

Learning objects and student mobility: Their role in the acquisition of a second language

Objetos de Aprendizaje y movilidad estudiantil: Su papel en la adquisición de una segunda lengua

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Abstract

The learning objects and the instructional design have begun to position themselves as important support elements in the teaching of the chair, as well as in the mobility of the students, since through an adequate design it is possible to contribute to a good preparation of the student, which will finally improve the acquisition of a second language by having access to a stay abroad. Objectives, methodology: Identify the importance of the learning object in the design of tools that allow the student to have virtual access while in mobility. An exploratory methodology with questionnaires was applied. Contribution: This document contains the advances of an investigation that is currently being carried out at the Fidel Velázquez Technological University. The purpose of this study is to prove that instructional design is a very important element to support students aspiring to a mobility scholarship or who are already in the process of mobility by contrasting with the opinions of students who have already concluded said process. Although there are advances in the current context in design and the application of instructional design, such a resource has not yet been exploited as such in student mobility and an excellent means should be the application in the classroom from the first courses for the student in the classroom, which will also allow the acquisition of a second language to be successful.

Instructional design, Mobility, Satisfaction, Impact

Resumen

Los objetos de aprendizaje y el diseño instruccional han comenzado a posicionarse como importantes elementos de apoyo en la enseñanza de la cátedra, así como en la movilidad de los estudiantes, ya que a través de un adecuado diseño se puede contribuir a una buena preparación del estudiante. lo que finalmente mejorará la adquisición de una segunda lengua al tener acceso a una estancia en el extranjero. Objetivos, metodología: Identificar la importancia del objeto de aprendizaje en el diseño de herramientas que permitan al estudiante tener acceso virtual mientras está en movilidad. Se aplicó una metodología exploratoria con cuestionarios. Contribución: El presente documento contiene los avances de una investigación que se realiza actualmente en la Universidad Tecnológica Fidel Velázquez. El propósito de este estudio es demostrar que el diseño instruccional es un elemento muy importante para apoyar a los estudiantes que aspiran a una beca de movilidad o que ya están en el proceso de movilidad, contrastando con las opiniones de los estudiantes que ya han concluido dicho proceso. Si bien existen avances en el contexto actual en el diseño y la aplicación del diseño instruccional, dicho recurso aún no ha sido explotado como tal en la movilidad estudiantil y un excelente medio debería ser la aplicación en el aula desde los primeros cursos para el estudiante en el aula, lo que también permitirá que la adquisición de una segunda lengua sea exitosa.

Diseño instruccional, Movilidad, Satisfacción, Impacto

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Introduction

The use of information technologies as a support tool in the teaching-learning process has generated a radical change in the processes inherent to it (Rodríguez, 2013) forcing the teacher to be trained in the use of these, with the purpose of provide better service to students and get the best possible use of technology for academic purposes. Currently the use of devices such as smartphones, ipads, tablets, among others, have come to revolutionize communication and access to information sources (Ogalde, 2008). It is essential that the teacher include technology in the teaching-learning process, restructuring everything that this implies such as structure, content and teaching methods, which will allow us a new knowledge management (Rodríguez, 2013).

Learning Theories

Therefore, it is necessary to rethink what is known about learning theories in order to design learning objects that support the learning of a second language.

1. Behaviorism

It is based on psychology and oriented towards the prediction and control of behavior (Guerrero, 2009), it defines events in terms of stimuli and responses, these being predictable, manipulable and controllable (Navarro, 1989). Behaviorists affirm that innate characteristics are irrelevant, and that connections or associations only occur through stimuli from the environment, and that it is through them that the subject develops (Gros, 1997).

Behaviorism in education proposes to control and manipulate events through the educational process in order to achieve in the student the acquisition or modification of behaviors through the manipulation of the environment, with the consequent learning of behaviors, skills or attitudes (Lladó, 2002) .

Regarding instructional design, the behavioral approach contributes with programmed teaching and linear processes (Dorrego,1999; Urbina,1999); with the decomposition of information into small units, design of activities that require responses from the learner, and planning of reinforcement in the design of teaching materials (Silvera, 1998).

This is observed in educational resources that present the information gradually, increasing the level of complexity until the execution of a chain of responses and the respective reinforcement (Díaz Barriga and Aguilar, 1990); the structures are rigid and it emphasizes the memorization of contents.

2. Cognitivism

This theory focuses on the internal processes that occur in the subject before stimuli and responses that are feasible to be observed and measured, which will translate into external behaviors (Navarro, 1989).

Cognitive teaching involves a series of methods that guide students to memorize and remember knowledge, as well as understand it and develop their intellectual capacity (Reigeluth, 1999). Several authors emphasize including adding meanings to modify cognitive structures, which are defined as the set of prior learning that the individual has about his environment (Navarro, 1989).

The contribution of this trend to instructional design in the development of computer educational resources are hypertextual and hypermedia systems, which represent the functioning of cognitive processes (Del Moral, 2000). A cognitive educational resource can offer hierarchically organized content (Gros, 1997) and include hypertexts in its design, allowing the user non-linear navigability.

3. Constructivism

This theory emerges from the cognitivist perspective and suggests that the student builds his own knowledge through his needs and interests and at his own pace to interact with the environment. According to its theorists, learning takes place when the student has actively developed their own knowledge of it, which will not necessarily be based on discovery (Mayer, 1999). The Swiss psychologist Jean Piaget establishes a frank relationship between the biological aspects of the subject and the origin of knowledge (Aragón Diez, 2001). For Piaget, the fundamental characteristic of intelligence is the transformation that the individual makes of the objects that surround him, coming to know them only when he has made said transformation (Poole, 2000).

Constructivist theorists affirm that knowledge is built through active participation, so it is not reproduced and will depend on previous learning and the student's interpretation of the information received. In addition, the environment plays a determining role in the acquisition of learning as it will allow effective thinking, reasoning, problem solving and the development of learned skills (Gros, 1997).

This theory emphasizes that the environment is essential between learning and students, before the content or the teacher, so learning comes before instruction (García-Valcarcel, 2005); It also provides activities in problem solving and collaborative learning situations. Its presence is highlighted in design with few contents and emphasis on links to different references, resources and tools that allow the student to build their own learning processes, Ovelar, Benito and Romo (2009) emphasize the term Digital Natives, distinguishing themselves because they use different digital tools to acquire knowledge, an example of this is the virtual since it is an essential part of their environment: they participate in virtual communities, they have the possibility of downloading all kinds of resources and content from the Internet and they learn to intuitively use the applications they need. This implies that the teacher has the possibility of creating collaborative groups within it, such as Facebook, blog or personal page to significantly enrich learning.

Learning Theories and Instructional Design

To relate the different theories and instructional design, we must remember that cognitive theory dominates in the latter and that most of the instructional strategies defended and used by behaviorists have also been used by cognitivists, albeit for other reasons (Digital Communities for Learning in Higher Education, CODAES, 2015). At this point we have that the behaviorists evaluate the learners to determine a starting point for instruction and on the other hand in the same process the cognitivists look for the student's predisposition to learning (Ertmer and Newby, 1993). The design from the behavioral/cognitivist position analyzes the situation and the goals to be achieved, subdividing the individual activities into learning objectives and the evaluation focuses on determining whether the criteria of the objectives were achieved (CODAES, 2015).

Here the designer decides what he considers important for the student to learn.

Mobility and instructional design

After the signing of the Free Trade Agreement in Mexico, a mobility process began in all areas of the country, which made more evident the need for graduates of the different educational institutions to handle a second language, with great emphasis on English, followed by French. Proof of this is what was established in the National Development Plan for the six-year term of Vicente Fox, in which the parameters were already established to include the command of English as a priority and computing in basic education. However, two more six-year terms had to pass before latent results began to be seen in the implementation of more and better programs aimed at achieving the primary objective of acquiring a second language. In 2013, after the creation of the Bilateral Forum (SRE,

Although there is still a low percentage of the population that speaks the English language, because in the case of Mexico, according to statistics, it ranks 34th among countries that speak English, within 54 Spanish-speaking countries, with a low percentage of 20%, despite the proximity to the United States, despite the fact that speaking a second language continues to be a decisive factor in obtaining better job positions.

Method Description

Review of search difficulties

During the development of this research, some difficulties arose, such as contacting the graduate students to answer the survey, since at the end of the process it is difficult to convince them to participate in said process, since there is no culture of active participation in the institution, which needs to be further strengthened.

In the case of new students, the only difficulty that arose was explaining to two of the respondents that they could answer the questionnaire even if they did not have a mobile phone, since they believed that only those who had a smartphone applied.

Explanation of the topic in general and explain why it is important

The different applications that currently exist on the Internet have constituted a field that requires special attention because the new generations spend a lot of time browsing them, both for leisure and for educational purposes, so this can be used to reinforce the acquisition of a second language and they will be able to do it without having to meet in a fixed place, because in the end we are talking about a "local mobility".

Which will lead us to a possible international mobility with different purposes, either to consolidate the learning of a second language or to complete their academic preparation in various areas of knowledge.

It is therefore necessary that the new generations of students be actively included in the Knowledge Society, and a real and objective mechanism is through the acquisition and reinforcement of a second language through the use of new technologies, bearing fruit in the exchange programs and academic mobility, while this type of program supports the student not only in acquiring a second language, but also in knowing how to share experiences and adapt to the needs of the contemporary world.

The core point is to identify what type of technological resources can have the most impact on this learning and adaptation process, that is, what qualities these tools should cover and how they support students. Consequently, the above indicates that the teacher has the need to identify what qualities the instructional design must have in said tools so that it has or not repercussions on young people.

What is its added value compared to other techniques?

Although there are a large number of applications on the network, as well as inter-institutional collaborations that are being carried out sponsored by the Ministry of Public Education and the University of Colima in terms of the development of learning objects, there is still much to be done in terms of the registration that It is realized from their effectiveness as means of support in the acquisition of a second language.

At least in Mexico, it is a field that can continue to be explored in order to offer those students who are interested in making use of these elements to reinforce their learning and who can continue consulting them if they are awarded a mobility scholarship and even without having benefited from it.

Clearly focus each of its features

The present investigation is directed in two parts, in the first the degree of satisfaction of the student with the mobility programs was measured and if there is a need to include learning objects that support him in his experience. In the second aspect, it inquires about the student's interest in incorporating new technologies to reinforce the learning of a second language, using an existing free application on the internet, and depending on the result, learning objects could subsequently be developed that meet the academic needs. of the student, which will be the subject of further investigation.

Clearly explain the problem to be solved and the central hypothesis.

Prove that instructional design and student mobility are not isolated concepts and that, based on these, student learning can be greatly improved and the teacher can provoke constant improvement and the appropriation of technological tools for educational purposes.

Explanation of the article sections

This article consists of two sections.

They cover the work developed from eight months ago to date in terms of the relationship between learning objects and student mobility, they indicate the progress achieved so far.

Development of Sections and Paragraphs of the Article with subsequent numbering.

Section 1 Student mobility at the Fidel Velázquez Technological University

The purpose of sending students abroad in the case of our institution has allowed us to make a comparison between the model that we follow as a technological university and that also serves our students to measure themselves academically with other institutions and work environment.

Since the vast majority of the population are students from regions with limited economic resources and who manage to forge a broader criterion through said life experience. However, we are aware of the risk that sending students abroad represents because, as we identified in the experience, it also entails other associated risks, which are variables that are out of our control and that occur in any other institution, such as the culture of the country to which they obtain scholarship, food, customs and habits,

Section 2 The Learning Objects

The use of learning objects therefore, as indicated Ertmer and Newby, predispose the subject to learning, for which in the present study parameters were established that allow us to make the use of these resources attractive to the student, with the selection of an application when knowing the result of the applied survey.

Once the results of the survey were known, the free Duolingo application was selected to monitor how it reinforces student learning throughout the course. At the end of this course, the application will be evaluated and it will be decided whether or not to continue using it.

Inclusion of Graphs, Figures and Tables- Editable preferably



Figure 1 Student Enrique Ivan Cabrera Torres, scholarship holder at the University of Costa Rica. He attended a technical training course in the area of Networks. UTFV



Figure 2 Homestay students sent to Shanghai, China, during the welcome reception

Own Source

Boards

Year	Total students
2013	14
2014	88
2015	52

Table 1 Monitoring of student mobility in the last three years. Source Department of Languages Fidel Velázquez Technological University

Country	No. students	Degree of satisfaction %
China	5	80
Spain	1	100
France	1	100
Peru	1	100
Malaysia	5	80
U.S	5	100
Argentina	2	100

Table 2 Results of the survey applied to 33 student mobility students in the during 2013 and 2014

Weekly Advance Level

Student	1	2	3	4	5	6	7	8	9
1	1	3	3	3	3	5	5	5	5
2	6	6	7	7	7	7	7	7	7
3	2	3	3	3	4	4	4	4	4
4	1	2	2	2	3	3	4	4	5
5	2	2	3	3	3	4	4	4	5
6	1	2	2	2	3	3	3	4	5
7	3	3	3	3	4	4	4	4	5
8	2	2	2	3	3	3	4	4	5
9	2	2	2	3	3	3	4	4	5
10	3	3	3	3	4	4	4	4	5
11	2	2	2	3	3	4	4	4	5
12	1	1	2	2	2	3	3	3	4
13	3	3	4	4	4	5	5	5	6
14	2	3	4	4	5	5	5	5	6

Table 3 Progress record Student vs. level in the Duolingo app

Methodology to develop

This research was of an exploratory nature, in which two questionnaires were implemented to establish the perception of students regarding the use of information technologies as support tools in learning a second language.

The population of students that was taken corresponds to the Fidel Velázquez Technological University (Mexico) according to what Giroux and Trembay (2004) establish since, due to equal circumstances, it does not need to be large and constant precision. The unit of analysis corresponds to students in the first semester of the Information and Communication Technologies Career, Computer Systems Area, defining the sample according to Stake (2007), taking into account the school period and the technological resources with which they normally use. students count.

The sample consisted of 14 students from the SI 101 group in the first semester, whose ages are between 18 and 21 years old, mostly from public high school and from areas surrounding the university.

Having defined the analysis sample, the strategy was implemented in which the aspects to be considered as support in learning a second language were included (see Annex 1), questions about the perceived usefulness of the use of technological means were included. to reinforce their acquisition of a second language, and derived from this, the use of a free resource on the network (Duolingo) was implemented to reinforce what was learned in the classroom, keeping a weekly control of the progress in terms of grammar level and oral production .

On the other hand, and following the same criteria regarding sampling, a questionnaire was applied to students who have participated in student mobility, the difference was that Survey Monkey was used for this purpose (Delgadillo, 2014), with the purpose of identify their perception regarding the impact of this on their acquisition of a second language and how they perceived the use of information technologies in learning it, in order to contrast differences between both groups regarding the use of technological resources as support .

Results

Regarding the results obtained with the students who already participated in student mobility, the following was obtained:the students have the need to use alternatives for the reinforcement of the face-to-face classes of the English subject, this is due to the fact that the students have only 4 hours of class weekly (one hour from Monday to Thursday) and it is not possible to reach the graduation profile with this number of class hours. The graduation profile of the students establishes that the graduates will reach the level of English B1 in equivalence with the Common European Framework of Reference for Languages (Annex 2). In addition, in the survey, the students report that language teachers lack technology management to support them in their classes, and that they do not have sufficient knowledge of the technical language in English, the latter is the cause of another future investigation with proposals to remedy such. situation.

When obtaining the results of the surveys, we find that of the 20 respondents, 18 of them are satisfied with the experience lived in the country where they obtained the scholarship, and of them, 16 were in countries where English is spoken as a second language (Malaysia , China, United States and France).

The students who were in countries such as Spain, Costa Rica and Peru, affirm that the use of English was also useful to them, although to a lesser degree, since the courses in these countries were in Spanish, for which they would have preferred to obtain the scholarship in a country Anglo-Saxon, to measure their potential in handling English with greater intensity.

Another aspect that caused them a strong conflict was the Cultural Awareness (cultural shock), because they had to relearn forms of behavior to which they were not used to in Mexico, or that they did not even imagine. For example, in Shanghai, China, the students had to behave under the code of conduct that dictates the way they should walk down the street, since it is not well seen that women walk next to the man, having to stand behind him. this, which in the students caused great commotion and annoyance, but that after two weeks of a stay of three months, they had already adopted without difficulty.

As shown in Table 2, the results of the survey are 90%, of satisfaction regarding the experience, and with the questions within the same questionnaire regarding the use of learning objects, we obtained that 85 percent raise as necessary to use these resources to use them during their mobility scholarship with the purpose of having contact with the professor and clarifying doubts regarding vocabulary and civilization and culture of the site before going to the country in each case.

On the other hand, in the surveys applied to first-year students, one hundred percent of the respondents affirm that the use of computer resources as support in learning a second language is necessary, and all of them are students who have not requested even mobility scholarships.

So the next part of this research will be aimed at monitoring this generation to find out if the support resources on free sites are reinforcing them in learning a second language. The Duolingo application was selected so that the students are practicing daily for ten minutes, since it is a simple application to download and is free. The weekly record of level progress has been made, and what are their advances in grammar, listening comprehension and oral and written production.

Until the time of writing this article, the results obtained show a clear tendency to increase the student's level in terms of vocabulary reinforcement, as indicated by García and Valcárcel, instruction is the most important part of the learning process, however We still have to wait to contrast the student's exit exam at the end of this course, which will allow us to make a more accurate judgment in this regard.

Conclusions

It was relevant to find in the results of the research, that the students agree on the fact that the inclusion of technical vocabulary in English should be handled during classes, since it was difficult for them to get used to handling this type of terminology and also It was extremely surprising that the auditory issue would be difficult for them, since they did not express it during the evaluations for the selection of candidates.

No less alarming were the comments of the students surveyed regarding the training of teachers, since they emphasize that several of the members of the English teaching staff need to update their knowledge of technical English.

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