

**ELICITING AND FOSTERING LEARNERS'  
METACOGNITIVE KNOWLEDGE ABOUT LANGUAGE  
LEARNING IN SELF-DIRECTED LEARNING  
PROGRAMS: A REVIEW OF DATA COLLECTION  
METHODS AND PROCEDURES**

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## ABSTRACT

There is a substantial amount of research studies today emphasizing the need to provide self-directed learners with methodological and psychological support, to help them develop the necessary skills to direct their learning approach as well as positive attitudes and self-awareness towards language learning. Both types of preparation are thought to be essential to help learners become more autonomous and ultimately, more successful language learners. Yet, whereas a great many of these studies illustrate applications of learner's methodological support, namely, in the form of strategic training, or helping learners elicit their goals and devise their own learning plans, little is reported as to how the learner's psychological preparation is undertaken. With very few exceptions, there are not many studies that have reported how students' attitudes and beliefs towards language learning, also known as metacognitive knowledge, are dealt with in self-directed learning programs. The objective of this paper is therefore twofold: a) provide a review of studies that have used different data elicitation instruments and procedures for eliciting and fostering learners' metacognitive knowledge; and b) describe the weaknesses and strengths of those procedures as analyzed by research studies, which should allow us to establish objective criteria for how and when to use them in self-directed learning programs.

## RESUM

Són molts els estudis que avui en dia incideixen en la necessitat d'oferir un suport metodològic i psicològic als aprenents que treballen de manera autònoma. L'objectiu d'aquest suport és ajudar-los a desenvolupar les destreses que necessiten per dirigir el seu aprenentatge així com una actitud positiva i una major conscienciació envers aquest aprenentatge. En definitiva, aquests dos tipus de preparació es consideren essencials per ajudar els aprenents a esdevenir més autònoms i més eficients en el seu propi aprenentatge. Malgrat això, si bé és freqüent trobar estudis que exemplifiquen aplicacions del suport metodològic dins els seus programes, principalment en la formació d'estratègies o ajudant els aprenents a desenvolupar un pla de treball, aquest no és el cas quan es tracta de la seva preparació psicològica. Amb rares excepcions, trobem estudis que documentin com s'incideix en les actituds i en les creences dels aprenents, també coneguts com a coneixement metacognitiu (CM), en programes que fomenten l'autonomia en l'aprenentatge. Els objectius d'aquest treball són dos: a) oferir una revisió d'estudis que han utilitzat diferents mitjans per incidir en el CM dels aprenents i b) descriure les febleses i avantatges dels procediments i instruments que utilitzen, tal com han estat valorats en estudis de recerca, ja que ens permetrà establir criteris objectius sobre com i quan utilitzar-los en programes que fomentin l'aprenentatge autodirigit.

## RESUMEN

Hoy en día son muchos los estudios que inciden en la necesidad de ofrecer un apoyo metodológico y psicológico a los estudiantes que aprenden de manera autónoma. El objetivo de esta preparación es el de ayudarlos a desarrollar las habilidades que necesitan para dirigir su aprendizaje así como una actitud positiva y una mayor concienciación hacia este aprendizaje. En definitiva, estos dos tipos de preparación se consideran esenciales para ayudar a los estudiantes a ser mas autónomos y mas eficaces en su propio aprendizaje. Sin embargo, si bien es frecuente encontrar estudios que ejemplifican aplicaciones del apoyo metodológico que ofrecen dentro de sus programas, principalmente en la formación de estrategias o ayudando a los aprendices a desarrollar un plan de trabajo, este no es el caso cuando se trata de su preparación psicológica. Excepcionalmente encontramos estudios que documenten como se incide en las actitudes y en las creencias de los estudiantes, también conocidas como conocimiento metacognitivo (CM), en programas que fomentan la autonomía de los estudiantes. Los objetivos del presente trabajo son dos: a) ofrecer una revisión de estudios que han utilizado diferentes procedimientos e instrumentos para incidir en el CM de los aprendices, y b) describir los puntos débiles y las ventajas de dichos procedimientos, tal como se han valorado en estudios de investigación, ya que nos va a permitir establecer criterios objetivos sobre cómo y cuando utilizarlos en programas que fomenten el aprendizaje auto-dirigido.

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## 1. INTRODUCTION: LEARNER TRAINING IN SELF-DIRECTED LEARNING PROGRAMS

Developing learners' autonomy has become an important goal for many educational institutions and today we can find many contexts such as classrooms, self-access centers, or distance learning programs that encourage learners to develop a more autonomous or self-directed learning approach (henceforth referred to as SDL). Yet, only "providing learners with self-access facilities can not guarantee a full and efficient use of those facilities" (Sheerin, 1989: 34), nor can it ensure the successful development of learners' autonomy. Hence, what most studies today suggest is that self-directed learners should be provided with some kind of learner training support that can help them develop their knowledge and executive skills to manage, monitor and evaluate their own learning.

There are several justifications for this need (Victori, 2004). First of all, there seems to be a natural resistance on the part of many learners to become autonomous. This fact should not surprise us if we bear in mind that their educational backgrounds are usually grounded on very traditional teaching methodologies, in which the whole curriculum was entirely determined by the teacher or the school. Thus, when they are encouraged to direct their own learning, learners are faced with two types of problems: a) most of them lack the methodological preparation to organize their own learning, and very often they end up undertaking activities without any sound learning plan behind them; and b) most believe they are not skilled or confident enough to adopt such a responsibility, which often leads them to develop a negative attitude towards adopting a SDL approach.

Particularly in the case of self-access centers, it has also been noted that they often become underused as learners may not be aware of the potential uses of the center's resources, or else, because they only use those resources that are more familiar or appear more attractive to them. Some learners eventually get tired of using the same resources and many drop out of the SDL program. Hence, providing learners with support systems or with some form of learner training is a good way of addressing many of these problems and of helping learners become more expert, more efficient and ultimately, more autonomous learners.

According to research (Holec, 1981; Dickinson, 1987), this support should involve two types of preparation: methodological and psychological. The methodological preparation is intended to help learners plan, monitor and evaluate their learning. To do so, learners are often helped identify their language needs, pedagogical objectives and specific activities which should allow them to draw an individualized learning plan. Very often, this preparation also includes some form of strategic training addressed to improve their repertoire of learner strategies. The psychological preparation, on the other hand, is intended to deal with the learners' attitudes, feelings and beliefs about language learning and self-directed learning. Both types of preparation are essential and need to be provided together as part of the learner's natural development towards autonomy.

However, up until recently this preparation was clearly imbalanced. For many programs learner training was simply reduced and limited to the methodological preparation, that is, at the behavioral level, overlooking the important role of the psychological support. They tended to focus exclusively on the teaching of strategies or on other technicalities such as filling in needs analysis and evaluation forms, language learning contracts and students' logs, without providing the necessary psychological support that should accompany it. The results obtained were not always as good as expected. For example, some students were observed to remain unsuccessful after being instructed in the so-called effective strategies; other learners discontinued their attendance in SDL programs and a great number of them showed a persistent resistance to accept responsibility for their own learning and thus to adopt a more autonomous approach.

Among the possible reasons for these unsuccessful attempts of learner training it was suggested that the students' own knowledge and expectations that they brought to the task, known as Metacognitive knowledge, had been ignored. This knowledge is believed to interfere with the students' attitude and learning approach, and in turn, with the entire learner training

program. For example, some students appear to develop misconceptions about language learning about the nature of learning, their problems, task requirements, strategies, etc. which may become counterproductive for their own learning, as they use strategies inappropriately, avoid the use of certain activities, or develop anxiety to the point of giving up any attempts of learning a second language (Brown, 1987; Wenden, 1987).

As a result, in recent years we have started to witness in many of these SDL programs an increasing awareness of the need to deal with the learners' metacognition as well, and a few of them have already incorporated this element as part of the learner training support they offer (see Rubin, 1999 for a recent review of practical applications). This paper intends to provide a revision of these programs. Two particular objectives are pursued: a) to provide a review of studies that have used different data elicitation instruments and procedures for eliciting and fostering learners' metacognitive knowledge; and b) describe the weaknesses and strengths of those procedures as analyzed by research studies, which should allow us to establish objective criteria for how and when to use them in self-directed learning programs.

## 2. METACOGNITIVE KNOWLEDGE ABOUT LANGUAGE LEARNING

Metacognitive knowledge refers to the individual's beliefs about oneself and about others as learners and of the requirements involved in the learning process (Flavell, 1979). Examples of metacognitive knowledge may be the belief, that one is good at listening comprehension; that one has to be intelligent to learn a language; that learning English is more difficult than learning other languages or that memory strategies are more appropriate for learning vocabulary (Victori, 1992).

Different categories have been attributed to metacognitive knowledge and, as a result, various taxonomies exist. One of the first classifications, often referred to by researchers, is the one provided by Flavell (1979; 1981<sup>a</sup>; 1981<sup>b</sup>). He distinguishes three types of knowledge: person, task and strategic.

*Person knowledge* refers to the beliefs one has about oneself and others as cognitive processors (learners). Flavell includes two dimensions: intraindividual differences and interindividual differences (knowledge of personal styles, abilities, and so forth, of oneself and of others); and universals of cognition (knowledge of human attributes influencing learning). Examples of these subcategories, applied to L2 learning, would be the beliefs that you can learn better by memorizing; that your classmates are better language learners than you; and that factors such as motivation, intelligence, and so forth, play an important role in language learning.

*Task knowledge* refers to the knowledge that learners have about the information or resources needed for undertaking certain tasks and about the degree of effort required and difficulty involved in performing them. This knowledge entails four aspects (Wenden, 1991): knowledge about a) the purpose of a task (what is the objective in performing a given task?); b) about task demands (what resources and steps are necessary and what is the degree of difficulty involved?); c) about the nature of the task (what kind of learning is it?); and d) awareness of the need for deliberate learning (Does it involve the use of self-regulatory or metacognitive strategies?). Examples would be the belief that it is easier to recognize things than to recall them; that reading comprehension is facilitated when the content is familiar and organized, and that in listening comprehension, one does not have to understand every single word. As pointed out by Wenden (1987), metalinguistic awareness would be also contained within task knowledge.

*Strategic knowledge* refers to knowledge concerning what strategies are likely to be effective in achieving certain goals and undertaking certain tasks. This category, as further developed by Wenden (1987), includes: knowledge about strategy and task; knowledge about the effectiveness of certain strategies; and knowledge about the principles underlying the choice of strategy. This last aspect has been referred to by other authors (Schmitt & Newby, 1986) as conditional knowledge, that is, knowing *when* and *why* to apply a strategy. Some examples of strategy knowledge would be the belief that, in order to memorize lists of unrelated words it is

best to form mental associations among the words; or that in looking for specific information in a reading passage, you do not have to read through all of it.

Several are the features that have been attributed in the literature to this type of knowledge. One of the general assumptions made is that metacognitive knowledge is *stable*, as part of our stored knowledge (Brown & Palinscar, 1982) and that it is "not different from other knowledge stored in long-term memory" (Flavell, 1979:907). A second feature is the possibility of its being *fallible*, that is, not always accurate in nature. Thus, there are many beliefs about second language learning commonly held but which are not supported empirically. Another feature ascribed to metacognitive knowledge is that it is *interactive*, i.e., it can influence the learner's approach towards language learning and vice versa. Finally, Metacognitive knowledge, according to Flavell, is also *statable*, that is, available to awareness "...which can be activated as a result of a deliberate, conscious memory search, or unintentionally, by retrieval cues in the task situation" (Flavell, 1979: 907).

Acknowledging these features is important for the significant implications that derive from them, both, for language learning and for undertaking research in this field. First of all, the fact that some of these beliefs may be fallible implies that some students may approach language learning with a number of misconceptions about language learning that may not match teachers' approaches and researchers' theories about SLA learning and teaching (Victori, 1992; Flavell, 1979). On the other hand, being interactive with one's learning approach implies that some of these misconceptions may seriously interfere with the learners' own approach to learning. Hence, the need to elicit this knowledge and deal with it in SDL programs. Finally, the idea that MK is also said to be *statable* has generated a lot of controversy among researchers (Rowe, 1988; Jacobs & Paris, 1987), who question whether metacognition is always accessible to an individual's awareness. Whereas no general agreement exists concerning this dichotomy, some researchers support both possibilities, depending on the task undertaken and on the proficiency of the learner. Thus, metacognitive awareness is most likely to occur when a problem arises (e.g., you realize you are not progressing), or when you undertake a novel situation, which requires conscious thinking (Flavell, 1981<sup>a</sup>). On the other hand, when you can achieve your goals without effort, i.e., when the task is easy and known, or when you are an expert learner, metacognitive knowledge may remain inaccessible to conscious awareness, due to the resulting automaticity of the cognitive skill (Schmitt & Newby, 1981).

Hence, whether metacognition is conscious or not has important implications for research procedures since it raises doubts as to whether one can accept the methods for assessing metacognitive knowledge, such as self-reports, questionnaires, verbal protocols and interviews as valid. That is, do the data obtained through these instruments actually represent the subjects' metacognition? In order to counteract some of these problems, it has been suggested that interpretation of results always be offered with caution and that researchers use more than one method for collecting data on learners' beliefs.

### **3. ENHANCING METACOGNITIVE KNOWLEDGE IN SELF-DIRECTED LEARNING PROGRAMS**

The increasing awareness of many self-directed learning programs to deal with their learners' MK as part of the support provided has resulted in a variety of exploratory procedures for eliciting and enhancing this type of data. The means to elicit or deal with MK knowledge may vary from one program to another, and very much it depends on the particular social, economical and pedagogical circumstances of the program or self-access center, i.e., whether the center or program has qualified counselors / teachers (henceforth referred to as pedagogues) to undertake this task; whether this training is offered to students individually or else to entire groups; whether there are financial resources to support this training, etc. All of these factors will determine whether MK is enhanced under the guidance of a pedagogue, or else whether this is left to the student her/himself with the help of some learner training materials. In the former situation, this activity can be undertaken through group sessions or individually, in counseling sessions. A combination of these different options, individually and in groups, with or without a pedagogue is also possible. In what follows we will illustrate some of the most typical procedures and instruments used in each case:

1. Individual sessions: Counseling sessions have become a customary practice in many SAC's or in some SDL programs (see Mozzon-McPherson & Vismans, 2001 for several illustrations of counseling). These tend to be held individually between the learner and the counselor and may serve a number of purposes: initially to help the learner diagnose his own needs and pedagogical objectives which are used as the basis for drawing an individual learning plan or contract. Later, these sessions are useful to check students' progress, to provide them with feedback on their productive skills, to give them advice on their general language learning approach, and above all, to deal with the learners' problems, doubts and language learning beliefs and misconceptions. Therefore, because of the nature of the topics dealt with in these interactions, these sessions offer manifold opportunities to elicit, contrast, or enhance the learners' MK. As a matter of fact, these sessions are often referred to as 'conversations'... that help students reflect on their own learning experience (Esch, 1996 - cited in Mozzon-McPherson & Vismans, 2001:13), which already shows their instrumental role in enhancing learners' awareness about language learning. Apart from carrying on spontaneous conversations with the learners, the counselor may deliberately decide to use other resources to deal with this area more explicitly, such as formal interviews, written questionnaires, dialogue journals, reading passages on SLA topics, or other learner training materials (see below).
  
2. Group sessions. In classroom-based SDL programs, group sessions are clearly the most typical procedure used for dealing with the learners' MK. But these are increasingly also being offered in some self-access centers, which hold induction sessions to introduce new users not only to the facilities and resources of the center but to SDL as well (see Pemberton & Toogood, 2001; Nordlund, 2001; Or, 1994, for some examples). Depending on the center, this introduction may last anywhere from one to several weeks or may be undertaken throughout the whole program in the form of workshops, seminars or group tutorials. In those sessions a number of raise-awareness activities are often undertaken on various aspects related to L2 learning, self-directed learning and themselves as learners. To this end, they may use several resources and procedures, such as written questionnaires and forms, self-rating scales, group interviews, raise-awareness tasks, simulations, etc., which serve as a stimulus for subsequent group discussions. Besides their important role in supporting learners methodologically and psychologically, group sessions also serve the purpose of increasing the opportunities of interaction among learners and adding a social element to the so often denounced isolation that SDL usually involves.
  
3. Learner training materials. These materials usually include tasks, forms or guidelines that are meant to raise the learner's awareness on their language learning approach and to suggest ways of improving it. Because they are meant to be used for self-study purposes, special care has to be taken in writing the instructions, objectives and tasks provided which have to be transparent enough to be used successfully without teacher or counselor intervention. Furthermore, they should be reflective and thought-provoking to ensure the learners' MK is enhanced. Many of these materials also offer suggestions and recommendations at the end of the task which may be useful for contrasting and enlightening learners' own assumptions and possible misconceptions. These materials may range from in-house made worksheets, handbooks, guidelines to self-administered questionnaires and forms, and may be used individually or in groups (see Lynch, 2000; Lamb, 1996, and Nunan, 1997, for examples of how materials have been adapted for SDL purposes, and Ellis & Sinclair, 1989, for examples of tasks that can be used for learner training materials).

A revision of the studies analyzed so far suggests that self-directed learning programs use a variety of instruments for eliciting learners' MK that may range from very structured formats to more open-ended ones, as they appear summarized in what follows:

1. Structured procedures, which provide a limited number or pre-established answers for respondents to choose, such as Lickert-scale, multiple-choice, ranking-scale

questionnaires, standardized interviews, as well as some structured SDL learning forms and guidelines.

2. Semi-structured procedures, which have a specific set of semi-open questions determined in advance but which allow elaboration in the questions and answers, such as semi-open questionnaires and interviews, semi structured SDL forms, students' logs, autobiographies, and some raise-awareness tasks.
3. Open procedures, which use open questions that allow the respondents to answer at length, using their own words and elaborating on the issues raised, such as interviews, counseling sessions, simulations and scenarios, group discussion or tutorials, diaries and some raise-awareness tasks.

All of these types of procedures have advantages and disadvantages that need to be considered before adopting them for use. Among others, we have to decide what our purpose is, whether to explore learners' beliefs at length or simply describe them; what kind of data we want to obtain (qualitative or quantitative) and how we want to analyze it, and how many learners we want to work with, as all these decisions will determine which type of instrument we use. In the two tables which appear below, some of the general advantages and disadvantages associated with the use of structured and unstructured instruments for research purposes are presented (Brown, 2001):

**Table 1. Advantages and disadvantages of open- ended instruments**

<b>Open-ended instruments</b>	
Advantages	Disadvantages
<ul style="list-style-type: none"> <li>-The respondent is not led to answer in one way or another.</li> <li>-Through elaboration, they allow a deep treatment of the issue under study; a wider range of answers, and often unexpected responses.</li> <li>-They are useful for exploratory purposes and the responses obtained can be later used to design a more structured instrument.</li> <li>-From the researcher's point of view, open questions are relatively easy to write.</li> </ul>	<ul style="list-style-type: none"> <li>-From the respondent's point of view questions posed are sometimes more difficult to answer (as s/he may not know what to say about the topic) and are time-consuming. This is one of the reasons why sometimes respondents skip those questions.</li> <li>-They tend to be difficult to code, analyze and interpret, because some of the answers may be irrelevant, too general, or the handwriting may not be legible.</li> <li>-Using these instruments is more time consuming, as they require time for collecting and then analyzing data. This is one of the reasons why these instruments are more typically used with small groups of learners.</li> <li>-From the researcher's point of view, they require more interpretation of the responses obtained and thus more subjective decisions are made, which makes it more difficult to demonstrate the reliability and validity of these instruments.</li> </ul>

**Table 2. Advantages and disadvantages of structured instruments**

Structured instruments	
Advantages	Disadvantages
<p>-From the point of view of the respondent, they are easier to answer and questions are less likely to be skipped.</p> <p>-As they provide more uniformity across questions, in terms of the data obtained, they are easier to code, analyze and interpret.</p> <p>-They don't require interpretation and so data can be analyzed more objectively.</p> <p>-From the researcher's point of view, it is easier to demonstrate reliability and validity with these instruments, as long as they have been previously submitted to tests of validity and reliability.</p> <p>-For all these reasons structured instruments are preferable when we have large numbers of learners.</p>	<p>-They provide a narrow range of possible answers and so respondents may have other views which can not be reflected in those instruments.</p> <p>-Closed questions are more difficult to write and they should ideally be pilot tested and its validity and reliability established before they can be used for research purposes.</p>

#### **4. A REVIEW OF THE PROCEDURES AND INSTRUMENTS USED TO ELICIT MK**

In this section we will exemplify how these different procedures have been applied in various SDL programs. Far from providing an exhaustive list with all of the studies that have been undertaken, this section is intended to illustrate instances of the most common practices and to pinpoint, based on different research study findings, the advantages and main problems associated with their use for eliciting data on the learner's metacognitive knowledge.

##### **4.1 Questionnaires**

Questionnaires are by far the most popular procedure used in the studies examined for eliciting learners' metacognitive knowledge. Among them structured questionnaires clearly outnumber the use of more open-ended instruments, as they are easier to administer and may be used with a larger number of learners simultaneously. Within structured instruments, Lickert-scale questionnaires are generally preferred to other types, such as those composed of multiple choice, semantic differential or ranking scales questions.

Perhaps the most widely known instrument used for eliciting learners' general beliefs about L2 learning is BALLI, a 34-item questionnaire developed by Horwitz (1985) which examines learners' beliefs in five major areas: foreign language aptitude, the difficulty of language learning; the nature of language learning, motivations and strategies. This pioneering questionnaire deserves special attention as it set the ground for subsequent research studies that also used structured instruments to analyze different dimensions of students' beliefs. For example, Sakui and Gaies (1999) looked into the learning beliefs of 1300 Japanese learners about their orientation towards learning English and their perceived quality and sufficiency of classroom instruction; Mory (1999) contrasted students' epistemological beliefs with L2 learning beliefs; Cotterall (1999) elicited beliefs of 139 subjects on different dimensions: the role of the teacher, the role of feedback; the learner's sense of self-efficacy; strategic knowledge, and the nature of language learning; Victori (1992) examined the beliefs of ESL and EFL students (Victori & Lockhart, 1995) following Flavell's three types of MK: person, task and strategic knowledge; Willing's questionnaire (1988) was designed to elicit students' learning preferences; Littlewood's (2000) to examine how cultural beliefs may bias SDL programs, and Tumposky (1991, cited in Richards & Lockhart, 1994), to analyze the differences between the belief systems of Soviet and American students.

Among the three types of MK described in section 2, strategic knowledge seems to be the area that has received the greatest attention. The Strategy Inventory of Language Learning (SILL) designed by Oxford (1990) (see Oxford & Burry-Stock, 1995, for a full review of studies that have used it) stands out as one of the most frequently cited instruments used in L2 language studies, which assesses students' reported use of metacognitive, cognitive, social, and affective strategies. Similar instruments are those described by Sheorey and Mokhtari (2001), Politzer and McGroarty (1985), Dörnyei and Lee (1997), among others. Less frequently do we find studies that have focused on the learners' task and person knowledge. Exceptions to the former are the studies by Lavelle (1993), Victori (1995); Silva and Nicholls (1993) on writing skills; Vogely (1995) on listening skills; Kamhi-Stein (2003) and Schoonen *et al.* (1998) on reading, and Jimenez (2003) on vocabulary learning. As for questionnaires analyzing Person Knowledge, most tend to focus on learners' interpersonal factors such as self-esteem, motivation and attitudes towards language learning or self-directed learning (Wong, 1996; Broady, 1996).

One may note, that with very few exceptions (Poppi, 2000; Sheerin, 1997; Press, 1996; Broady, 1996; Victori & Lockhart, 1995; Cotterall, 1999), most of the aforementioned instruments have been primarily used for research rather than for pedagogical purposes. Yet, most of the implications derived in those studies about the pros and cons of using these instruments are also relevant for those devised for learner training purposes. Accordingly, while structured instruments are clearly advantageous for collecting general beliefs of large groups of students, these instruments present a number of disadvantages that should be considered as well. First of all, they fail to provide an in-depth analysis of the beliefs elicited of learners. This limitation may not be relevant for certain types of research (e.g., when the objective is to describe, compare or contrast beliefs across groups of students), but it is of paramount importance for counseling purposes. In this sense, Victori's (1992) instrument is a welcome contribution. Albeit a structured instrument (with ranking, multiple-choice and Lickert-scale type of questions), some of questions it contains are intended to elicit the rationale underlying many of the beliefs reflected by some of the other items, hence allowing the learner to reflect on his MK and justify his or her answers. This questionnaire, which has been used extensively for counseling purposes, has proved to be quite useful in enhancing self-directed learners' MK (see Victori & Lockhart, 1995 for a full account of its use). As the authors put it, after learners answer the questionnaire, this is followed-up by an individual interview with the counselor who focuses on those beliefs which are perceived as potentially counterproductive for the student's learning approach. Hence, the questionnaire is mainly used to trigger beliefs which are later developed, contrasted or commented on in the interaction learners have with the counselors.

Another problem associated with structured instruments -aside from those listed in Table 2 - is their lack of specificity and contextualization, as most of the questions posed do not refer to specific learning tasks or situations. This may result in a source of confusion for learners, as they may not be able to decide the particular circumstances under which certain beliefs are held. For example, in eliciting learner's strategic knowledge, learners may 'overestimate or

underestimate the frequency of use of certain strategies; they may be unaware of when they are using a given strategy and even more important, how they are using it “ (Cohen, 1998: 30). To get around this problem, Cohen suggests asking learners about recent experiences and tasks, or learning events, for example, administering the instrument right after undertaking a language task, and then questioning about the specific task (see section 4.3).

A third problem associated with questionnaires, as well as other survey instruments, concerns the focus and the wording of the questions posed, which may also become problematic. MK covers a broad spectrum of areas and angles, ranging from our beliefs about universal truths and self-concept (PK), our knowledge of the general process and nature of language learning (TK) to our perceptions on the use and usefulness of certain strategies (SK) (Flavell, 1979). It is not surprising then, that such a variety of concepts has resulted in different ways of *focusing* the questions, and brought with it a range of associated problems. Questions, or introductory prompts, may ask students about their perceptions of the usefulness of certain strategies (as in *What strategy do you consider most useful*), their preference (as in *What strategy do you prefer*), and their actual usage<sup>1</sup> (as in *What do you do when you... for example, read a text*). Prompts may also vary from the more objective (as in *What is the purpose of writing*) to the more subjective (as in *What material do you prefer*); they may use different tenses, varying from simple present (as in *What do you usually do*, implying a customary habit), present perfect (as in *What has helped you most*) where the emphasis is placed on the respondent's past experience), to other tenses (as in *What would you do if you had to?*, intended to elicit the subjects' prediction of behavior). Finally, different person forms may also be used ranging from first person (as in the statement: *I usually guess words from context*, which questions the user's experience), to other forms (as in *you / one / learners should always ask the teacher*, which represents a more prescriptive belief). As Victori (1999a) notes, when designing the questionnaire, the wording and focus of the prompt chosen will very much depend on the research questions that we pursue. The different possible wordings specified before may all be appropriate in a particular context as long as we use them systematically, and avoid subtly varying from one focus to another, as this would be confusing for the informant (Tragant, 1992:108).

Certainly, using semi-structured questionnaires allows for even more in-depth responses. The questions are less likely to lead the informants in their answers and these do not limit learners in the answers they can choose from. Wong (354) and Rivers (2001) are examples of two studies that have used semi-structured questionnaires for eliciting learners' beliefs for SDL purposes. However, these instruments are not without disadvantages. Apart from problems of understanding the students' handwriting and obtaining complete or not too sketchy answers, the main problem in collecting data on MK with more semi-structured questionnaires is perhaps obtaining responses that are relevant to the researcher's objectives or which are liable to interpretation. Research shows (Lupescu & Day, 1990; Flavell, 1979; Victori, 1995, 1999a) that not all students have reflected on their learning; in fact, this may be the first time they do so, which may result in too short and limited responses, irrelevant comments, or often, no answer at all. Furthermore, in an attempt to make questions simple and short, questionnaires often include technical terms, such as 'mental process', 'planning strategies', 'learning task' or 'learning process' or use ambiguous or unclear sentences that are open to a large number of

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<sup>1</sup> Phrasing questions or statements in one way or another may result in different responses. For example, a pilot study Victori (1995) conducted on students' MK on writing strategies, yielded slightly different results when the subjects were questioned about their perception of the usefulness of a given strategy than when they were asked about their actual use of the same strategy. The study showed low correlations between each matched pair of statements, ranging from .2 to .4 in most of the cases, with some exceptional cases correlating above .5. The discrepancies observed showed that what students perceived as useful (i.e., their preference), did not always match what they reported doing (reported use). Sometimes, the mismatch seemed to result from the slight difference of meaning conveyed by using an impersonal pronoun (*we, students*, etc. in version C), and the first person (*I*, in version D), or by using a prescriptive tone (e.g., *we should write an outline*, in version C) and a descriptive one (*I write outlines*, in version D). This study indicated that, for research purposes, asking about 'what they did' (Version D) proved to be more insightful than when questioning about their perceived usefulness (Version C).

interpretations. For instance, asking students 'what strategies they prefer to use when writing' may leave the informant in doubt as to what kind of writing; in what stage of the writing process; and in what situation (whether at school or at home) the question refers to. Hence, piloting structured and semi-structured instruments before administering them is an important requisite that should never be neglected, not even for pedagogical purposes.

## 4.2 Interviews

In SDL programs informal interviews between the pedagogue and the learner constitute the most basic form of support provided for learner training<sup>2</sup>. These interview sessions, known as counseling sessions, are undertaken to check student's progress, provide them with feedback on their productive skills, give them advice, make suggestions, and on the whole, to provide them with the methodological and psychological support needed to help learners direct their learning. Because of the nature of the topics that are usually covered in those sessions, they have become the focus of much recent research, which has started to analyze through discourse analysis (see Crabbe *et al.*, 2001) and other qualitative procedures (see Pemberton & Toogood, 2001) the kinds of attitudes, expectations, strategies as well as beliefs and misconceptions that learners disclose in those spontaneous interactions.

Among the major advantages of using interviews for learner training there is the possibility for students to expand on their answers, providing a rationale for the beliefs expressed. They are also helpful for contextualizing responses, as respondents may be referred to specific tasks, contexts or situations rather than to general language learning situations. Finally, they can also be used to complement data elicited with more structured instruments or procedures, or as a unique data collection method. Certainly, the main problems with them are that they are time-consuming and are not appropriate for large groups of learners, which has forced learner training programs to think of alternative ways to individual counseling sessions, among them, group interviews.

Group interviews are increasingly becoming an important part of many SDL classroom-based (Vandergrift, 2002; Pemberton & Toogood, 2001; Nordlund, 2001) and resource-based programs (for information in how to exploit their use, see Esch, 1997), which organize seminars, workshops or group tutorials as part of their support system. Apart from being more cost-effective than individual interviews, they also have the advantage of providing a fruitful interaction among learners who find other students with similar problems, with whom they can share their experience, or work on similar activities. Yet, they are not devoid of problems: a) firstly, some learners' responses may be affected by social desirability, that is, they may only refer to beliefs that are socially acceptable and not what they really think; secondly, as some subjects do not easily volunteer answers, "the information obtained may be biased in favor of students who are more outspoken" (Cohen, 1998:29).

One of the first studies documented using interviews as a pedagogical instrument for enhancing students' awareness about L2 learning was Wenden (1986) who used semi-structured interviews with 25 adults attending language classes at Columbia University. The purpose of her study was to analyze the beliefs students held concerning how best to learn a language, and to see whether these beliefs were reflected in the learner's approach to language learning. Likewise, White (1999) designed a series of instruments, among them naturalistic interviews, which were first used in the context of general course advice to elicit a group of prospective distance learners' beliefs about their expectations and previous experience, and which later served to design other elicitation instruments - individual follow-up interviews, rating scales and scenario exercises. Cabaroglu and Roberts (2000) also used interviews to check the development of beliefs of a group of TESOL students. In the same vein, Pemberton and Toogood (2001) interviewed students enrolled in a self-directed learning programs to elicit their beliefs about their expectations and perceptions of the advising sessions they had received.

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<sup>2</sup> While informal interviews have become a general practice in many SDL programs, fewer studies provide evidence of the use of more formal or standardized interviews, other than for research purposes (see Zimmerman & Martinez-Pons, 1986; Purdie & Oliver, 1999; Yongqi, 2003, for some illustrations).

These data was complemented with that obtained with questionnaires, diaries, written reports and recordings of advising sessions. Similar examples we find them in Wong (1996), who used semi-structured interviews along with questionnaires and teachers' observations of SDL learners working in SACs, and Barcelos (1999) who adopted an ethnographic approach to examine learners' beliefs, consisting of open-ended questionnaires, semi-structured interviews, classroom observation notes and diary writing.

### 4.3 Raise–awareness tasks

Using learning tasks as a means of triggering learners' reflection on their language learning procedures has a number of advantages compared to using interviews and written questionnaires alone. They allow learners to focus on particular tasks and settings<sup>3</sup>, which help them conceptualize their beliefs and thoughts, and as tasks are undertaken prior to reflecting, problems of memory are thus avoided. Because of these advantages, learning tasks have been extensively used for research purposes along with other introspective procedures such as think-aloud -in which learners are asked to verbalize their thoughts- and retrospective ones, such as stimulated recall or post-hoc interviews, in which excerpts of video or tape recorded sessions are used to stimulate the learner's memory of the task undertaken. By using these procedures researchers can not only trace the learner's thinking processes but they can also relate them to the behaviors observed.

Other than for research purposes, using raise-awareness tasks have proved to be an effective means of eliciting learners' awareness about their own learning. As a matter of fact, having learners experiment with learning tasks lies at the heart of many strategic training programs today. According to Holec (1981) learner training, or learner development, as he and other authors have called it, should be enhanced by having learners experiment with language learning so that they discovered by trial-and-error the knowledge and techniques which they need.

One of the pioneer examples in the use of raise-awareness tasks for pedagogical purposes is Ellis and Sinclair's (1989) widely used textbook 'Learning to learn English,' whose main objective was to enhance the learner's reflection and his development as autonomous learners through the use of self-awareness tasks, such as memorizing lists of vocabulary, guessing words from a reading passage, deducing the grammatical rules out of a sample or note-taking. These activities are either preceded or followed by questions that ask students to reflect on the procedures used when undertaking the task. Ma (1994), Villanueva *et al.* (1997), and Nordlund (2001) also used problem-solving and language learning tasks to encourage the learners' reflection in language learning and to increase their repertoire of strategies, as part of the induction sessions offered in their learner-training programs. Similarly, Vandergrift (2002) used a number of language learning activities and retrospective tasks to elicit students' person, task and strategic knowledge on listening skills.

A useful instrument that is typically used in SDL programs to enhance students' awareness on the learning activities they undertake is the students' log. In this form, students are encouraged to write down not only the activities they carry out, but to include other relevant comments such as difficulties encountered, methodological problems as well as any other positive or negative attitudes that arise as they go along their learning process. These logs are often checked out by the counselor or teacher and, therefore, besides being a useful instrument for self-assessment, they constitute an important source for eliciting learner's beliefs, and misconceptions. Some illustrations on the use of students' log can be found in Martyn (1994), Rivers (2001) and Fowler (1997).

Finally, a good way of raising awareness while learners use learning tasks is outlined in Nunan's article (1997) which presents a scheme of five levels for gradually increasing the degree of autonomy of learners through the use of conventional –and later newly created-

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<sup>3</sup> If the objective, however, is to elicit the typical strategies used more generally, these activities are then not useful (Chaudron, 2003:11. Fig. 4).

pedagogical materials. Though several examples, Nunan shows how learners can be made aware of the pedagogical goals, contents, strategy implications of commercial learning activities and suggests ways for teachers to adapt and modify materials in ways which are more likely to enhance learner autonomy. According to Nunan (1997), in undertaking the activities suggested either individually or in group work and group discussions, students' degree of learner autonomy is thus enhanced.

#### 4.4 Using indirect instruments

Some studies have reported the use of more indirect means of data collection procedures, such as case studies, pictures, texts or video excerpts, which portray different learner profiles or learning situations, in order to enhance students' metacognitive awareness. Accordingly, learners are encouraged to discuss and share their views about the situation which is being reflected in the prompt, and in so doing, they are helped to explicitly articulate their own beliefs about several aspects of language learning. External prompts are thus used as a form of eliciting hidden assumptions that would be otherwise more difficult to elicit. Because of this, they have been frequently used with children, although we also find examples of use with more adult learners.

In Wenden's (1991) book we find a number of case studies of language learners which are followed by questions intended to enhance the reader's reflection about his own use of learning strategies, and beliefs about SLA. A similar example we find it in Ma (1994) and Villanueva *et al.* (1999) who used simulations of case studies to elicit beliefs about students' own experiences in language learning as part of a learner training program. Along the same lines, White (1999) used verbatim extracts obtained from prior interviews, reports and other open-ended instruments to design a number of learner profiles which formed the basis of scenario exercises. These profiles were then shown to students who had to select the one which most closely reflected their own view and experience of distance language learning.

In the general field of education we find numerous studies that have used visual prompts such as pictures or video excerpts to elicit students' beliefs about learning. Berry and Schilberg (1996) used what they called a 'metaphor task', which consisted of four pictures illustrating different types of learning. These were used along with other data collection methods, namely, a Lickert-scale questionnaire and an open-ended writing task intended to elicit additional information on students' beliefs.

Using metaphors, either of a visual or a written type, can be considered another indirect way of tapping students' belief systems. Metaphors tend to express multiple meanings and in recent years the number of studies analyzing learners' use of metaphors about learning and teaching has increased considerably (Block, 1990; Ellis, 1999). This approach, based on the pioneering work that Lakoff and Johnson did in the 1980s, lies on the premise that "individuals frame and express their experience on the basis of largely unconscious conceptual metaphors" (In Riley, 1996:161); therefore, metaphors allow learners to "verbalize what is unknown or difficult to describe in other terms (Cortazzi & Jin, 1996, cited in Riley, 1996: 161), and to "organize their beliefs and experience and to make them explicit" (Riley, 1996: 162).

In sum, using these indirect prompts seems a promising way of stimulating students' MK, as they allow to capture unconscious assumptions that may be more difficult to trace through direct procedures.

#### 4.5 Diaries

Diaries are typically used by SLA researchers to investigate different aspects of T-S interaction, the learner's language acquisition process, attitudes, strategies, motivation, problems, etc. By their very introspective nature, they are also a rich source for eliciting students' MK about their own language learning.

Compared to other instruments, they present a number of advantages both for the students and for the pedagogue. For the learners, diaries can enhance their reflection about their own learning process as well as their capacity to articulate the problems they have. If used regularly, they can help L2 learners improve their literacy skills as well writing fluency as they learn to express themselves personally without the pressures they feel during class activities or with more academic writing tasks. Finally, diaries can enhance students' autonomous learning, as they are encouraged to take responsibility for their learning. Nevertheless, for these advantages to be fully effective, diary and journals need to be analyzed; simply writing diary entries does not ensure all of the potential benefits; entries need to be reread and emerging patterns found (Bailey, 1990). For this reason, sharing the learner's entries with the teacher or the counselor may prove to be even more beneficial for learners, especially for learner training purposes, as these can help them interpret their own feedback and take decisions about their learning by writing comments, supportive and sympathetic feedback, and/or advice on students' entries.

From the pedagogues' point of view, students' diaries also present a number of advantages. They can enhance teacher-student interaction beyond the classroom or program, and usually a friendlier relationship between them; they provide pedagogues with feedback about their learners' particular learning experiences, and if entries are collected regularly, they can provide a continuous record of students' development. In sum, as they enhance teacher's understanding of individual students (e.g., their interests, their attitudes, or their problems inside and outside of school), diaries are particularly useful for individualized instruction, and in turn, for SDL programs.

Among the problems associated with diaries, we need to refer to three of them: first, they are burdensome and a fatiguing process which requires time and dedication; second, not all students are committed to the task in the same way, thus, unless regularly asked to write, some learners eventually lose interest and stop writing them; and third, some students may feel reluctant to express themselves openly and hence, they should be allowed enough time to develop confidence in using this instrument.

Among the few studies that have used diaries with self-directed learners we should mention Rosewell and Libben (1994), who used these instruments to identify the self-directed learning behaviors, or 'autonomously-controlled tasks' that learners engaged in, which served as a means to affect their subsequent learning. Pang's study (1994) is also worth mentioning as he gave learners the option of recording their entries in tapes instead of writing them on paper; Fitzgerald *et al.* (1996) and Oxbrow (1999) used learner diaries along with other procedures as part of the induction session to a SDL program. In a similar vein, Lor (1998- cited in Benson, 2001) used reflection journals as a means of encouraging learners reflect on their learning experiences. Without imposing any kind of restriction on them, a number of areas were subsequently identified: learning events, the learner's role in the learning process, the learners' feelings, gains, difficulties encountered and decisions and plans. He concluded, however, that the students had found the process of reflection difficult, as they often felt unsure as to what "they should write and looked to her for guidance" (Lor, cited in Benson, 2001; p. 207). The author observed that there were few instances of deep reflection, that rarely did those reflections lead to changes in plan, that there was little sense of continuity across entries, that there was clear changes of perceptions as a result of reworking experiences, and concluded that teachers should "aim to provide students with challenging experiences that provoke deeper reflection and with opportunities to discuss the processes of learning that arise from them" (p. 207).

Lor's study has important implications for learner training purposes. While it has been often recommended for teachers not to encourage highly structured, or focused diary prompts --so that students can comment freely on what they consider to be important, feel motivated by this task, and do not perceive it as an obligatory assignment (Genesse and Upshure, 1996)-- it also appears that placing some kind of restriction and suggesting some specific questions or challenging tasks to learners may be more desirable to help them focus in specific ways.

## 4.6 Autobiographies

Autobiographies share with diaries their retrospective perspective and the fact that they are open-ended in nature. In an autobiography, however, learners are asked to describe and evaluate positive and negative aspects of their *past* learning experience, hence providing useful 'baseline' for each learner (Kasper, 1997:3). Because of this, they are a useful data collection means of eliciting learners' MK as well.

A good illustration of this use, we find it in Carter's (2001) study which he undertook with a group of advanced foreign language learners who were asked to submit their autobiographies, that is, their 'personal L2 learning history' as part of their learner autonomy project. This report, which was the first entry they wrote in their diaries, was intended to reflect their first exposure to language learning, including their experience at school and with their previous language teachers. According to the author, this first entry clearly provided differentiated data compared to the subsequent entries that were recorded in the students' diaries and served a different function. Whereas the diaries reflected students' daily difficulties and challenges with their language learning process, the autobiography "provided a rationale for the kind of language learners they were" (p.30) and "presented the framework of their language learning with highlights of the significant events in their language career" (p.22). Other studies that have also used autobiographies are the ones undertaken by Kasper (1997), who analyzed learners' conceptions of writing; Cabaroglu and Roberts (2000), who used autobiographies to analyze TESOL students' beliefs about language learning and teaching; and Tse (2000) whose learners were given 10 open-ended questions to reflect about their foreign language study history, experience and views.

## 5. CONCLUSIONS

Enhancing students' MK is fundamental for helping self-directed learning students exert more control and responsibility over their learning approach. A review of the literature has suggested a number of ways to do so, each of them presenting its own advantages and disadvantages. What follows are some general guidelines one should consider for eliciting data on students' MK.

The decision of choosing between structured or unstructured instruments will very much depend on the amount and type of data one intends to collect. If the purpose is to obtain qualitative and lengthy information about learners' beliefs, then using semi-open instruments, such as formal and informal interviews, autobiographies, students' logs or diaries with specific suggestions, seem to me the most appropriate procedure, even better than using too open instruments which often result in too unmanageable and irrelevant data. If the objective is to obtain typical learners' beliefs from large groups of learners then using structured instruments, such as written questionnaires, seem more adequate. In either case, to override some of the problems associated with these types of instruments, and to maximize their benefits, the following recommendations should be considered.

When framing the question, we should: a) avoid asking about too general situations and instead we should accompany the prompt with a specific context or situation (e.g., writing a descriptive essay at school); b) we should avoid the use of different types of probing questions as well as moving back and forth from absolute judgments to more relative judgments, or varying temporal or personal references that might confuse the reader; c) statements or questions should be clear, limited to one single possible interpretation and lay terms used in their wording. Finally, asking learners about what they do rather than about their perceived usefulness seems a more reliable measure as well.

In order to facilitate students' awareness of what they actually do, learners should be asked to undertake a learning task before asking them to reflect through elicitation instruments. To this

end, using raise-awareness learning tasks as well as other indirect prompts, such as simulations, metaphors or video excerpts of learner profiles may be quite useful.

Likewise, in order to override the problems associated with each type of instruments, and to complement data, we should ideally combine structured elicitation procedures with more open-ended ones, for example, combining written questionnaires with oral interviews or diary entries.

We should be wary of using beliefs alone as indicators of future behavior, as there are a number of factors that may account for the discrepancies found between the learner's reports and behavior. Only by comparing elicited beliefs with observation or some forms of introspection of learners' behavior, such as with think-aloud, can we gain some knowledge of their actual behavior and assess the influence of both positive or counterproductive beliefs into the students' learning approach.

Finally, for counseling purposes, elicitation procedures, especially if these are structured, should be accompanied by some form of follow-up discussion or post-hoc interview which would allow learners to contrast their beliefs and possible misconceptions with those of the counselor or their peers. Alternatively, students can be also encouraged to read texts on language learning topics, which would be useful in illuminating their knowledge as well. Otherwise, using elicitation procedures without any kind of follow-up from the pedagogue may be altogether of little use.

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