

Teacher: Can You See What I'm Saying? A Research Experience with Deaf Learners

Profe: ¿Puedes ver lo que estoy diciendo? Una experiencia de investigación con alumnos sordos

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This paper reports a study carried out with eleven deaf volunteers who belonged to different academic programs at a Colombian public university but did not receive English instruction as part of their professional training. The main goal of the research study was to identify the effect of using Internet resources as support for the design and development of a blended English course for deaf university students. The data were collected by means of surveys, artifacts, logs and a recorded interview to understand what worked well for deaf students and what barriers could interfere with their English learning. The study revealed some insights into the learning process of deaf students and their preference for collaborative learning and tasks linked to visual media.

Key words: Blended learning, deaf learners, English as a foreign language, English learning, Internet resources.

Este artículo da cuenta de un estudio que se llevó a cabo con once voluntarios sordos, quienes pertenecían a diferentes programas académicos de una universidad pública colombiana, pero no recibían clases de inglés como parte de su formación profesional. El objetivo principal de la investigación fue identificar el efecto del uso de recursos de Internet como apoyo en el diseño y desarrollo de un curso híbrido (presencial y virtual) para estudiantes universitarios sordos. Los datos se recogieron por medio de encuestas, evidencias documentales, notas de campo y una entrevista grabada en video con el propósito de conocer qué funcionaba con los estudiantes sordos y qué obstáculos podían interferir con su aprendizaje del inglés. El estudio reveló algunas percepciones respecto al proceso de aprendizaje de los estudiantes sordos, su preferencia por el trabajo colaborativo y las actividades ligadas al medio visual.

Palabras clave: aprendizaje del inglés, aprendizaje híbrido, estudiantes sordos, recursos de Internet.

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This article was received on January 31, 2011, and accepted on June 16, 2011.

Introduction

Since 1996 Colombian sign language has been officially recognized as the first language of deaf individuals and their formal education has been ruled by standards in rehabilitation, inclusion and interpretation of academic environments that promote integration and equal opportunities for everybody. However, deaf undergraduates who have been accepted in the universities under an integration framework have faced some academic obstacles set by a hearing society that promotes inclusion and recognition of difference, but does not really know what the concept of integration involves in terms of academic flexibility and alternative teaching strategies. For instance, at Universidad Pedagógica Nacional (UPN), there are about fifty deaf students who were integrated into the academic programs but do not receive English instruction as part of their educational curriculum, making them feel at a disadvantage with their hearing peers.

This article is based on a research study entitled “Using Internet EFL Resources as Support in the Development of a Blended English Course for Deaf University Students”, which was carried out as an attempt to diminish the disadvantage of some deaf students who were immersed in a spoken-language environment that uses English as a means to cope with a growing amount of information useful for personal and professional purposes.

This study involved eleven deaf student volunteers in an English blended course –designed by the teacher-researcher– which combined face-to-face sessions and some autonomous learning activities which required using EFL Internet resources in order to start or improve the English learning process of the participants.

The pedagogical motivation for this study was to obtain some insights into what worked well for deaf students and what barriers could interfere

with their English learning in order to design and implement an official English blended course using EFL Internet resources. It represented a good opportunity to explore the relationship between action research and teaching in a challenging situation such as working with people with hearing disabilities. It also responded to a real academic necessity for deaf students to obtain a different relationship with the English language as a tool of knowledge and communication to be used in a friendly atmosphere of equality.

The research question addressed in this project was: What is the effect of using EFL Internet resources as support in the development of a blended English course designed for deaf university students?

Answering this question implied starting a research study with emphasis on the analysis of didactic and academic issues surrounding the contact of deaf students with English as a language different from Sign language and Spanish which are their first and second languages, respectively. The work with some volunteer deaf students was a valuable experience from which these two sub-questions emerged:

- What does the use of EFL Internet resources in a blended English course tell us about the language learning process of deaf university students?
- What insights about collaborative learning can be identified in a blended English course for deaf students?

Thus, the study was a reflective exercise valuable for deaf learners and hearing teachers. The former had the opportunity to start their English learning process by trying a blended learning approach, including new strategies and resources that technology provided them and the latter could get some ideas on how to integrate deaf students who attended their regular classes to improve their general academic performance.

Review of Related Literature

Some theoretical aspects identified as relevant to develop this research study were: Blended learning, deafness, language learning and collaborative work.

Blended Learning

The term “technology” covers a wide range of recent resources and also includes “the use of computers as a tool to communicate through means like chat and email” (Sharma & Barrett, 2007, p. 7). Advancements in technology have influenced our environments in many ways. In the educational field, for instance, technology is seen as “the potential to engage disaffected pupils, to allow them to take control of their own learning by enabling interactive, individualized learning at the pace and level appropriate for them” (Lamb, 2004, p. 2).

Technology is not only useful for finding and sharing information, but also effective in helping individuals with special learning needs explore new learning environments in which they can learn through the use of their other senses and abilities. It has become an effective resource to support the teaching and learning process in creative ways. It also offers new alternatives for learning independently. Teachers, for example, can design courses that combine face-to-face teaching with online sessions to attain the learning goals. This is called blended learning (BL) which, according to Garrison (2004), implies “rethinking and redesigning the teaching and learning relationship” (p. 95).

In general terms, blended learning is seen as the combination of face-to-face classes and online instruction. According to Graham and Bonk (2006), BL combines the “traditional face-to-face learning environment that has been around for centuries and the learning environments that have begun to grow and expand in exponential ways as new technologies

have expanded the possibilities for distributed communication and interaction” (p. 5).

Internet technologies have become a good support for teaching practice because they enable users (both hearing and deaf individuals) to interact and exchange information with other users, thus fostering authentic communication and real use of the target language by e-mail or chat. In a blended teaching practice, students work on computer-supported activities to complement their direct contact with the teacher and their peers during the face-to-face instruction. Consequently, Internet technologies can play the role of tutor for students because they can access interactive websites that facilitate the practice of different languages.

In the blended English course developed with deaf students, face-to-face tutorials were combined with some autonomous virtual exercises that included EFL Internet resources which enabled the students to learn the language at their own pace. Those activities previously structured and planned by the teacher are known as learning objects (LO) and are defined as “digital files used in educational settings to support instruction” (Sosteric & Hesemeir, 2004, p. 17).

Students had to explore some websites suggested by the teacher and complete the activities of the weekly learning object which included specific learning goals and a sequence of tasks designed to achieve them properly. These learning objects encouraged students’ curiosity about English and gave them the confidence necessary to become autonomous language learners.

It is important to mention that the use of e-mail facilitated the asynchronous interaction between teacher and learners as the latter had quick access to English concepts, asked questions, shared information, solved language problems, and received teacher’s feedback. “The use of e-mail rather than paper based comments offers

potential for more interactivity and may lead to an ongoing dialogue with students and a sense of connectedness” (MacDonald, 2006, p. 59).

Deafness and Language Learning

In general, deafness is defined as the inability to perceive sounds. The World Health Organization defines it as “the complete loss of the ability to perceive sounds which can be caused by inherited or acquired factors” (2006). However, there are different explanations and classifications of this concept and most are based on the degree of hearing loss in terms of decibels (dB) ranging from mild to profound hearing loss, which is about losing 85% of the hearing capacity.

According to Stephen and Peter (1984), in their book *Language and Deafness*, “a person is considered deaf if the hearing impairment is so great, even with good amplification, that vision becomes the person’s main link to the world and main channel of communication” (p. 1).

Given that “all human beings are genetically equipped with abilities that enable them to acquire a language” (Brown, 2000, p. 29), deaf learners also use this innate universal capacity to learn a language and support much of their knowledge on social interaction and communication. At UPN, the Colombian sign language is the deaf students’ first language, although they receive some written Spanish instruction to facilitate their academic mainstreaming process. However, these students have manifested their personal needs, attitudes and motivations for learning English, not only because it is the international language for communication, business and information access, but also because English gives them a competitive edge and equal educational and social opportunities. Brown (2000, p. 1) states that “learning a second language is a long and complex undertaking. Your whole person is affected as you struggle to reach beyond the

confines of your first language into a new language, a new culture, a new way of thinking, feeling and acting”.

A deaf learner, as any human being, has innate abilities and a particular learning style to get and process information, solve problems and make decisions. “Ideally, a foreign (written) language should serve the deaf the same way as it serves members of the hearing society and should, therefore, fulfill cognitive, interactive, and textual functions” (Macurová, 2004, p. 28).

The proposal for designing an English course for deaf university students is relatively new in Colombia and required a review of international sources of information to support the argument that English can be learned by deaf students who use their visual channel, their sign language and their knowledge of the world.

Two brief descriptions of previous studies developed in the Czech Republic and Brazil are mentioned below to support the necessity of helping deaf students meet the challenges of learning English.

The seminar entitled “Teaching English to Deaf and Hard-of-Hearing Students”, organized by Janáková and Berent (2005), is an example of the interest shown by some European institutions and universities to promote EFL classes led by hearing teachers who work with deaf learners. These classes demonstrate that students who have not learned the language features of a spoken language can learn basic English skills by using alternative strategies ranging from traditional teaching methods and approaches to new high-tech learning environments.

The lecturers who participated in this seminar emphasized the necessity for trying new methods and techniques to find the best ways of teaching English to deaf students. Based on their own experience, experts provided some general aspects

to be considered for designing a course for deaf learners. From their lectures, it is possible to grasp and analyze effective didactic and linguistic strategies for teaching / learning English and practical recommendations for working with deaf students.

Another example of pedagogical work with deaf communities was developed by Skliar and Quadros, in the south of Brazil. They studied a bilingual, bicultural model for deaf education which has been applied using sign language as a tool to open new doors towards the literacy of deaf communities. In their opinion, "school should be considering the qualifications of deaf people to play a role in deaf education" (2005, p. 35).

This research project supports the importance of sign language as the principal communication possibility for deaf people to have an identity and interact with others. Based on his training and experience working with deaf children, the researcher considers that education for deaf individuals depends on the collaborative work of deaf and hearing teachers, interpreters and all the stakeholders interested in a real policy of inclusion and equality for everybody.

The research experience above supports the thesis that deaf university students at UPN are able to use their native Colombian Sign Language and all the language knowledge they have learned to start or improve their personal process of learning English, including taking advantage of some technological resources and going beyond the traditional classroom instruction given in their regular academic programs.

Collaborative Learning

Human beings are social by nature and this creates interdependence among them, but such interdependence does not ensure that acting collaboratively will transform their lives. It is known

that collaboration implies not only interaction, but also the personal decision of being responsible for one's own actions, including learning and respect for the abilities and contributions of the other members of the group as well as taking advantage of such interdependence to foster common positive results.

Collaborative learning can be seen as an instruction method in which students work in groups toward a common academic goal. Macaro (1997) states that a definition for collaborative learning is "when learners are encouraged to achieve common learning goals by working together rather than with the teacher and when they demonstrate that they value and respect each other's language input" (p. 134).

Collaborative Learning is related to social constructivism and its basic statement is that the culture and the social context are important for learners' cognitive development because learning is a social activity in which individuals do not learn by isolation, but are part of a community where each member is responsible for the others' learning as well as his/ her own learning. In other words, each learner learns from others, reflects on his/ her own learning process and makes decisions to improve his/ her personal and autonomous learning process. It involves actions like scaffolding, sharing goals, exchanging ideas, negotiating and involving the members' perspectives, talents and learning styles. Thus, the success of one student helps other students to be successful because the active exchange of ideas increases their interest and promotes meaningful learning.

In the educational environment, collaborative learning can be seen as an opportunity in which students share their abilities and talents to reach common academic goals. Although collaborative learning has been applied to different levels of education, a study entitled, "Does Collaborative

Learning Improve EFL Students' Reading Comprehension?”, developed by Momtaz and Garner at the University of Malayer in 2005, enabled researchers to emphasize the teacher's and students' roles within a collaborative classroom. The interchange of abilities and ideas made students' work engaging and improved their interest in the learning process. The teacher was a mediator of learning who helped students interact and interchange information.

In the blended English course designed for deaf students at UPN, the students became a very “close” group that had its own language, cultural customs and work strategies. During the English face-to-face sessions, they showed high social interaction and spontaneously helped each other in different ways, from looking up the meaning of a word in the dictionary to sharing a grammar explanation without asking for the teacher's intervention.

All participants had opportunities to learn from each other. The collaborative learning approach increased students' interaction and stimulated their cognitive, linguistic and social abilities because they had more opportunities to share with their partners and more chances to identify grammar and vocabulary mistakes to be corrected by their peers.

Palloff and Pratt (2007) state that “by learning together in a learning community, students have the opportunity to extend and deepen their learning experience, test out new ideas by sharing them with a supportive group, and receive critical and constructive feedback” (p. 158). The authors also stressed the fact that the students improve their social interaction in the group discussions and their collaborative reading, especially with regard to saving time and energy.

These statements provide arguments to support the analysis of collaborative learning in the blended course designed for deaf students at UPN. There, the role of the hearing teacher went beyond setting the class contents, designing the learning tasks and

leading the process which are all common actions in a regular language class. Deaf students had an active role because they usually worked in groups by taking the responsibility for their own learning. They used their background knowledge, learning strategies, personal experiences and innate skills as valuable raw materials to help and encourage each other to learn the new language concepts.

This collaborative tendency was also evident when deaf learners found useful interactive resources or attractive English grammar web sites and interchanged them with their hearing and deaf partners by sending them via e-mail or adding announcements and comments to the project's blog. This made e-learning resources useful and available for the deaf just as they serve members of the hearing society.

In general, the teaching and learning strategies in which English knowledge is built –taking into account students' opinions and own experiences to connect the language learning with their real language necessities– are now facilitated by online technologies. This demands reflection about the teacher's role, the social interaction and the learning opportunities promoted by collaborative learning under a social constructivist approach.

Methodology

The type of study followed in the project was action research (AR) which is defined by Sagor (2000) as a “disciplined process of enquiry conducted by and for those taking the action. The primary reason for engaging in AR is to assist the actors in improving or refining his or her actions” (p. 1). The AR methodology applied in the project enabled a hearing teacher to conduct a classroom-based study to explore issues related to the learning process of her deaf students in order to refine or adopt effective teaching strategies to fulfill their English language needs.

Data Collection

The data collection instruments chosen for carrying out the study were an initial survey, researcher's logs, students' artifacts, a video recorded interview and a final survey.

Surveys

Sagor (2000) considers surveys popular instruments because they "are efficient and versatile, useful to gather data concerning affective, cognitive or attitudinal issues" (p. 104).

Deaf students filled out an initial survey, useful to determine their profile, their motivation towards English learning and their use of instructional technology. They also filled out a final survey which was applied to learn their opinion about the blended methodology and their level of satisfaction after finishing the piloted English course.

Researcher's logs

Sagor (2000) also defines logs as "an even simpler way to collect data on student involvement" (p. 103). The written notes taken by the researcher were useful to get some insights about the classroom interactions and the students' reactions towards the tasks proposed during the face-to-face sessions. Behaviors, responses, attitudes, gestures and other aspects were identified with direct observation and recorded in short logs which enabled the researcher to build a summary of significant findings that occurred in the classroom during the implementation of the project.

Artifacts

Along the course, the written products, known as "artifacts" and produced by students, were usually submitted to the teacher by e-mail. These descriptive texts assigned as homework were useful to check the students' grammar and vocabulary improvement and compare their progress at the

beginning, during, and at the end of the process. They also enabled the teacher to analyze some students' personal reactions and motivations towards the course.

According to Burns (2005), "collecting samples of texts over a period of time enables teachers to assess the progress which students make as well as diagnose areas for further action in classroom research" (p. 140).

Video recorded formal interview

The students and the researcher participated in a formal interview with the help of an interpreter to learn students' opinions about the course and receive suggestions for improving the methodological strategies applied. This interview gave students the opportunity to freely share those points they felt were valuable and enabled the researcher to identify useful information to be linked with the project research question. This "allowed the teacher to observe many facets of her teaching quickly" (Hopkins 2008, p. 132).

The instruments mentioned above were complemented with the researcher's notes and had the objective of collecting the data in a systematic way. While instruments like logs and interviews helped the researcher to register information about the events during the workshops, the surveys and interviews allowed her to verify and control the data given by the participants.

The Pedagogical Intervention

The project started as a proposal to address the identified interest of a group of deaf students who wanted English instruction as part of their professional qualification process. It required the presence of a sign language interpreter who listened to the spoken teacher's instructions and explanations given in Spanish and then signed the message to the deaf students so they could

understand what was being spoken and react to the signed message. The interpreter also acted as a communicative mediator who always accompanied the hearing teacher with deaf students during the face-to-face sessions.

The first step was sharing the course proposal with the deaf students for their acceptance. The students completed an initial survey designed to get their insights about the English learning process and their Internet and e-mail habits. Then, the researcher explained the features of a blended course and the possible impact of the project in order to open an English course for them as an official elective subject. The face-to-face sessions were set according to the students' time availability.

The next step was to plan the lessons based on the information gathered which indicated that deaf participants were interested in learning basic grammar, vocabulary and expressions to get in contact with their friends, follow instructions, make descriptions and ask and give personal information.

Over two months, face-to-face classes took place once a week and were complemented by virtual EFL activities designed by the teacher. Classes were usually planned taking into account the students' language needs and their progress in the previous lesson.

During the face-to-face sessions some strategies from the Grammar Translation Method such as using grammar charts to explain the language structure, doing written exercises for completing the gaps and translating sentences from English into Spanish were useful to reinforce the topic or grammar structure studied. Anderson (1993) states that "When grammar is viewed as functional, when it is explained to the deaf learner as an integral part of meaning, then, the acquisition of rules and forms will seem an essential part of the communicative process" (p. 275).

For the teaching process, a variety of handouts, printed materials and learning objects produced with word processing software was designed by the teacher. This included grammar explanations and practical exercises linked to visual complements which enabled deaf learners to "visualize" the language, reinforce some basic concepts and enrich vocabulary. By e-mail, students also received a learning guide to explore EFL Internet learning resources including high visual input and interactive activities such as grammar tests and crosswords. This autonomous activity was useful for stimulating students' interest in learning English, identifying their language progress and language needs and making decisions to support their professional growth. Nunan (1996) proposes awareness as "the starting point to empower students' role in their learning process and finding a new way of interaction with their peers and teachers to be more autonomous" (p. 298).

Data Analysis

The aims of the project were focused on designing and implementing an English course for deaf learners using EFL Internet resources to identify their effect on students' learning process. To analyze such information, the Content Analysis Method was chosen because it is a strategy for qualitative analysis that emphasizes meaning rather than quantification and helps the researcher to build an interpretation of important data sources like gestures and non-verbal communication which are important aspects to analyze when working with deaf participants. According to Burns (2005), "Content analysis is commonly used with written forms of data to uncover incidences of certain words, phrases or key themes. However, it also has been used in observations to focus on such things as gestures, touching, domineering behavior, and so on" (p. 156).

The Content Analysis technique enabled the researcher to make some inferences about the language learning process of deaf university students by examining the information trends and patterns obtained in several data collection instruments. This qualitative method was useful to systematically analyze and describe the language improvement effects of applying particular didactics (Internet resources) with a particular population (deaf students) in a particular context (blended course).

Once the data analysis approach was defined, it was necessary to assemble the data collected and develop a triangulation process to increase their validity. Sagor (2000) defines the term triangulation as “the use of multiple independent data sources to corroborate findings” (p. 19). In order to do this, the researcher analyzed the data collected using different instruments. She also compared and contrasted the data to identify relevant aspects immersed in the project’s development.

Findings

After comparing and contrasting the data gathered, the researcher set an open coding strategy which is a “process of attempting to reduce the large amount of data that may be collected to more manageable categories of concepts, themes or types” (Burns 2005, p. 166). The coding strategy used was color coding which consists of assigning a different color to each group of patterns that make a category directly related to the research sub-questions.

After exploring the data gathered and applying the color coding, three categories and two sub-categories related to the research questions emerged. The first main category refers to the use of EFL Internet resources as an effective didactic strategy to support a blended English course designed for deaf students. The subcategories deduced from this

category refer to students’ language improvement, autonomy enhancement and motivation as a result of the effectiveness of the didactic strategy. The second main category pinpoints the pedagogical strategy and Internet tools linked to the visual and written necessities of deaf students during the development of the course. The last main category characterizes the work performed by deaf participants during the face-to-face sessions.

Figure 1 presents the categories mentioned above along with the subcategories which respond to the main question: What is the effect of using EFL Internet resources to support a blended course designed for deaf university students?

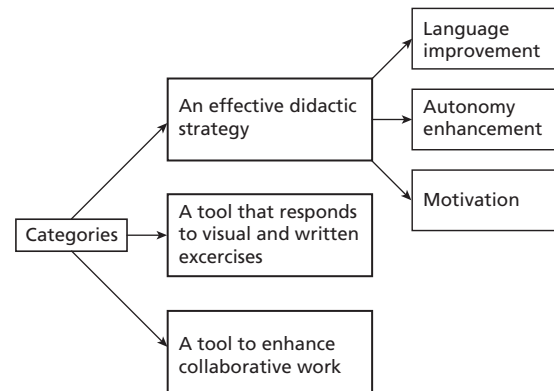


Figure 1. Categories and Sub-Categories

Category 1. The Use of EFL Internet Resources as an Effective Didactic Strategy

Data taken from the recorded interview supported the fact that most students used EFL Internet resources to complete the virtual activities assigned by the teacher and found them to be an effective didactic strategy to improve their language level, enhance their autonomy and maintain their motivation throughout the English learning process. These three sub-categories are explained in the text below.

Language improvement

Since the initial survey, deaf students manifested their necessity to learn the target language to cope with an increasing amount of written information in English and to communicate by means of messages and written texts. In addition, they manifested their tendency for using Internet as an opportunity to leave the traditional learning environment and obtain knowledge autonomously. As Tappscott (2009) states, “they need to expand their knowledge beyond the doors of their local community to become responsible and contributing global citizens in the increasingly complex world economy” (p. 119).

The following extract shows how after the project’s implementation, students agreed on the effectiveness of the Internet in a blended learning environment to reinforce the language concepts and develop independent work with a fast, free and useful tool. They expressed their main interest in learning grammar and developing their vocabulary from an English written text. Specifically, they manifested their interest in enriching their vocabulary and understanding verbs as fundamental aspects of the language learning that are facilitated by Internet tools like e-mail and online dictionaries.

The questions and answers given by deaf students were in Spanish which is their second language. The samples included hereafter were translated for the purpose of this publication.

On the Internet I can find verbs, I search verbs and images; then, I can corroborate what I’m thinking or correcting if I’m wrong.

The same thing happens about Spanish, I can look for verbs in English and the computer dictionary supports me in this process.

On Internet, I use search engines such as Google and I learn words; this allows me to use different terms in English, practicing it.

I use online dictionaries. I like it much because I can look for words quickly.

(Excerpt No. 1, Video interview 1, Students 6, 7, 9 and 10)

The extracts above evidenced two aspects of the learning style of deaf students related to the use of Internet as an effective tool to check vocabulary meaning and the role of grammar in their English learning process.

The final survey provided data to support the use of the Internet as an effective didactic strategy to improve English learning. The results indicated that a high percentage of students found the blended course (two face-to face hours and a weekly virtual session) effective and that the use of the Internet had supported their language learning process significantly. In addition, most students confirmed that they had completed the virtual activities and many participants said that their English level had improved considerably after taking the course.

Autonomy enhancement

Smith (2000) defines autonomy as “the ability to develop appropriate skills, knowledge and attitudes for oneself as a teacher, in cooperation with others” (p. 90). Deaf students, like hearing learners, can develop those abilities to achieve professional academic purposes. To do this, they need to see the variety of available strategies useful for exploring and expanding their own skills to find out what they really need to support their professional growth and encourage them to be autonomous.

The following excerpts provide evidence detailing students’ opinions about the use of the Internet as a tool that promotes their autonomous learning of the target language.

Have you ever used the Internet to learn English? Why? (Excerpt No. 2, Video interview 1, Interviewer’s question)

Yes, it supports English learning completely because I can practice it and I can learn it online; I can reinforce concepts for not just being dependent on what is taught in the class. I can use other strategies outside.

I think what my partner says is important. After all, we can learn by ourselves.

(Excerpt No. 2, Video interview 1, Students 9 and 11)

In the excerpt, the students express their self-confidence and autonomy towards self-monitoring and analyze their own learning processes by using the didactic strategy which also supports their language learning.

Motivation

As deaf students themselves decided to participate in a project which pursued the study of English as a foreign language to meet a goal that was self-imposed, the researcher noticed that they were motivated towards learning the target language. The sample in Figure 2 supports motivation as the third subcategory framed from the use of the Internet as a didactic strategy. The log written by the teacher describes the students' motivation towards the course in general, and the effectiveness of the blended strategy supported by Internet resources in particular.

October 27th, 2009

The university classrooms have been blocked. There are no regular academic classes. I have been in contact with my deaf students by e-mail. They have explored some EFL Internet resources to reinforce basic concepts like colors and adjectives. Seven students wrote me back giving a positive opinion about the assigned tasks. They even want more links to practice by themselves. They are also worried about the face-to-face classes.

Figure 2. Teacher's log about students' motivation

The fact that students kept in contact with the teacher, did the assigned virtual tasks and asked for extra sources during a recess period evidenced their

high intrinsic motivation towards learning English by using the Internet resources suggested. In other words, they had "an internal desire and want to be engaged in an activity for the pleasure and satisfaction it produces" (Deci & Ryan, 1985, p. 116).

The personalized interview also enabled the researcher to confirm the effectiveness of the Internet as a didactic strategy that fostered participants' motivation. The following excerpt is an example of this:

What role does the Internet have in your English learning? How do you use it to support your learning process? (Excerpt No. 3, Video interview 1, Interviewer's question)

This is my first time and I feel weak, but I know that all of this is making me stronger. Although the work with Internet, the images and the virtual guides have been surprising, they have been strengthening me.

I like browsing in Internet, I do not know, things like projects, things useful for teaching English for children. I like everything that appears with the word "junior", I find it interesting because there are things that I can learn.

(Excerpt No. 3, Video interview 1, Students 6 and 8)

The answers above show students' tendency for using the Internet as an effective and attractive strategy to complement the face-to-face sessions which are necessary to follow the course path.

Finally, the last survey also provided insights to support the students' motivation after taking the English course in a blended modality. The results showed that most students were highly motivated towards language learning. In addition, nearly all the participants graded their level of satisfaction after the course as very satisfactory.

As can be seen and accounted for in the explanations and excerpts above, English language learning, autonomy and motivation of deaf students who voluntarily participated in the study increased as a result of the use of the Internet as a didactic strategy.

Category 2. Internet, a Tool that Responds to Visual and Written Necessities

The second main category emphasizes the Internet as a useful tool linked to the visual and written necessities of deaf students during the development of a blended English course. For them, learning a language that is auditory-based can be an extremely difficult task. Consequently, they require a high quantity of visual input to help them to improve their writing, particularly grammar and vocabulary, which are the basics for communicating their ideas and thoughts.

Writing is the most important ability to be developed in an English course for deaf students. And in this research study, students frequently demanded explanations about specific grammar or vocabulary during the face-to-face sessions. The extract in Figure 3 describes the teacher's reflection about the necessity of grammar explanation.

Today, I asked my deaf students to write descriptive texts and I found that some strategies from the Grammar Translation Method were useful for them. For example, it was necessary to give them the grammar structure of a sentence Subject + verb + complement to guide them in the writing of some simple descriptive sentences. I noticed that they asked for qualitative adjectives to be used in their text (next class I have to work on adjectives). Students also found it difficult to use adjectives to describe attitudes or behaviors. In addition, spelling mistakes were common and the conjugation of verbs in third person needs to be explained once again.

Figure 3. Teacher's log about students' grammar needs

Besides the difficulties described in the excerpt above, in the final interview students also pointed out their necessity for grammar and vocabulary

in the course. The following excerpt shows some vocabulary and grammar difficulties mentioned by them about the writing process:

What difficulties have you found in your English learning process?

(Excerpt No. 4, Video interview 1, Interviewer's question)

Definitely, the vocabulary has been difficult for me. I get distressed when I'm not sure about a word. When writing I'm sure about the sentence structure; I know the exact place of each word, but I get confused about the vocabulary.

What it has been difficult for me is that I have considered Spanish as a long language. I mean, when writing Spanish I usually write long paragraphs. However, I noticed that everything is short in English. Everything is a kind of summary. I get confused because of that.

The same as my classmates, the verbs, the vocabulary, and the sentence organization, have been difficult. I do not know where locating the words.

(Excerpt No. 4, Video interview 1, Students 1, 2 and 3)

The extracts above show two features of the language which are difficult for any language learner: syntax and right word choice. Students also manifested the use of Spanish as a comparative structure to support their language writing process.

Another aspect that is remarkable in students' samples is that because of their limited vocabulary and the lack of descriptors in their written expression, they require a high quantity of visual input to complement their writing and find the resources available on the web useful.

The samples in Figures 4 and 5 exemplify students' preference for using visual support taken from the web when writing their short texts.



- Diana j is love.
- She is skinng.
- She have golden hair.
- She is student.
- She have andres's married.

Figure 4. Artifact 1 sent by e-mail, October 6th, 2009

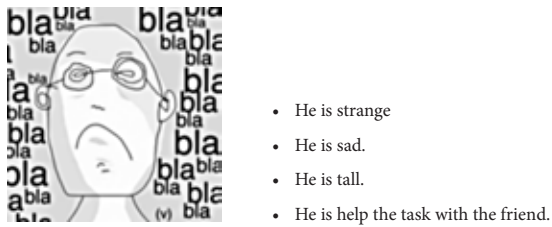


Figure 5. Artifact 2 sent by e-mail, October 6th, 2009

Checking the samples above, the teacher could analyze some common vocabulary and grammar errors to identify a student's particular stage in the learning process. By comparing the image with the descriptive text, teachers and students can identify errors easily and correct them, increasing the learners' understanding of language aspects.

Given that deaf students do not "hear" the linguistic information and have to "see the language" expressed by images, gestures, body movements and sign language, they found the use of visual aids for vocabulary to be the most effective teaching strategy during the course. The final interview also reinforced the use of Internet resources as a useful source of iconic language that responds to the visual and written necessities of deaf learners. The following excerpt, taken from the final interview, confirms this fact:

Have you learned anything in this course? How much have you learned?

(Excerpt No. 5, Video interview 1, Interviewer's question)

For me the class has been good; the process and the vocabulary that we have used clarifying the male or female gender and the use of drawings to support the vocabulary enables me to match images and words. With this visual component I can learn quickly. I can develop my third language love drawings. For instance, I like concepts related to the woman's description saying that she is very beautiful. This kind of things enables me to have a clear concept. I agree; the images in the worksheets give me clarity and enable me to have the ability.

(Excerpt No. 5 Video interview N° 1 Students 1, 3 and 5)

The samples above show how future deaf teachers recognize their visual learning style and the written necessities to learn English for personal and professional purposes as well as the use of the Internet as a strategy that responds to those needs.

Category 3. Blended Strategy: A Tool that Enhances Collaborative Work

Humans obtain knowledge through social interaction and communication and the group of deaf participants showed some strategies for spontaneous collaborative work to help them develop self-confidence and effectiveness in their personal and group English process.

During the face-to-face sessions of the course, deaf learners demonstrated excellent group work skills and positive learning motivation. The course became a "meeting place" for some of them who belonged to different academic programs at the university and did not have frequent contact with their deaf peers. In addition, some students showed their teaching abilities by providing each other with grammar and vocabulary explanations using their first language. According to Brown (2000), "collaborative learning aims at having students work with those students who have more knowledge to get guidance or orientation" (p. 122).

The following excerpt was taken from a recorded interview and supported the deaf students' preference for collaborative work in the face-to-face session.

How do you prefer working in the course? Alone? On a team? Is it insignificant for you? (Excerpt No. 6, Video interview 1, Interviewer's question)

I think that working in groups is better because I can share, I can feed me from the others' experience. There are some partners who know more than me and I learn from their knowledge. The university is to share the knowledge and it's for everybody to improve.

I think that for this class specifically, it is easier working in teams because all of us are deaf. If we had a hearing person in class, he/she would get the information faster with his/ her hearing sense and I would feel in disadvantage. This class is very different from the others. In different subjects we work in different ways, but here as we are deaf, we like working in teams.

It is easier working among deaf students because for working in a mixed group with hearing people I must agree with them and it is really necessary to have a sign language interpreter. However, if I am only with deaf partners, the class goes faster and I save time. (Excerpt No. 6. Video interview N ° 1 Students 1, 4 and 8)

The samples above supported the design and development of an English course for deaf learners only who enhanced their identity as a particular group of people who do not use a spoken language to communicate with each other.

Students' preference for collaborative work is also shown in the Figure 6, based on a final survey in which most participants considered that the group's collaborative work had a high positive influence on their personal English learning.

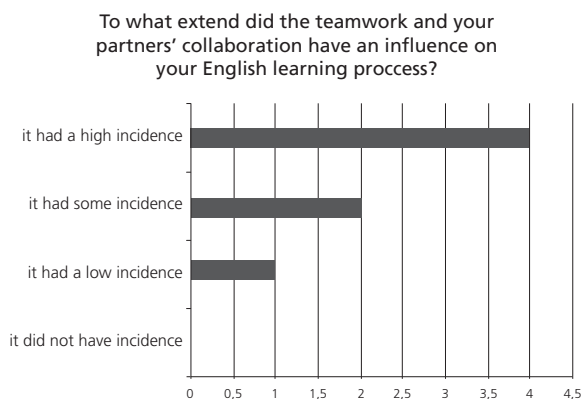


Figure 6. Students' opinion about collaborative work

The greatest benefit of this collaborative work was reflected in the friendly class environment and the willingness to work that most of the students showed. This was also perceived by the researcher in one of her logs (See Figure 7).

October 18th, 2009
 The familiarity and casual atmosphere fostered students' participation making them feel included, valued, and respected. Students enjoyed the activities and they showed highly collaborative work. They helped each other by explaining or giving examples of new concepts. I noticed that each student is explicitly conscious of self and others and all have a common objective: learning English.

Figure 7. Teacher's log about collaborative work

In the text above the teacher emphasizes that students felt comfortable while learning from their peers, became actively involved in the process and promoted the importance of participating in a course led by a hearing teacher.

Conclusions and Implications

Deaf students are people first, and deaf second and they arrive at university with a wide range of experiences, expectations, talents and skills. Teaching these individuals implies much more than designing a lesson plan and implementing an "effective" strategy. It involves recognizing their innate learning abilities before mentioning their potential disabilities and being ready to deal with all the possible aspects and challenges that make every class and every group of students unique.

Deaf students consider English quite important to feel as equal members of a hearing society that uses English as a tool to grasp the world. They appreciate the opportunity to take an English course, interact directly with the teacher and their peers, and show a positive attitude towards the learning process.

EFL Internet resources as support for the development of an English course designed for deaf university students allow the exploration of all the resources that technology provides to enrich their

learning process. It is an effective way of making the English teaching process more practical and dynamic providing, at the same time, students with flexible schedules and new learning strategies. Deaf learners can take advantage of their expertise by surfing on the web to identify, process, organize, and prioritize new information for learning a language, using the Internet tools that fulfill their learning needs of getting a high visual component and developing written communication.

Collaborative work is preferred by deaf students who use only sign language to express their ideas and comments in a class that demand of them a similar rhythm and level of participation. When they work together they provide immediate feedback and make peer- and self-corrections which contribute to the reflection and learning of the group.

Since deaf students have very different personal, communicative and educational backgrounds, they feel comfortable sharing their experiences and learning from their peers. When they work together, they enjoy peer review and immediate feedback and are receptive to self-correction based on the comments or suggestions given by the teacher or another student. They feel that they learn better when they are actively involved in the process and prefer to interact and work collaboratively by using only sign language to express their ideas and comments in a class that demands from them a similar rhythm and level of participation.

About the learning process of deaf students, a high visual support is required for a better understanding of grammar and vocabulary explanations, but also required is a different rhythm in the class to "capture" all the information given by the teacher and translated by an interpreter. In addition, like their hearing peers, deaf learners focus their language learning on aspects like grammar and vocabulary and find it difficult to

conjugate verbs and write sentences syntactically correct. Fortunately, Internet resources used in a blended environment designed for deaf learners can provide teachers with effective strategies to deal with the visual and written necessities implied in their English learning process.

The blended course with face-to-face sessions and online tasks is effective for deaf students in terms of flexibility, time management and autonomy. Learners can set their own times and rhythms to complete the assigned written tasks, working at their own pace, without the interpreter's help and with the possibility of reviewing by themselves several times to identify and correct possible mistakes.

Finally, the overall high ratings and positive comments given by the participants of the course confirm that the combination of technological resources available on the web, coupled with the traditional educational resources to teach EFL as part of a blended course, improves deaf students' motivation, autonomy and language learning. They feel immersed in an up-to-date teaching-learning process that recognizes their needs, promotes collaborative work and provides them with a learning environment that is flexible enough to learn English as a foreign language under an educational policy of inclusion and equality.

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