Constructivism in Esp Teaching at LUZ

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Abstract

English for Specific Purposes (ESP) arises at the University of Zulia (LUZ) to answer the students' needs intended to handle texts written in English. The goal is to determine if the teaching strategies used by ESP teachers at LUZ are based on the constructivist principles. This research is supported on Piaget, Vygotski, Bruner and Ausubel models and the theoretic-methodological literature on ESP syllabus design from behaviorism, cognitivism to the constructivism. It is descriptive, non experimental under a qualitative perspective. There is a coexistence of concepts and principles derived from the cognitive and constructivist approaches in the strategies used by the observed sampling.

Key words: ESP, behaviorism, cognitivism, constructivist strategies.

El constructivismo en la enseñanza de IFE en LUZ

Resumen

El Inglés con Fines Específicos (IFE) surge en la Universidad del Zulia (LUZ) para responder la necesidad de los estudiantes de manejar textos escritos en inglés. El objetivo es determinar si las estrategias de enseñanza usadas por los profesores de IFE de LUZ se basan en los prin-

cipios constructivistas. Esta investigación se sustenta en los modelos de Piaget, Vygotski, Bruner y Ausubel y en la literatura teórica-metodológica en el diseño de programas IFE, que van desde el conductismo, cognoscitivismo hasta el constructivismo. Es descriptivo, no experimental bajo una perspectiva cualitativa. Hay una coexistencia de conceptos y principios derivados de los enfoques cognoscitivo y constructivista en las estrategias utilizadas por la muestra observada.

Palabras clave: IFE, conductismo, cognoscitivismo, estrategias constructivistas.

INTRODUCTION

English, as the science and technology language, emphasizes the students' needs to master, at least, the English reading skills which allow them to extract and understand the text information; in this sense, students can make decisions during their academic and professional performance. The importance of having English in the university curricula has led to all faculties from University of Zulia (LUZ) to include English for Specific Purposes (ESP) in their curriculum.

Regarding the methodological aspects and implementation of strategies for teaching English as a Foreign Language (EFL), ESP has been evolving according to the advances in Applied Linguistics. However, nowadays it is evidenced the students' deficiencies at reading texts written in English. For this reason, the research focuses on determining the use of constructivist teaching strategies by ESP teachers during their didactic activities to ensure students develop their reading comprehension skills of texts written in English.

1. APPROACHES TO TEACHING AND LEARNING A FOREIGN LANGUAGE

The three theories that have defined historically the learning process and the educative practices are: behaviorism, cognitivism and constructivism.

Behavioral theory focuses on foreign language teaching and learning process in knowledge and skills setting through observable behaviors. The student's role is passive and programs are designed under a linear structure with repetition and memorization activities and structural mechanical prac-

tices (Richards and Rodgers, 1986). The audio-lingual audiovisual, grammatical translation and other methods lie within this theory.

According to the cognitive theory, foreign language learning involves the development of cognitive skills and grammatical rules formation. Students are considered active agents of the learning process. Richards and Rodgers (1986) stated, learning is based on students' communicative needs, emphasizing the process and/ or the product as well as teaching and learning strategies. Language is shown in terms of functions, notions and rules formation. The grammar cognitive code method and communicative approach are included under this theory.

The grammar cognitive code emerges by the 60's opposing to Skinner's stimulus-response behavior postulate. Through this method, students develop grammar analysis skills, drilling patterns, and cognitive rules formation. The communicative approach appeared in the 70's emphasizing that language is communication, and learning a language means learning to communicate. This conception brought the birth of new concepts such as needs, simulations, communicative competence, functions, notions, and information gap, among others.

This cognitive theory postulates the existence of cognitive schemata responsible for learning process called, by Chomsky, Language Acquisition Device but it did not explain how the knowledge acquisition process took place. This failure led constructivism to postulates that knowledge acquisition occurs from the previous experiences which are transformed through peer or group interaction with other students and/or the teacher himself. It is necessary to clear up that among cognitivism, the communicative approach and constructivist theory, there are some common principles and concepts such as the emphasis on learning processes, student's role, knowledge acquisition based on individual's mental structure, language functional nature, and stimulation of group work and/or peers. The most important contributors of constructivism are Piaget (1971), Vygotski (1978), Bruner (1987) and Ausubel (1978). All of them consider learning as a complex process of concept construction based on students' background knowledge.

Among the constructivist assumptions described by Díaz, Hernández (2002) and Flórez (2005), the following statements can be mentioned: language is the mediator in cognitive structures construction; student is a learning active processor; knowledge is not a reality faithful

copy, it is the internal construction of each individual; thoughts are created as result of subject world interaction; new concepts are generated from previous schemes and learning; students construct new ideas based upon their current and past knowledge; teaching starts from learners' mental structure, recognizing their own ideas and prejudices on a specific subject, and their logical thinking level of specific skills; learning by processes is emphasized.

Krashen's Natural Approach (1985) and the Language Integrated approach described by Goodman (1989) are underlying in this theory.

2. CONSTRUCTIVIST STRATEGIES AND TECHNIQUES IN ESP TEACHING

In ESP learning, constructivism explains reading comprehension skills by acquiring and developing processes and it proposes some strategies that aim to text comprehension. In order to help students interpret textual information written in English, teachers can provide constructivist strategies as steps to facilitate students to build knowledge and meaning, and to exchange ideas and learning experiences.

Díaz and Hernández (2002) proposed a series of strategies for the dynamics of teaching, including summaries, analogies, interspersed questions, semantic networks and textual structures usage. In addition to constructivist strategies, Silva and Ávila (2002) highlight five teaching tools which are: conceptual maps, word maps, Venn diagram, V of Gowin and portfolio. According to Delmastro (2005), constructivist strategies and techniques in second language (L2), reading skills development have a strong effect on classroom activities since they are very dynamic and allow creating meaningful concepts, ideas and knowledge which can be compared, used and transferred in any other situation.

This author points out some advantages in constructivist strategies usage for ESP teaching and learning process: it promotes interaction among students and teamwork; it allows that less advantaged students benefit from collaboration and interaction with L2 higher proficiency students for guidance and explanations, decreasing anxiety level and thus the affective filter level (Krashen's Natural Approach, 1985); conceptual contents are achieved through comprehension and discussion avoiding memorization; it helps to visualize the interrelationship of con-

tents graphically, and it enables content integration with background knowledge.

It should be emphasized that the successes of these work tools lie in the learners' methodological and attitude changes. ESP teachers should use constructivist strategies for promoting meaningful learning on their students. These strategies can be used intentional and flexibly to activate background knowledge, and to strengthen attention, coding, information processing and learning reinforcement.

3. METHODOLOGY

This research was descriptive framed on a qualitative approach. Villalobos (1999:10) states that qualitative research "has reached a firm position in second language and/or foreign language research" because its primary purpose is to discover phenomena that have not been described previously understood from the perspective of those involved in the activity, such as patterns of behavior.

The work was carried out taking into account three analysis units: first, teachers who taught ESP at LUZ during 2007 and fulfilled the following criteria: a degree in Modern Languages Education, a master's degree related to L2 teaching, with more than five years teaching ESP, and to be at least an assistant teacher according to LUZ ranking. Second, the ESP programs and finally, the ESP study guides. From the total population which was 34 ESP teachers, the sample was conformed by 14 teachers since they were the ones who fullfilled all the criteria.

Data collection was obtained through a semi structured interview, an observation guide and two structured surveys to analyze ESP programs and student study guides. These instruments as well as the results were validated and evaluated by three experts in the study area.

4. RESULTS

According to the instruments, the results are:

a) It was found through the teachers' interview that:

- 85.71% of teachers stated to know nothing about the constructivist principles or not to use teaching strategies from this trend. However, it is noteworthy that these teachers expressed to use ESP strategies such

as guessing, scanning, skimming, referents, among others. These tools belong to the communicative approach; therefore, it can be said that the used strategies set by teachers lies within cognitivism.

• The teaching strategies pedagogy tendency turned out to be cognitivism since 85.71% of teachers said to use strategies within the communicative approach, for example, guessing, activating expectations, brainstorming, predicting, among others. Only 14.28% confirmed to use some constructivist strategies, such as concept maps, words map and portfolio.

• It is worth remembering that the communicative approach shares some postulates with the constructivism such as the emphasis on learning processes, student´s role, knowledge acquisition based on individual's mental structure and stimulation of group work and/or peers. These similarities allow the reformulation of the preliminary theoretical results in the sense that the communicative approach points towards a more constructivist approach than cognition.

• 100% of the teachers believed that the constructivist strategies should be promoted for the development of meaningful learning in ESP, since they think it is necessary to update the programs with this trend that is apparently yielding positive results in other study areas in which it is being implemented.

b) Through a structured survey used to analyze ESP programs, aspects such as pedagogy trend of objectives, reading strategies, activities, exercises, tasks, content, student´s role, teacher´s performance, skill to be developed and type of assessment were in the programs at the following level:

• From 14 programs evaluated, 6 tend to follow a double methodological trend because they reflect both the grammar cognitive code and the communicative approach since learning depends on the student's mental processes who creates meanings on the basis of grammatical rules and their programs objectives were formulated through functions and notions; 4 of the them are communicative because of their emphasis in the communicative process, the teaching and learning strategies, and learning is focused on students' needs; 2 of the programs are grammar cognitive code because it creates meanings based on grammatical rules and patterns that the student learns through the understanding of language awareness and promote the practice of situations that include meaningful dia-

logues, dynamic games, among others; 1 belongs to behaviorism since rote learning is emphasized, and teaching is based on organized and systematic vocabulary lists to translate texts; finally, it can be said that 1 program is constructivist because this design contains strategies classified as constructivist by Silva and Ávila (2000) and it displays some cognitive and metacognitive skills.

- The 92.85% of the programs does not reflect constructivist teaching strategies or principles mentioned in the theoretical framework. However, it is noteworthy that from the 14 evaluated programs, 12 have reading techniques, exercises and activities that tend to develop communicative skills and promote grammar knowledge. The content characteristics promote a meaningful learning based on the materials selection according to students' interests and needs and their previous experiences to lead them to a higher level of development through the students' cognitive schemata which is consistent with Vygotski's concept of Zone of Proximal Development (ZPD). This confirmed the presence of constructivist concepts and principles in communicative approaches. This fact allows to say that typical elements from two theories coexist resulting in a coherent process for teaching integrated language skills.

c) ESP study guides were also analyzed through a structured survey. It was found, according to the researcher and the three (3) experts, that:

- The pedagogical tendency of the objectives outlined in study guides was communicative by 50% since, in most cases, they are written as functions at the beginning of each unit; a 28.57% are grammar cognitive code, a 14.29% behaviorist and only 7.14% constructivist which means that in only one (1) guide is promoted intellectual challenges to students for building their knowledge.

- Among the content characteristics that promote meaningful or rote learning, it was shown that the first one obtained a 57.14% through comprehensible, motivating and relevant contents which meet Krashen's Input principle that leads students from their actual level of development to the ZPD, necessary condition to achieve meaningful learning; and the rote learning got a 42.86%, developing language skills through the mastery of grammatical patterns.

- Among the activities mostly used in the guides are: finding refer-ents, grammar exercises, text analysis, word formation, scanning, vocabulary list, discourse markers, synonyms and antonyms, pre-dicting, guessing, use of dictionary, drill patterns and translation. Most of them are based on cognitive and communicative princi-ples. The activities less used are the constructivist ones: games, dramatization, solving problems, portfolio, word maps, concept maps, Venn diagram, and diagrams construction. These activities help to build relationships on learning, knowledge and student's previous experience.

- The types of exercises encourage the development of knowledge and grammatical skills in a 42.86%, as most of them are oriented to the extraction of general or specific information, topics, guessing, among others; 21.43% to grammatical knowledge; 21.43% to com-municative skills; 7.14% to the cognitive and metacognitive skills and 7.14% to rote development.

- The assessment suggested in the study guides is done individually and group work through daily activities in a 57.14%, and only indi-vidually in a 42.86%.

- The teacher's performance describes a grammar cognitive code trend in a 42.86% since he/she guides the texts interpretation process based on grammatical structures; 28.57% communica-tive approach; 21.43% behaviorism and 7.14% constructivist.

d) To determine the teaching trend, teachers were evaluated through an observation guide taking in consideration techniques, re-sources, activities, teachers and student's roles and mastery of strategies used during the three (3) class stages (beginning, developing, and clos-ing). The result is the following:

- According to the researcher and the three (3) experts, the most used activity during the three class stages by the 14 teachers was answering the guide exercises, which obtained a frequency of 156 times (see Table 1). It was calculated by adding the experts and researcher´s opinions (14 teachers x 4 opinions = 56 obser-vations) at each class stage, for the total of 168 observations (56 observations x 3 stages = 168). For example, according to Table 2, answering the guide exercises had a frequency of 44 times at the beginning stage; during the developing stage, its frequency

was 56 and for the closing stage, it had 56. By adding them (44+56+56=156), it yields a frequency of 156 which indicates the time the teacher used this activity during the whole class from the total of 168 times.

Table 1
Usage Frequency of techniques and activities by ESP teachers at LUZ

Techniques y activities	Usage Frequency at			Total Frequency
	beginning	developing	closing	
Answering the study guide	44	56	56	156
Giving the class the teacher	56	40	40	136
Individual work	48	40	40	128
Translation	20	56	52	128
Instructions for exercises	56	48	20	124
Using the dictionary	16	52	56	124
Scanning	32	48	44	124
Application of grammatical rules	28	52	40	120
Identifying the functions of text	20	52	40	112
Text Analysis	16	44	48	108
Identify the topic and main idea	20	40	44	104
Correction exercises	4	32	44	80
Deduction of meanings	12	36	24	72
Presentation of content	60	0	0	60
Guessing	16	20	16	52
Group work	8	16	16	44
Development of oral summaries in Spanish	0	12	28	40
Doubts	6	12	18	36
Graphics elaboration	3	12	17	32
Goal presentation	28	0	0	28
Predicting	24	0	0	24
Brainstorming	20	0	0	20
Homework	0	0	17	16
Activating expectations	16	0	0	16

- The most used activity was the exercise for eliciting responses from the study guide. It requires students to answer mechanically and systematically according to the situation, preventing them from being the backbone of the teaching and learning process.

- The least used activity was activating expectations. This strategy through which the teacher explores concepts that students have in their cognitive schemata belongs to the communicative approach. This tool also underlies constructivism.

- The individual work, with a frequency of 128 times, indicates that there is no interaction, collaboration and cooperation among peers which are Vygotski's proposals related to solving problems through work sharing.

- From the aspects shown in Table 2, the most relevant for determining the pedagogical tendency is the student´s role, which is observed to be frequently passive (100 times) during the three class stages. It stresses the need to strengthen the student-centered learning process through

Table 2
Frequency of resources, role of students and teachers, knowledge and strategies mastery used in class

Aspects		Usage Frequency at			Total Frequency
		beginning	developing	closing	
resources	Study guide	52	56	56	164
	Blackboard	48	36	26	110
	Projector slides	4	4	4	12
	Unregistered	4	4	4	12
student´s role	Active	12	24	20	56
	Passive	40	28	32	100
	Unregistered	4	4	4	12
teacher´s role	Active	48	32	34	114
	Passive	4	20	18	42
	Unregistered	4	4	4	12
Knowledge and strategies mastery	Yes	44	44	44	132
	No	4	4	4	12
	Unregistered	8	8	8	24

the constructivist strategies incorporation. The teacher is given a main role in the classroom with frequency of 114 times.

As noted above, most of the class time was taken for students to answer the exercises in the study guide as a stimulus-response activity. Their responses were monitored by the teacher verifying the product and not the process. In regard with the reading materials used, it could be observed that the characteristics of relevance, authenticity and meaninful proposed by Richards & Rodgers (1986) were taken into account by a few teachers.

5. CONCLUSIONS AND RECOMMENDATIONS

Once accomplished the general goal that was intended to be reached through this stugy, the following conclusions and recommendations can be drawn:

- To say that the principles and strategies used by ESP teachers at LUZ belong solely to one specific trend would take a radical attitude. The resulting analysis of data using three different instruments points at two theories: cognitive and constructivist. However, it is necessary to clear up that between these tendencies, principles and concepts converge among them.

- Regarding the teaching strategies tendency used by teachers, it can be said that they use, in theory and practice, principles from behaviorism, cognitivism and constructivism (even if done not knowing about it). According to the teachers, the combination of these principles for developing teaching strategies has been a success today. However, these results might be much more effective if they create awareness of the advantages of constructivist strategies usage in English teaching as a foreign language.

- ESP programs and study guides reflect a multimethodological tendency as well since they contain methodologies, procedures and instructional strategies from the three different trends, such as vocabulary list, translating, repetition, rote learning from behaviorism; drilling patterns, cognitive rules formation, reading, writing, listening and speaking performance, functions, notions, information gap, group work from cognitivism; and peer collaboration, word and concept mapping, problems-solving from constructiv-

ism. This multimethodological tendency allows concluding that typical elements from the three theories coexist, resulting in a coherent process for teaching integrated language skills.

- The results obtained in this research reflect two important aspects in teachers' praxis at LUZ. On the one hand, the attachment of the majority of teachers using strategies whose validity dates from four decades. On the other hand, the existence of an attitude on behalf of teachers for resisting changes. It is recommended then to create a suitable and open educational atmosphere where ESP teachers can become open-minded through the benefits obtained from implementing the constructivist teaching strategies.

- This research opens the door to guide teachers about the existence of teaching and learning strategies that can be used to innovate the ESP teaching process. It is necessary to let them know that these strategies can be used flexibly and intentionally by teachers during the different class stages, for example, to activate learning, at the beginning of the class; to foster attention during the process development; and to reinforce the new information to be learned at the end of the class.

- Constructivist tools usage ensures meaningful learning acquisition through new concepts construction that can be drawn by students through the English reading process.

- It is recommended the following: teachers training in emerging paradigm towards curricular transformation; programs updating according to constructivist teaching trend; and redesigning ESP work-study material in accordance with new programs. It is expected that the effectiveness of the strategies implemented in constructivism may be validated in future researches

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