Building ESP Content-Based Materials to Promote Strategic Reading

Diseño de materiales basados en contenidos para fomentar estrategias de lectura en un curso de inglés con propósitos específicos

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This article reports on an action research project that proposes to improve the reading comprehension and vocabulary of undergraduate students of English for Specific Purposes–explosives majors, at a police training institute in Colombia. I used the qualitative research method to explore and reflect upon the teaching-learning processes during implementation. Being the teacher of an English for specific purposes course without the appropriate didactic resources, I designed six reading comprehension workshops based on the cognitive language learning approach not only to improve students' reading skills but also their autonomy through the use of learning strategies. The data were collected from field notes, artifacts, progress reviews, surveys, and photographs.

Key words: CALLA, learning strategies, materials development, reading.

Este artículo informa sobre un proyecto de investigación cualitativa que propone mejorar la comprensión de lectura y el vocabulario de estudiantes universitarios de inglés que se especializan en temas relativos a explosivos en una escuela de policía, en Colombia. Por tratarse de un curso de inglés específico que carece de los recursos didácticos apropiados, diseñé seis talleres de comprensión de lectura basados en el enfoque del aprendizaje cognitivo de la lengua, para mejorar tanto su comprensión de lectura como su autonomía para usar estrategias de aprendizaje. Para la recolección de datos se emplearon notas de campo, artefactos, pruebas de progreso, encuestas y fotografías.

Palabras clave: CALLA, diseño de materiales, estrategias de aprendizaje, lectura.

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Introduction

The students at the Escuela de Investigación Criminal–a police training institute in Bogotá–study English for specific purposes and there is an imme- diate need to design didactic resources for teaching the classes effectively because there are no appropriate materials related to crime in Colombia in English. Besides, nowadays the abundance of English information found in journals, articles, books, and web sites demands a good level of reading abilities. For this reason, these students need to be competent in the comprehension of English texts to promote their own practice and interest in their lives as police officers.

Considering the English for Specific Purposes (ESP) institutional goals and the students' needs, I feel the main aim of this study was to understand whether and how reading comprehension and strategy awareness can be developed through the implementation of content-based materials anchored in the Cognitive Academic Language Learning Approach (CALLA).

I developed and implemented criminalistics materials to promote reading comprehension based on CALLA by designing six reading workshops as didactic units that provide both language and content learning activities, with an explicit focus on language learning strategies, the inclusion of relevant content, the possibility for interactive teaching and learning, and opportunities for students' self-assessment of their own learning process. The workshops also allow me to track the participants' progress for interpretation and analysis of data when necessary.

This situation aroused my interest in materials development, so that I could provide my students with authentic readings to help them achieve the pre-established learning objectives. As a teacher, I consider that this student-centered approach helps us to get closer to the students' language needs and enhances the success of our work. This research can motivate other teachers to develop contextualized ESP materials as a regular pedagogical task, and I believe that this study is a worthy example of how teachers can give the practice of teaching a well-deserved boost in the education field.

Theoretical Framework

The pillars that shape this research are reading comprehension, materials development and the Cognitive Academic Language Learning Approach. They were combined to set up a productive work environment to fulfill the expectations of a group of police officer trainees who were interested in learning about criminalistics as a science that deals with processing criminal events. According to The California Association of Criminalistics (CAC, 2010, p. 1), "This science involves the application of principles, techniques and methods of the physical sciences and has as its primary objective a determination of physical facts which may be significant in legal cases."

This was the main curriculum subject at this school, so the students needed to be taught vocabulary related to physical descriptions, clothes, belongings and evidence elements relevant in a criminal investigation. Also, they needed to be familiar with crime information and to read material dealing with criminal cases, updated technologies in data analysis, fingerprints, explosives and weapons.

Reading Comprehension

The reading process is not easy to examine because it is complex and personal. Many communicative events take place during the reading process and the reader has to cope with them trying to comprehend and obtain as much as he/she can from the text. There is a close relationship between the reader and the text (Alderson & Bachman, 2000), and the reader's perception of the material is affected by life experiences and purposes.

Reading is a complex, strategic, and active process of constructing meaning, not simply a matter of skill

application (Palinscar & Brown, 1984). Comprehension requires a dynamic participation of the readers and their ability to seek, organize and reformulate the information in their own words, resorting to their own experiences and background knowledge.

To prepare students to read, it is essential to overcome comprehension difficulties and prepare them to be autonomous in the future. There are lots of effective ways to guide them, but, unfortunately, sometimes teachers ignore them and tell students to simply read and hope they become skillful in getting information without planning any strategic steps i.e. organizing ideas, taking notes, using reference skills, etc. In this respect, there are many kinds of effective instructional activities that can help students comprehend and remember what they read and as teachers it is our responsibility to make them available to the students.

Additionally, the reading process includes a variety of strategies, skills and types of texts that make the reading task multifaceted and a combination of mental processes, knowledge, and abilities. Grabe (2004, p. 55) suggests that "it should be centered on the use of and training in multiple strategies to achieve comprehension." Then, the real value and effectiveness of the reading process involve frequent practice with clear purposes and expectations.

Likewise, the use of authentic and adapted readings helps students familiarize themselves with specific content-based expressions and vocabulary, and become skillful at consciously recognizing the organization of the information and the structure of the target language. Students should also be trained in the use of terminology related to their field of study, thus feeling more engaged (Scott & Winograd, 2001).

Noles and Dole (2004) state:

Researchers have collected much evidence that supports explicit strategy instruction. The teaching of strategies empowers readers, particularly those who struggle, by giving them the tools they need to construct meaning from text. Instead of blaming comprehension problems on students' own innate abilities, for which they see no solution, explicit strategy instruction teaches students to take control of their own learning and comprehension. (p. 179)

There is a variety of direct and indirect learning strategies to facilitate reading comprehension in the language learning process. From Oxford's strategy classification system (Oxford, 1990) I focused on direct strategies that allow the straight learning and practice of content and vocabulary and indirect ones that help the students organize and evaluate their knowledge and performance (see Figure 1).

Materials Development

Teacher-developed didactic materials can be defined as any kind of resources and layouts that the teacher creates, looks for or adapts to fulfill the daily needs in the teaching-learning process. In the same line of thought, Tomlinson (1998, p. xi) defines materials development as "Anything which is used

Figure 1. Learning Strategies (adapted from Oxford, 1990)
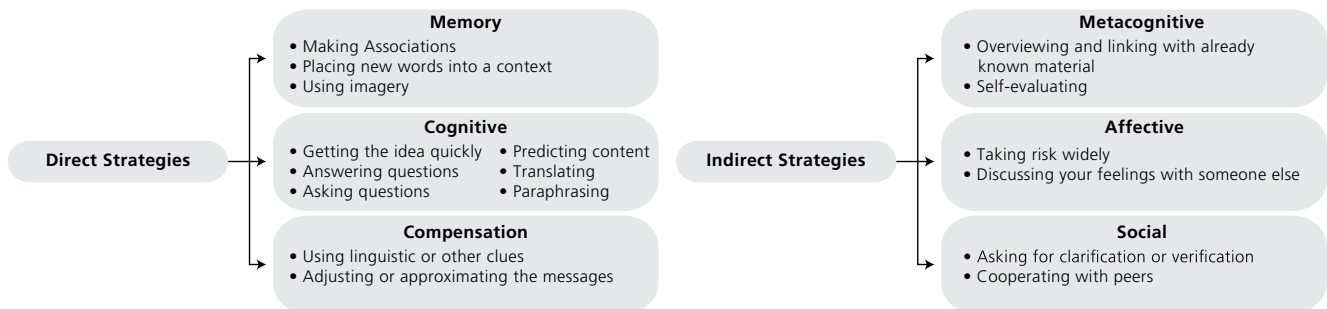
by teachers or learners to facilitate the learning of a language". The interesting point here is that the author comments that learning is a shared responsibility between the teacher and the learners.

Due to the lack of appropriate didactic resources for the ESP course I teach, materials development is one of the main constructs that underpins this research. Developing materials is an opportunity to find solutions for immediate teaching problems at Escuela de Investigación Criminal and without depending on foreign resources and help. Moreover, it is really refreshing when we teachers not only instruct all the time, but also develop our own materials based on reflection and concern, and look for new experiences as teacher-researchers. We can produce solid and excellent material with the quality level of materials created in English speaking countries.

From my point of view, it is really exciting to explore this attractive possibility because it helps the teacher reflect on his/her labor to continue seeking knowledge and discovering new facets that enormously feed his/her intrinsic motivation. It is also an opportunity to be updated with recent research in the educational field (Núñez, Téllez, Castellanos & Ramos, 2009). Reading and being informed is an essential prerequisite to know about new theories and practices that support the design of new materials.

De Mejía and Fonseca (2006) argue that foreign materials are not always appropriate to any context and do not fit in with the cultural and historical aspects of other countries. Sometimes they integrate misunderstandings or fictitious concepts about cultures in which the foreign language is taught. This is another valuable reason to convince teachers to elaborate their own materials since they belong to and are much closer to the culture and social situations in which they are teaching.

Materials development also requires attention to affective and motivational factors (Núñez et al., 2009) since teachers should create an enjoyable learning

setting that fosters students' confidence. When there is an affectionate environment, learning is more motivating and effective because the level of anxiety decreases and confidence increases.

However, materials development is a tremendous responsibility that requires both preparation and, above all, time. Searching for exercises, strategies, visual aids and contents requires a lot of patience, time and creativity. These tools must be constantly improved to optimize their effectiveness and replaced whenever they do not fully meet the desired outcomes.

CALLA

CALLA is a helpful resource to uphold academic and linguistic development. Also, it emphasizes higher levels of thinking, fosters effectiveness, motivates learners and benefits varied language level students towards learning a foreign language. I consider this to be a model that works for content-based instruction and learning strategies development, and therefore it was suitable for the development of this research. Chamot, Barndhardt, Beard and Robbins (1999) state that CALLA provides explicit instruction that assists students in learning both language and content, and helps them to become more autonomous and better self-evaluators of their learning process.

This approach is based on the social-cognitive learning model that integrates the students' prior knowledge, collaborative learning and the development of metacognitive awareness and self-reflection. It is an approach for learners of second and foreign languages and uses explicit instruction in learning strategies for academic tasks. The main purpose of this approach is to have students both learn essential academic content and language, and become independent and self-regulated learners through their increasing command over a variety of strategies for the acquisition of knowledge. The main elements of this instructional approach are summarized in Figure 2.

Figure 2. CALLA's Main Elements (taken from Chamot et al., 1999)
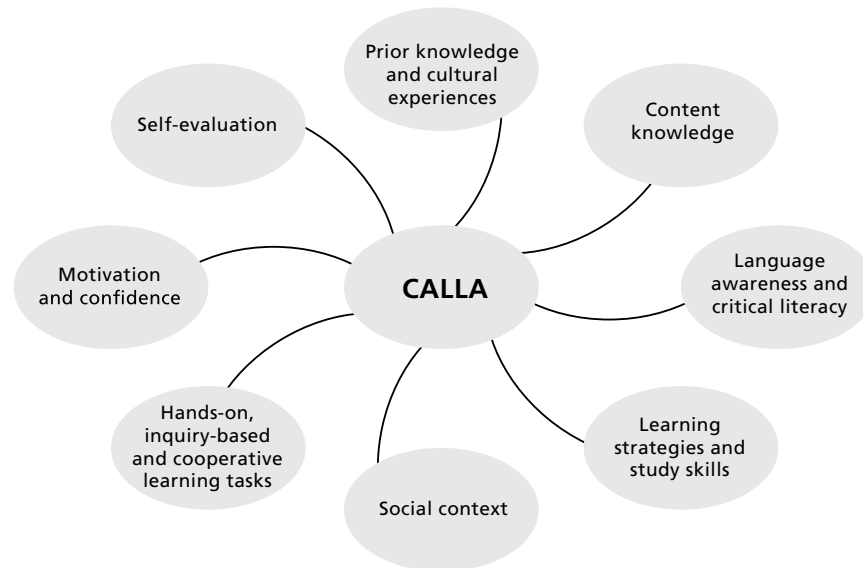
For this work, two components of CALLA have been emphasized. The first one is the cognitive learning model which defines learning as a dynamic process in which learners are fully engaged and the information given is retained when it is important to them. The second one has to do with the learning strategies defined as ways to understand, remember and recall the information; these also have a close relation with thoughts and actions that assist learning tasks and link the new learning with the prior knowledge.

Instructional Design

In order to obtain and organize evidence on the way students develop the reading comprehension through the implementation of ESP content-based materials based on CALLA, I designed reading workshops that focused on: (1) helping students to identify vocabulary and expressions related to crimes, suspects and victims with the use of their prior knowledge; (2) promoting the students' interest in the learning content and the English language; (3) training students in the use of learning strategies for the development of different activities; (4) fostering the students' reading comprehension of short crime-related texts; (5) aiding students in the recognition of vocabulary and expressions in context; (6) creating and adapting activities to encourage students to use the learning strategies as a routine to be more independent; (7) making the students aware of the usefulness of English in their academic success, and (8) teaching students to do an ongoing self-evaluation of their own learning process.

The reading workshops were designed considering CALLA's five steps (Chamot et al., 1999) to organize the lesson plans flexibly so as to combine content, language and learning strategies (see Figure 3).

Preparation (Warm up): Students prepare for strategy instruction by identifying their prior knowledge and the use of specific strategies.

Presentation (Warm up): The teacher demonstrates the new learning strategy and explains how and when to use it.

Practice (Before Reading): Students practice using the strategy with regular activities of moderate difficulty.

Evaluation (While Reading): Students self-evaluate their use of the learning strategy and how well the strategy is working for them.

Expansion (After Reading): Students extend the usefulness of the learning strategy by applying it to new situations or learning tasks.

The workshops integrated these steps which were implemented in three two-hour sessions. The example presented in Appendix A refers to the first workshop where the teacher starts by introducing the topic so that the students can define the concept of crime (Warming up). Then, they identify crime vocabulary using pictures; they use these new words in context through guessing, scrambling, matching, and completion activities (Before reading). With this type of activities students are prepared for the reading process and are also introduced to the recognition of learning strategies. After that, they read short crime cases in groups (While-reading) and the teacher revises the reading comprehension exercises with the whole class (After-reading). Then, students reflect on their experience of strategy use. In the last part of the workshop, there is a self-evaluation that the teacher explains to students; in it, each student reflects on learning attitudes, content learning, development of reading comprehension skills and learning strategy awareness.

Figure 3. Reading Steps
(adapted from Chamot et al., 1999)

INSTRUCTIONAL SEQUENCE
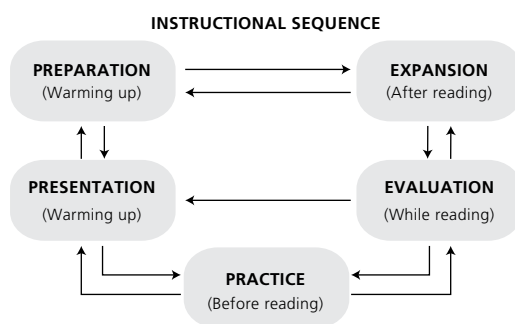
Research Design

The research approach of this study is qualitative since it gives me the chance to have a better understanding of my students' behaviors, informing on their thoughts, feelings, motivation, and performance.

James, Kiewicz and Bucknam (2008, p. 58) mention that "qualitative methods aid researchers in extracting the depth and richness of the human experiences from their subjects."

This inquiry is an action research whereby "the participants examine their own educational practice systematically and carefully, using the techniques of research" (Ferrance, 2000, p. 1). The purpose is to improve the way they address issues and solve specific problems within the classroom; thus, I consider this type of research to fit my study because it can generate genuine and sustained improvements in language learning at Escuela de Investigación Criminal. This action research comprised various phases: problem identification, theoretical research, diagnostic stages, selection of learning strategies to be promoted, development of reading materials and workshops data collection and analysis.

Research Questions

- How does reading comprehension develop through the implementation of content-based materials founded on the Cognitive Language Learning Ap-proach in an English course for undergraduate students majoring in Explosives?
- How can students' awareness of learning strategies be raised through reading workshops using the Cognitive Academic Language Learning Approach (CALLA)?

Context and Participants

The study was conducted at Escuela de Investigación Criminal de la Policía, a police training institute in Bogotá accredited by the Ministry of National Defense. Regarding ESP, is imperative to improve the police officers' performance in English, because it has become an important means of communication and information in their profession. Additionally, during their studies, they have to work with different materials and situations in English

and use it to solve problems or to be informed. They also need to manage technical vocabulary related to criminalistics to understand, for example, foreign texts related to racketeering.

The group where the research was carried out was attending the undergraduate program "Technical Professional in Explosives." It was composed of 16 male students whose ages ranged from 24 to 36, and all of them participated in the process. The English subject is divided into two levels: Basic English and ESP. The students belonged to the latter, but their real language performance was elementary.

Data Sources

Freeman (1998) considers the triangulation of data sources as a suitable methodological strategy to test the credibility of qualitative analysis. Incorporating various sources of information will make the research results more vigorous. First of all, a needs assessment (see Appendix B) and a diagnostic test were carried out for the diagnosis process and the design of the workshops.

Three main data sources were used during and after the implementation of the workshops: students' self-evaluation reports in six reading comprehension workshops, and two surveys: The first survey (see Appendix C) was a final questionnaire to gather data about the students' thoughts and behaviors, factual information and preferences; the second survey (see Appendix D) consisted of three open-ended questions that the students answered in their own words, providing qualitative information on their learning process (Marsden & Wright, 2010).

Apart from these sources, I also used three progress friendly reviews consisting of written papers with different exercises to observe the students' reading comprehension progress through the implementation of the workshops. These reviews were a very helpful tool since they provided evidence about the students' cognitive and metacognitive processes, and their ability to choose the appropriate learning strategies to do the tasks. I also took observation field notes and some photographs that document the development of collaborative work in class and the teaching-learning environment in general.

Data Analysis

According to Seliger and Shohamy (1989, p. 201), data analysis refers to "sifting, organizing, summarizing and synthesizing the data so as to arrive at the results and conclusions of the research". The procedure was systematic and included the description, the illustration of two research categories supported with the information collected from various sources: *Knowing the what, the how and the what for* and *Building it up together*. The type of data analysis was the a priori approach since the categories were the support of this study, as affirmed by Freeman (1998, p. 103): "It starts with established categories and organizes them into a basic display, then names by category and finds patterns in the display."

Findings

The needs assessment form was used before the intervention and included 14 multiple choice questions to find out about the students' previous English learning experience and performance, their definition of strategy, their opinions about reading comprehension in criminalistics, their learning activity preferences and their meaning of autonomous work. The last question had to do with expressing general comments and suggestions to facilitate the achievement of the ESP objectives.

Most students indicated that English was an essential component in their professional development and they had to read a lot of material in English. Nine students agreed that the type of learning materials that might help them in their learning process could be guided reading workshops with a variety of crime-science activities to allow some complete and holistic progress.

Finally, 8 students mentioned that they felt more comfortable during collaborative work (between the teacher and the students) and emphasized the importance of the teacher's help and guidance in the whole teaching-learning process. 6 of them preferred to develop their work and class activities under the teacher's supervision and 2 felt better when working alone. A subsequent diagnostic test, that included the reading of a crime text in which students had to answer some comprehension questions, revealed that almost half of the class (14 out of the 16 students did it) had a low level of language proficiency (49%). I also asked them some oral questions after the test to know how they solved each one of the exercises. I found that most of them were not aware of the handling of strategies while doing the exercises.

Based on the results of the students' needs assessment and the diagnostic test, I designed 6 reading workshops with activities that allowed them to work on crime-science content and learning strategies for vocabulary and reading development. To carry out the process of self-reflection, I selected and adapted a brief evaluation at the end of each workshop to gauge the awareness of their performance in terms of learning and autonomy. The two research categories supported by the data sources are presented in Table 1 and explained below.

Table 1. Categories

Questions	Categories	Subcategories	Data Sources
How does reading comprehension develop through the implementation of content-based materials founded on the Cognitive Language Learning Approach in an English course for undergraduate students majoring in Explosives?	1. Knowing the what, the how and the what for	1. Suitable content and linguistic input	Survey 1 and 2
		2. Students' learning attitudes	Survey 1
		3. Strategy use awareness and appropriateness	Field notes, survey 1
		4. Collaborative work	Field notes, survey 1 and 2
		5. Self-reflection (plan, monitoring, problem solving, self-evaluations)	Field notes
How can students' awareness of learning strategies be raised through reading workshops using the Cognitive Academic Language Learning Approach (CALLA)?	2. Building it up together	1. Tailor-made materials	Survey 2
		2. Moving from simple to complex reading exercises	Field notes, reading workshops
		3. Students' self-appraisal of their learning attitude and strategy use awareness	Field notes Survey 1

Knowing the What, the How and the What For

Suitable Content and Linguistic Input

For the students it was a double challenge since they had to handle both the language and the new contents at the same time, which brings to my mind what Cantoni-Harvey (1987, p. 201) says: "Language is essential for understanding content materials and can be taught naturally within the context of a particular subject matter." Both the specific content (crimes, victims and suspects, relevant suspect's marks, criminal notice and summary of crime reports), and the language (colors, parts of the body, clothes, simple sentences in present and past tenses, expressions of time and places) were addressed by means of a consistent application of an array of learning strategies that aimed at developing the students' reading processes.

The results of the survey at the end of the course (see Appendix c) confirmed that 63% of the learners considered they were always able to understand the contents developed through the reading workshops, and the other 37% could usually comprehend them.

In survey 2, the students answered a question related to the contribution of the implementation of the strategies in their content and language learning. Some of their answers appear in the following excerpts (translated from Spanish):

> Yes, the strategies help to understand the topics
>
> Some strategies are easy to understand the crime words and expressions
>
> The reading of the texts was easier with the help of the strategies
>
> Survey 2 (November 8th, 2010)

Students' Learning Attitudes

In general, my students' attitude was really motivating as the planned topics had to do with their own work as police officers. In fact they were willing to participate, take risks without feeling disappointed, and accept more responsibility for their learning from the beginning. Even though the instruction of learning strategies was both interesting and useful to the students, it was difficult for them to take full control of their own learning process and this had a direct effect on their attitude depending on the tasks and the time they had to invest in the workshops. Sixty-two percent of students indicated that they always had positive feelings towards the class, the learning process and their classmates. Ten percent answered they usually had them, 5% sometimes and 23% did not give any answer.

Strategy Use Awareness and Appropriateness

Students realized they had used strategies and vocabulary but had not been aware of their use in other contexts as can be verified in some of their opinions:

> I didn't know there were strategies to learn English
>
> So, the strategies can be used for everything?
>
> I learned vocabulary watching police films
>
> Field notes (October 4th, 2010)

Some instruments evidenced the fact that in the first tasks students tended to use direct strategies like imagery, making associations, translating and placing new words into a context, etc. They also began to realize which strategies were most appropriate for each activity and that using them was helpful for developing the tasks and doing the readings. The examples below confirm this variable:

> It is imagery porque hay dibujos (It is imagery because there are drawings)
>
> I need the strategy list para usarla cuando hago los exercises (I need the strategy list to use it when doing exercises)
>
> Terrorism como in Spanish (Terrorism as in Spanish)
>
> Field notes (October 4th, 11th, 2010)

The information from the survey at the end of the course showed that 60% of the students considered they always implemented the learning strategies and used the reading ones for a better understanding of

texts and descriptions. Thirty-five percent indicated that they usually implemented them and only 5% sometimes did so.

Collaborative Work

The majority of the students agreed that they felt more comfortable working with others and with the teacher's guidance. In this respect, the strategies that brought this issue to the surface were the social ones: Asking for clarification or verification and cooperating with peers, which are documented in the following excerpts.

> Teacher can I use the same strategies?
>
> I like this exercise because we can work in pairs
>
> I am always cooperating with my partners because they don't understand
>
> Field notes (October 12th, 2010)

The evidence collected from the survey at the end of the course evidenced that 62% of the students always respected others' opinions and points of view and also asked the teacher and classmates for help to solve problems and doubts. Ten percent stated that they usually paid attention to their partners' ideas and only 5% sometimes did. Unfortunately, 23% did not answer.

> What I enjoyed the most was the work in groups
>
> I liked a lot to share ideas with my classmates
>
> My partner was my best strategy because he clarified all my doubts
>
> Survey 2 (November 8th, 2010)

The collaborative work implied students working together as well as with the teacher, which brought more resources into play, improving mutual trust, self-confidence and support. Overall, this enhanced the human relationships that I, as a teacher, deem an essential part of my mission.

For the aforementioned reason, I included an item related to the teacher support in the final self-evaluation to know if my role as a guide, facilitator and companion was effective and supportive. The data gathered showed that 72% of the students considered that I always promoted their interest in several aspects such as learning content and language, instruction of strategies, development of their reading comprehension of crime science related topics, and encouragement to become independent readers able to use learning strategies as a routine. The remaining 27% asserted that I usually accomplished these goals and 1% declared I sometimes carried them out.

Self-reflection

Self-reflection implied the students' awareness of the use of the learning strategies for the development of reading comprehension. Ormrod (2004) defines this awareness as "people's knowledge of effective learning, and cognitive processes and their use to enhance learning" (p. 358). It also has to do with the form, the appropriate time and the reason to apply the learning strategies that helped students to become autonomous and more self-regulated.

I took into account the metacognitive model proposed by Chamot et al. (1999): organization of the learning strategies which includes the reflection processes of planning, monitoring, problem solving and evaluating, all useful for reading and retention of language and content. The first step, *planning*, consisted of socializing the objectives at the beginning of each reading workshop making sure they are clear to all the students. Prior to starting the activities, I invited them to look at the list of strategies and to select the ones they considered more appropriate.

The second step, *monitoring*, implied the students resorting to their prior knowledge, the previous workshops or the dictionary to complete the tasks. The third step, *problem-solving*, entailed having students use learning strategies like asking and verifying, linking with already known materials, adjusting the messages, and using the context, among others, to sort out problems during their implementation. The last

step, *evaluation*, comprised correcting and verifying the exercises within their groups, which allowed them to reflect and become aware of their results. This stage enabled students to reflect upon all these issues and consider them to solve the following workshops and more complex tasks. The evidence below exemplifies the students' perceptions.

> I need the list of strategies to do the exercise
>
> I used placing new words into context because the words are in the first exercise
>
> There are key words that help to recognize the type of crimes
>
> To complete with letters I have to use the strategy asking for clarification and verification
>
> Field notes (October 12ᵗʰ, 2010)

Building it up Together

Tailor-made Materials

I took into consideration an array of aspects to modify the syllabus and to create the plan of activities for this ESP course. Among them, I incorporated students' needs and expectations as the improvement of their reading comprehension, the design and implementation of activities and tasks with an increasing degree of complexity, the use of authentic materials as much as possible, and the continuous teacher support and guide. This can be seen in Appendix A and in these students' remarks:

> In the way you learn more the difficulty is greater
>
> Very positive experience because the methodology was innovative and easy
>
> I think the learning was good thanks to the teacher's methodology
>
> I liked the readings because they were real
>
> Survey 2 (November 8ᵗʰ, 2010)

Moving from Simple to Complex Reading Comprehension Exercises

This aspect features the reading process in the design, the implementation of the workshops and the progress reviews. As getting information and its manipulation are two of the main objectives in reading, I merged a variety of activities and tasks to nurture mental processes, build knowledge, and improve learning skills to strengthen the students' reading comprehension abilities. I also implemented permanent practical procedures to make it more effective. Additionally, I chose appropriate teaching strategies to promote a didactic reception of the reading passages moving from the simpler to the more complex.

In addition, I made use of authentic readings that allowed students to read real information in the foreign language, familiarize themselves with different reading processes and become skilled in consciously recognizing the organization of the information and the structure of the target language. In reference to this, Jacobson, Degener and Purcell-Gates (2003, p. 13) propose that "It is best for adult students to receive instruction which utilizes authentic, or real life, materials and activities to be also grounded in the context of the learner's life outside of class." Furthermore, the learners were trained in the use of common expressions and vocabulary related to their field of study which made them more engaged and enthusiastic. Here are some views that illustrate this issue:

> There are many words related to crime
>
> I used placing new words into context because it helps me to know the meaning.
>
> I used selecting and paraphrasing to understand better
>
> The marks are very important to describe the suspect
>
> Field notes (October 12ᵗʰ, 25ᵗʰ, 2010)

Figure 4 illustrates the process of developing materials that gradually moved from the simplest reading exercises in the first workshops to the most intricate in the last ones. In the first 4 workshops, according to the students' perception of reading comprehension abilities, progress was increased 20%. However, in workshops 5 and 6 almost 45%

of the students did not complete the survey, which made it impossible to check their complete insights. But according to the graphic the students who did complete the survey (55%) kept the perception of a possible improvement (40%).

Figure 4. Students' Development of Reading Comprehension
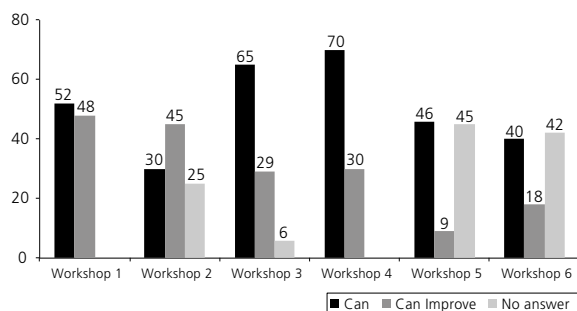
Students' Self-Appraisal of their Learning Attitude and Strategy Use Awareness

This last aspect that supports the second category concerns the reflective manner in which students reflect on their learning process and their attentiveness in the use of strategies. According to Scott and Winograd (2001), when students are strategic, "they consider options before choosing tactics to solve problems and then they invest effort in using the strategy. These choices embody self-regulated learning because they are the result of cognitive analyses of alternative routes to problem-solving" (n. p.).

In the first workshops I explained to the students every aspect to consider in the reflection process and how to do it. However, it was not easy for them since they were not used to doing it due to their cultural and educational backgrounds. At the beginning they mentioned that their success or failure was a direct result of the difficulty of the new concepts and vocabulary and lack of personal abilities in the use of appropriate strategies. Fortunately, through continuous

practice they started to feel more comfortable judging by how well they applied the strategies to do the tasks and then compared with their classmates, discussed in group or talked with the teacher.

They also learned that various strategies could be used in the same activity and began to think about better ones they could have used. In general, there was a tendency to use the most attractive to them, as imagery, asking for clarification and verification, making associations, cooperating with peers and translating what they found difficult to understand. However, when they started to gain control over strategy use, they began to select more difficult strategies as placing new words in context, taking risks widely, getting the idea quickly, adjusting and approximating messages, using linguistic and other clues. The examples below confirm the idea that students have specific preferences.

> I always use imagery
> I liked this exercise porque trabajamos de a dos (I liked this exercise because we work in pairs)
> I liked this workshop porque hay mucha imagery (I liked this workshop because there is a lot of imagery)
> I choose translating with the dictionary because hay muchas palabras que I don't know (I choose translating with the dictionary because there are many words that I don't know)
> Field notes (October 12th, 25th, Nov 3rd 2010)

According to the analysis of the final survey, 60% of the students recognized that the self-evaluation at the end of each workshop was always important as part of their learning experience and that they were able to choose the strategies by themselves. Thirty-five percent said that they were usually able to do it, and 5% stated that only sometimes they knew how to do it. Similarly, 63% of the students considered that they were always able to evaluate their own progress in the new language; 34% were usually able and 3% only sometimes as shown in Figures 5 and 6.
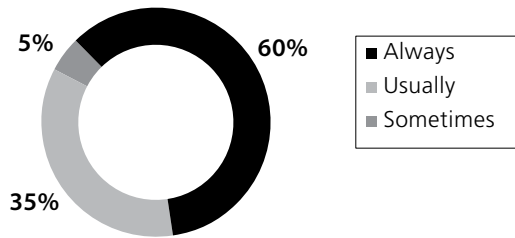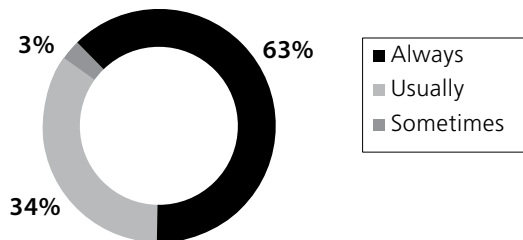
Figure 5. The Use of Learning Strategies

5% 60%
35%

■ Always
■ Usually
■ Sometimes

Figure 6. Metacognitive Strategies

3% 63%
34%

■ Always
■ Usually
■ Sometimes

Conclusions and Implications

Based on the data collected, I concluded that the students understood the importance of ESP in their professional performance, praising the creation of Criminalistics-based reading workshops underpinned by CALLA principles. They improved their reading comprehension by consciously selecting and applying learning strategies and self-evaluating their own progress. In addition, there was a significant advancement in self-sufficiency and communication in general as they were able, at the end, to share their failures and achievements, identify their difficulties, and look for possible solutions grounded on their own knowledge while interacting with their classmates and the teacher.

They learned most of the crime-science topics developed through the course mainly because those had to do with their professional aim and interests. This fact helped them to improve their language competence, have a very positive learning mood, be willing to take risks and be more responsible during the learning process. The use of a variety of direct and indirect strategies helped the students to understand the content better even though in the first workshops they preferred to use the direct ones since they were memory and cognition-related. Progress was observed as they learned to use all the strategies and became aware of their appropriateness in the different tasks.

To sum up, the whole analysis gave me confidence to state that the development of reading comprehension through content-based material was an effective process in which the learners used their prior knowledge and built up on it as they fused their experience as police officers with the language.

The field of materials development not only gives teachers the opportunity to design new and motivating activities for the students but also opens their minds to become more proactive and creative in their teaching practice. Moreover, the use of innovative materials encourages students to participate more actively, increases general interaction, and gives an enhanced sense to the teaching profession. It is also an alternative to the continuous use of the same textbooks, traditional class activities and teacher-centered classes.

This issue is also a good point to foster thinking about the current teaching practices and the need for teacher-generated materials that cater to students' language learning and professional needs, likes and expectations. Indeed, contributing to the betterment of the English level of our students through the development of contextualized materials reduces the tendency of using traditional textbooks and methods that are not always the most suitable for ESP context.

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About the Author

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Acknowledgements

Appendix A: Workshop 1

Policía Nacional de Colombia

Dirección Nacional de Escuelas - Escuela de Investigación Criminal

CRIMES I



Main Objective

To define what a crime is and differentiate among different types of crimes through the reading of short texts.

Specific objectives

- To identify and define vocabulary related to crimes.
- To recognize different types of crimes.
- To select specific information in short crime texts.
- To distinguish information and questions in present and past.

Getting the idea quickly to define a concept
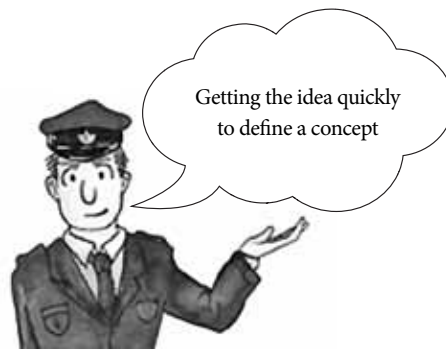
How much do we know about crimes?

Choose the best definition: A Crime is…

A. Incorrect behaviour that regulates the norms

B. Cultural standards explaining how humans ought to behave.

C. A person who violates the law and causes serious loss or damage to individuals.

D. An act related to norms and law.

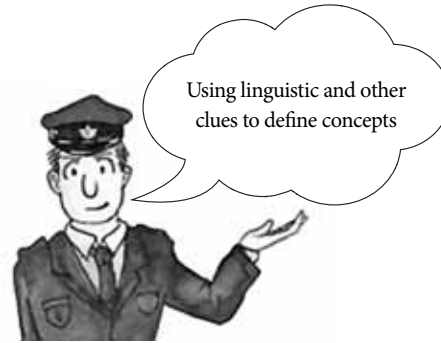**Before Reading**

1. Write the number next to the corresponding picture for crime words.
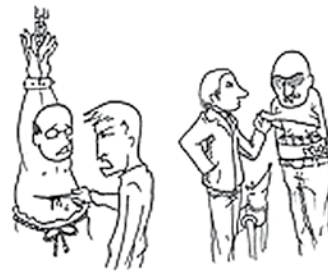
1. Kidnapping
2. Torture
3. Arson
4. Smuggling
5. Blackmail
6. Murder/Killing
7. Terrorism
8. Rape
9. Human trafficking
10. Drug trafficking

Using linguistic and other clues to define concepts

2. Unscramble the words and choose from the picture the correct crime for each definition then compare with your classmate next to you:

pear

roture

sonar

redrum
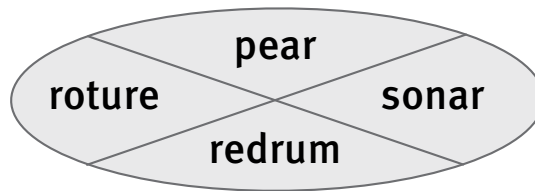
a. _____: It is an assault by a person involving sexual intercourse with another person without that person's consent.

b. _____: Taking out or extinguishing the life of a human being, especially with premeditated malice.

c. _____: It is a crime of intentionally and maliciously setting fire to structures or wild land areas.

d. _____: Any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person to obtain information or a confession.

3. Guess. Write the missing consonants and match.

a. It is illegal trade in human beings.

b. Political violence by a group using military methods.

c. Importation or exportation without paying lawful customs charges or duties.

d. Extortion of money or something else of value from a person by the threat of exposing a criminal act or discreditable information.

e. Trafficking in illegal drugs like cocaine and heroin.

f. The unlawful act of capturing and carrying away a person against their will and holding them captive.

__ __a__ __ __ai__

__ i__ __a __ __ __i __ __

__ __u__ __ __a__ __i__ __i__ __

__u__a__ __ __a__ __i__ __i__ __

__e__ __o__i__ __

__ __u__ __ __i__ __

4. There are some important words related to crime. Find them in the gun and then compare with your classmate.
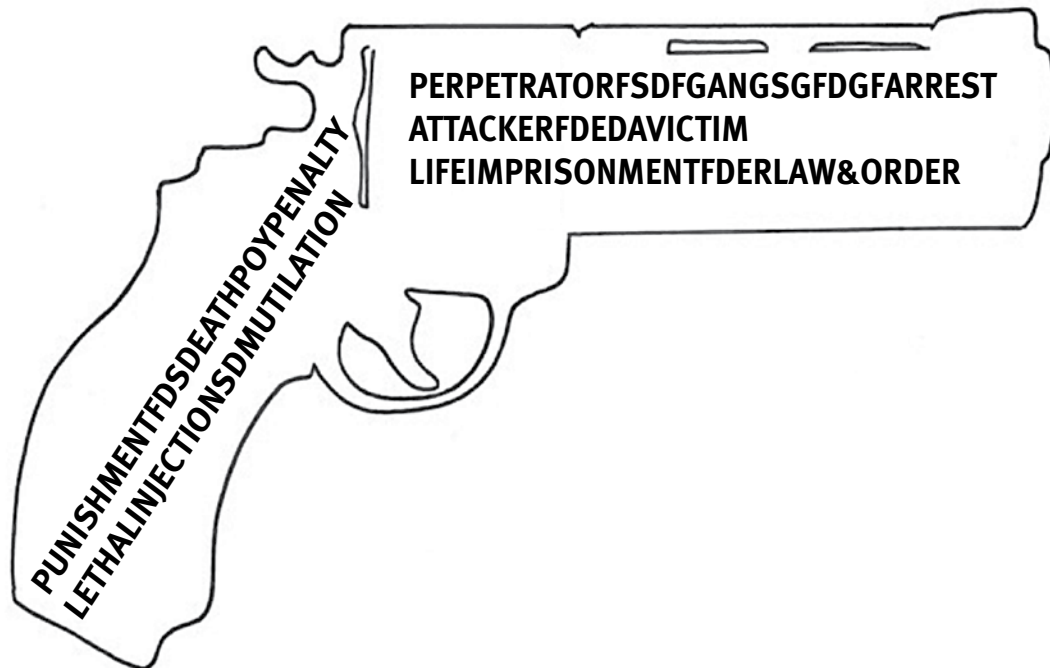
5. Underline the best option to complete the following sentences:
   a. When a person is committing an illegal action and is taken to <u>imprisonment / prison.</u>
   b. <u>Law & Order / gangs</u> is a TV series that has presented different crime cases for more than 20 seasons.
   c. There are many kinds of <u>punishment / sentences</u> as death penalty, lethal injection, the capital punishment and mutilation.
   d. <u>The perpetrator / victim</u> is the one who commits an offence or crime.
   e. <u>Capital punishment / Death Penalty</u> is the killing of a person by judicial process as a punishment for an offense.
   f. Money or property paid to secure a captive's release is called <u>Fine / Ransom.</u>
   g. In a crime scene the <u>assault / attacker</u> and the victim are the most important elements.
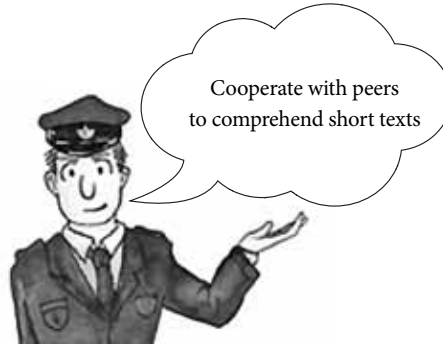
While-Reading

Read the following crime cases with your classmate and decide what types of crimes they are:

   a. **(October 11, London, Sri Lanka Guardian)** Hillary Clinton was giving a list of countries that used this crime as a weapon of war. Kathleen Willey and Juanita Broaddrick alleged they were abused sexually by (Bill) Clinton. Gennifer Flower, other women and of course Monica Lewinski claimed to have had illicit sexual relations with Clinton which is not a crime. The average sentence for this crime is 6 to 7 years but different penalties for a crime as assault could be 11 to 12 in a federal prison.

   _____
   _____

b. Three suspects were arrested this week in Ontario, Canada, and abroad. The conspiracy allegedly played out in Canada, Iran, Afghanistan, Dubai and Pakistan. Police say they seized educational literature and more than 50 circuit boards intended to remotely detonate bombs. One of the accused, Mohammad Alizadeh, also faces charges of making or possessing explosive devices and financing this terrible crime.

_____

_____

c. One of today's biggest human rights crises is the sale of women and girls (and, to a lesser extent, boys) into sex slavery. This crime is the third largest criminal industry in the world, outranked only by arms and drug dealing. The United Nations estimates that this business generates $7 to $10 billion annually. Each year the estimate by most experts involves millions of people. It is considered that it will be the second largest criminal industry in the world within the next decades.

_____

_____

d. This crime in the United States is one of the most profitable in the world. As such, it attracts the most ruthless, sophisticated, and aggressive traffickers. Law enforcement agencies face an enormous challenge in protecting the country's borders. Each year, according to the u.s. Customs Service, 60 million people enter the United States on more than 675,000 commercial and private flights. Another 6 million come by sea and 370 million by land. In addition, 116 million vehicles cross the borders with Canada and Mexico. More than 90,000 merchant and passenger ships dock at u.s. ports. These ships carry more than 9 million shipping containers and 400 million tons of cargo. Another 157,000 smaller vessels visit our many coastal towns. Amid this voluminous trade, these people conceal cocaine, heroin, marijuana, MDMA (éxtasis), and methamphetamine shipments for distribution in u.s. neighbourhoods.

_____

_____

(Taken and adapted from Wikipedia)

After-reading Let's check reading comprehension

According to the crime cases above answer the following questions by circling the correct option. (Individually and then compare with your classmates)

1. Who had illicit sexual relations with Clinton?
    a. Kathleen Willey and Juanita Broaddrick
    b. Gennifer Flower and Monica Lewinski
    c. Hillary Clinton

2. What is the average sentence for rape?
    a. 6 to 7 years
    b. 11 and a half
    c. 11 to 12 years

3. What did the police seize in these countries?
    a. literature books
    b. explosives and bombs
    c. circuits boards and information

4. What charges does Mohammad Alizadeh face?
    a. detonation of bombs and explosives
    b. possession of explosives and drug trafficking
    c. fabrication, possession of explosives and financing of terrorism

5. What is the third largest criminal industry in the world?
    a. Human trafficking
    b. Slave trade
    c. Drug trafficking

6. How much money does human trafficking generate?
    a. two to seven million
    b. seven to ten billion
    c. seven to one hundred billion

7. What is the most profitable crime in the world?
    a. kidnapping
    b. human trafficking
    c. drug trafficking

8. How do people enter the USA?
    a. by car and plane
    b. by ship and vessel
    c. by vehicles and train

9. What countries border the USA?
    a. United States and Canada
    b. Canada and Mexico
    c. Mexico

10. What kind of merchandise do people conceal in international trade?
    a. tons of cargo
    b. different kinds of drugs
    c. shipping containers

SELF- EVALUATION

My learning attitude	Always	Sometimes	Never
I have done all the reading comprehension exercises.			
I have had a positive attitude towards learning.			
I have cooperated with my classmates.			

How much I know about crimes	Yes, I can.	I can improve.
I can identify and define vocabulary related to crimes.		
I can recognize different types of crimes.		
I can distinguish crime information and questions in present and past.		

Development of my Reading Skills	Yes, I can.	I can improve.
I can select specific information in short crime texts.		
I can recall crime words when I read short texts.		
I can get the main idea when I read short texts.		

My Learning strategy use awareness	Yes, I can.	I can improve.
I can use imagery clues to identify new words.		
I can use linguistic clues to define concepts.		
I can logically deduce from context clues.		
I can place new words into context.		
I can cooperate with my classmates to comprehend short texts.		
I can selectively find and relate specific information.		

Taken and adapted from Astrid Núñez Pardo (2010)

Thanks for your attention!

J&N

Appendix B: Students' Needs Assessment

Dirección Nacional de Escuelas - Escuela de Investigación Criminal
QUESTIONNAIRE

Name: _____

Age: _____   Position: _____

Academic Background: _____

A. Choose the option that better describes your performance in English. In the last option write your own ideas.

1. You consider English an important tool for:
   a. Your professional development
   b. International promotion of the institution
   c. Job performance
   d. Personal growth
   e. Others.
      Which? _____

2. Your previous English learning in the institution has been:
   a. Very good   b. Good enough   c. Not good   d. Other: _____

3. Your English level to perform in Criminalistics matters is:
   a. Low   b. Average   c. High   d. Other: _____

4. The English skill you have developed best is:
   a. Writing   b. Listening   c. Speaking   d. Reading   e. Other: _____

5. According to the institution, a professional in criminalistics must:
   a. Be able to write reports, construct evidence, and ask and give information.
   b. Prepare reports to participate in a trial.
   c. Identify suspects, victims and witnesses.
   d. Other: _____

6. An English class for specific purposes should be:
   a. An oral exposition prepared by the teacher.
   b. Reading workshops and practical performances prepared by the students.
   c. Guided reading workshops and practical performances prepared by students.
   d. Other: _____

7. Reading is a skill that allows a complete development of Criminalistics and Crime science subjects:
   a. Yes
   b. No
   c. It is necessary to develop other skills.
   d. Other: _____

8. A strategy is:
   a. A thinking process.
   b. Prior knowledge to think about a topic.
   c. An action or technique used by students to improve their reading skills.
   d. Other: _____

9. The materials that can help your learning process could be:
   a. Guided reading workshops with a variety of activities.
   b. Videos and webs in internet.
   c. CDs and cassettes and visual aids.
   d. Other: _____

10. To improve your English level you need:
    a. Vocabulary
    b. Reading and writing exercises
    c. Listening and speaking exercises
    d. All of the above
    e. Other: _____

11. Your learning process is more effective when you:
    a. See vivid images or pictures.
    b. Listen to the teacher or others.
    c. Use gestures and use expressive movements.
    d. Other: _____

12. In class you prefer to work:
    a. Individually
    b. In pairs
    c. In a group
    d. Other: _____

13. In class you feel more comfortable when:
    a. The activities are guided by the teacher.
    b. You work alone.
    c. There is collaborative work between the teacher and the students.
    d. You work with your classmates only.
    e. Other: _____

14. Your autonomous work consists of:
    a. Self reviewing of the vocabulary and the activities worked in class.
    b. Using the vocabulary creating new situations or descriptions.
    c. Visiting the Web Pages recommended by the teacher and doing exercises on your own.
    d. Other: _____

B. Please write your comments, ideas or make a proposal you consider interesting or relevant to accomplish our English objectives both effectively and attractively:

_____
_____

THANKS A LOT!

Appendix C: Final Self-Evaluation (Survey 1)

Please read each statement and tick the corresponding box. The statements refer to the frequency in which the situation took place or happened. Answer the following questionnaire in terms of how often the situations occurred in the process of the reading workshops development. Do not answer how you think it should be, or what other people do. <u>There are no right or wrong answers.</u>

My Teacher Support	Always 100%	Usually 50%	Sometimes 25%	Never 0%
1. The teacher helped me to identify vocabulary and expressions related to crimes, suspects and victims using my prior knowledge.				
2. The teacher promoted my interest in learning content and the English language at the same time.				
3. The teacher trained me in the use of learning strategies for the development of different activities.				
4. The teacher fostered my reading comprehension of short texts related to crime topics.				
5. The teacher created and adapted activities to encourage me to routinely use the learning strategies and to be more independent.				
6. The teacher helped me realize the usefulness of English for my academic success.				
7. The teacher taught me to do an ongoing self-evaluation of my own learning process.				

What I have learned about content	Always 100%	Usually 50%	Sometimes 25%	Never 0%
1. I am able to define what a crime is and differentiate among the different types of crimes through the reading of sentences and short texts.				
2. I am able to identify and describe crimes through the reading of short articles.				
3. I am able to read short physical descriptions of suspects and victims.				
4. I am able to indicate significant elements for descriptions of suspects and victims in short texts.				
5. I am able to read and identify a criminal notice with specific vocabulary and expressions.				
6. I am able to recognize the summary structure of a crime report.				

What I have learned about the use of Learning Strategies	Always 100%	Usually 50%	Sometimes 25%	Never 0%
1. I implemented the learning strategies to improve reading comprehension.				
2. I used reading strategies for a better understanding of texts and descriptions.				
3. I recognized the importance of self-evaluation.				
4. I am able to choose the strategies by myself.				
Memory Strategies				
1. I can associate new words or expressions to concepts already in memory.				
2. I can place new words into a context.				
3. I can relate words with a specific concept.				
4. I can relate new words or expressions using imagery.				
Cognitive Strategies				
1. I can get the idea quickly.				
2. I can ask questions to clarify information.				
3. I can translate in the native and target language.				
4. I can answer questions to verify information.				
5. I can predict content.				
6. I can select and paraphrase specific information.				
Compensation Strategies				
1. I can use linguistic or other clues to get the meaning.				
2. I can adjust or approximate the messages.				
Metacognitive Strategies				
1. I can relate concepts with already known material.				
2. I can evaluate my own progress in the new language.				
Affective Strategies				
1. I can take risks in a language learning situation.				
2. I can discuss my feelings with someone else.				
Social Strategies				
1. I can ask for clarification or verification.				
2. I can cooperate with my classmates.				

Why do I prefer to use certain strategies? Please tick your options	
1. Because I am a visual learner.	
2. Because I do not know the vocabulary.	
3. Because I relate unfamiliar words and expressions with their equivalents in Spanish.	
4. Because I need the dictionary to know the exact meaning to understand the text.	
5. Because I like to work with my classmates.	
6. Because confirming and clarifying with my classmates make me more confident.	

My Learning Attitude	Always 100%	Usually 50%	Sometimes 25%	Never 0%
1. I expressed positive feelings toward the class and the learning process.				
2. I respected others' opinions and points of view when reading.				
3. I strove to learn and implement the learning strategies to improve.				
4. I asked for the teacher's and classmates' help to solve problems and doubts.				
5. I became aware of the importance of learning English in a meaningful context.				

Adapted from http://richarddpetty.files.wordpress.com/2010/03/sill-english.pdf (Oxford, 1989)

THANKS FOR YOUR COOPERATION, MY DEAR STUDENTS!

Appendix D: Expressing my Personal Opinions (Survey 2)[1]

Make a brief description of your experience as regards the implementation of the reading comprehension strategy use.

_____
_____
_____

Do you consider that the implementation of reading comprehension strategies contributed to your learning content and improvement in English? Why?

_____
_____
_____

What workshop activities did you enjoy the most and what would you change from those you enjoyed least?

_____
_____
_____

THANKS FOR YOUR COLLABORATION!

_____
1   The original survey was conducted in Spanish, but it has been translated for the purpose of this publication.