening to the speech, despite having understood everything (because, after all, it was in Catalan or Spanish!), do I have the feeling that I haven't listened closely enough? If the answer is yes, what makes me think that?
5. Does the fact of not having listened closely enough to the speech have any consequence on my subsequent presentation?
6. Do I wish to add thoughts on any other aspects that have not come up in the questions?

Appendix 2. Partial Guide 2

ON MEMORY AND ANALYSIS OF THE ORIGINAL SPEECH
Think about the following aspects and answer on a separate sheet:

1. Am I able to remember isolated information such as numbers, enumerations, proper nouns or cultural information?
2. Am I able to remember whole ideas and to establish the logical relations and associations between the ideas?
3. Am I afraid of not remembering some information, that is, that my memory and my concentration will fail me?
4. A distinguishing trait of the good interpreter is his or her ability to select and focus the relevant information and discard the irrelevant information. Do I think I do that? How can I manage to do so?
5. After listening to the speech, do I have a clear idea of the structure, even though some details may be lacking?
6. Do I wish to add thoughts on any other aspects that have not come up in the questions?

Appendix 3. Partial Guide 3

ON NOTE-TAKING
Think about the following aspects and answer:

1. What language do I take the notes in? Is it easy for me to find the translation of the words if I am taking them in the target language?
2. Is my note-taking clear enough?
3. Would I say that I write too much?
4. Do I use abbreviations? How do I manage to become proficient in the use of symbols and gradually develop my own system?
5. Could I make my notes shorter?
6. Am I good at connecting ideas?
7. After listening to the original speech and taking notes, I tend to take a few seconds before starting to utter the interpretation. With a mere glance at my notes, do I manage to grasp a clear idea of the structure of the speech, the principal and the secondary ideas, causes and consequences, and so on?
8. Do I wish to add thoughts on any other aspects that have not come up in the questions?

Appendix 4. Partial Guide 4

ON UNDERSTANDING THE ORIGINAL SPEECH
Think about the following aspects and answer:

1. Understanding a speech in a foreign language basically depends on our knowledge of that language. Did I have problems understanding?
If the answer is yes:
   a) I would say they are due to issues of syntactical structure in German, or to the length or complexity of the phrase.
   b) I consider that I have problems with vocabulary.
   c) Difficulties in understanding could arise from, among other things, lack of knowledge of the given subject, the speed of the original speech or the accent of the speaker. Is that so in my case?

2. If I had problems understanding, how is that reflected in the recording I listened to of my rendering?

3. The context of the speech we are listening to can be a great help in cases where we fail to understand words or phrases as we hearing them. In fact, in interpretation, understanding goes beyond the simple recognition of words. Did I remember one or several terms, ideas or expressions which in the first instance I didn't understand but which I inferred, guessing from the context?

4. In interpretation, apart from a thorough knowledge of the foreign language, a key element in properly understanding the original is extra-linguistic knowledge. This could be: intercultural knowledge, general knowledge, knowledge about the speaker or the situation, knowledge about the specific conventions of the genre in question, etc. Was I able to apply my extra-linguistic knowledge in this particular case? What kind of extra-linguistic knowledge did I bring to bear?

5. I think that while I'm listening to the original speech I anticipate information which the speaker has not yet verbalised and which can help me understand the speech. Do I remember a specific example?

6. While I am listening to the speech, I'm constantly forming hypotheses about the meaning and information as it comes out, which I verify as the speech unfolds.

7. I want to add a comment which has not appeared in the previous questions.

Appendix 5. Partial Guide 5

ON THE REPRODUCTION AND PRESENTATION OF THE SPEECH IN THE TARGET LANGUAGE

Think about the following aspects and answer:

1. Coherence and meaning:
   a) Do I have problems when it comes to reading or interpreting my notes? When this happens, what do I do? Do I just go blank and get tongue-tied or do I make a quick decision which the people listening to me don't notice?
   b) Is my discourse coherent and cohesive?
   c) Do I notice any important omissions or changes in content?
   d) Do I use oral discourse connectors to relate ideas to each other?
   e) Do contradictions occur often?
   f) Do I leave sentences unfinished?

2. Linguistic Expression
   a) Do I make grammatical or syntactical errors in the target language
   b) Do I repeat myself?
   c) Did I know how to reproduce the same register as the original language?
   d) Is the language I used idiomatic enough?
   e) Do I lack precision in my language?
   f) Do I notice any Spanish/Catalan interference or the other way round?

3. Presentation:
   a) Is it an agile fluent speech?
   b) Do I make unnecessary pauses which would not be natural in oral discourse?
   c) Do I notice onomatopoeic sounds? Do I vocalise them well?
   d) Is my intonation sufficiently natural? Is my tone of voice appropriate?
   e) Am I convincing enough? Do I project confidence?
   f) Do I manage to maintain eye contact with my audience?
   g) Obviously every interpreting situation gives rise to a certain level of stress and anxiety. In my case, do I believe I can control this? If so, how do I do it? If not, how could I do it? Do I feel that I convey a sense of anxiety through my discourse?

4) I want to add another reflection which has not appeared in the previous questions.

Appendix 6. General Guide

We state below a list of aspects that are important of take into account when doing a good exercise of consecutive interpreting. Please consider only those which are more significant in your case.

1. Oral understanding of German:
   - Do I think that I've been concentrated enough? Have I listened to the speech with enough attention?
   - Have I had understanding problems? If yes:
     a) Because of the syntactical structure, or of the length or the complexity of the phrases?
     b) Do I have problems with vocabulary?
     c) Do I have lack of general knowledge or of the given subject?
     d) Is the speed of the original speech or the accent of the speaker related in any way to it?
   - Have I been able to deduce, from the context, any idea that wasn't clear in the first instance? Has extra-linguistic knowledge contributed to a proper understanding of the speech?

2. Memory and analysis of the original:
   - Do I remember isolated information such as numbers, enumerations, proper nouns or cultural information?
   - Do I remember whole ideas and establish the logical relations and associations between the ideas?
   - Do I select and focus the relevant information and put aside the irrelevant information and the details?
   - After listening to the speech, do I feel clear about the structure?

3. Note-taking:
   - How do I organize the notes on the page? Do I take into account the verticality, the "décalage" and the spaces between ideas?
   - What language do I take the notes in?
   - Is my note-taking clear enough?
   - Would I say that I write too much? Do I use abbreviations and symbols?
   - Do I try not to write terms but ideas in an abridged way?
   - Am I good at connecting ideas? Do I use connectors?
   - With a mere glance at my notes, do I manage to capture a clear idea of the speech structure, of the principal and secondary ideas, causes, and consequences, and so on?

4. Reproduction and presentation in target language:
   - Do I have problems when it comes to reading or interpreting my notes?
   - Is my speech coherent? Can I detect any contradictions? Do I leave sentences unfinished?
   - Is there any important omission or change in content?
   - Do I make grammatical or syntactical errors?
   - Do I calque words?
   - Have I been able to reproduce the same register as the original speech? Is the language I used idiomatic enough?
   - Do I lack precision in my language? Do I have a rich enough vocabulary?
   - Do I notice any Spanish/Catalan interference or *vice versa*?

- Is it an agile, fluent speech? Do I make unnecessary pauses which would not be natural in oral discourse?
- Are there any onomatopoeic sounds? Do I vocalize clearly? Is my intonation natural enough? Are the volume of my voice and the speed appropriate?
- Am I convincing enough? Do I project confidence? Do I communicate a feeling of anxiety and stress?
- Do I manage to maintain eye contact with my audience?