

Learning by Teaching, Teach English as a Second Language Learning Method in Mexico

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Abstract The purpose of this study was to systematize the experience of the implementation of the project: "Learning by Teaching", developed at the Universidad Tecnológica de Durango, Campus Bilingual International and Sustainable (UTD Campus BIS, Mexico), which consisted in having students from this university teach English to students in basic education as a strategy for the learning of the language. In order to answer the main research question: "How did the experience of executors of UTD Campus BIS and the other agents go during the execution of the project "Learning by Teaching"?", the socio-critical paradigm was used through the method of systematization of experiences. Based on four axes of systematization: perceptions, difficulties, facilities and learning methods, and eleven categories that gave an account of the main results expressed by thirteen students (executors), who dealt with the fact that perceptions went from uncertainty, fear, nervousness and enthusiasm, to the satisfaction and the consideration of the project as a life experience were defined. The main difficulties arose in the areas of group management and in low English language level of project recipients.

Keywords: *learning by teaching, learning-teaching, learning, English as a second language*

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1. Introduction

The Durango Technological University (UTD, Universidad Tecnológica de Durango), located in Durango, México, offers "quality higher education to the society of Durango, as a strategic means to increase human capital and contribute to the increase of the economic, social and cultural competitiveness required by the community" as their mission statement reads. This may be achieved by offering four university degrees and with the 1400 students enrolled at the end of the year 2016. As an innovative option the UTD offers the bilingual modality (UTD-BIS) in which courses are specifically taught in English to 315 students, although is important to point out that the official language in Mexico is Spanish.

In order to opt for this modality, it is not necessary to have knowledge of the English language; it is expected that at the end of the first term students acquire at least the English level of A2 (according to the Common European Framework of Reference), the ideal level being B1. Nonetheless, in reality only a few students reach it. Continuing with their studies, at the beginning of the third term, all students must have an A2 level, in the fourth term they must reach the B1 level and in the fifth term they must have the B2 level.

Thus far, the first generations who have been working with this bilingual model have identified students who are about to finish their fourth term and are still at level A2,

which generates questions or problems, such as explaining how a student with this level can take full undergraduate classes in English. By regulation, these classes, must be taught by teachers with a minimum level of English B2.

As an option to solve this problem, during the period July-October 2016, the university created the "Learning Teaching" program, which consisted in creating teams of four to five members who were assigned to look for a public school of any educational level in which they would attend classes or internships for at least 15 hours teaching English (although in the original project planning at least 30 hours were considered).

The general objective of the project was to strengthen the mastery of the English language through the teaching practice, with foundation of basic teaching and with methodological guide of a basic-intermediate language grammar and vocabulary handbook, as specific material for the execution of the project. The executors (university students) would manage their class hours in order to teach the topics proposed in the handbook with the next topics on it: understand and use basic grammatical structures, use basic vocabulary, and understand and use intermediate grammatical structures.

Furthermore, a secondary objective was to bring the UTD-BIS closer to society, in order to generate a positive impact on the local education sector and raise awareness of the importance of the English language.

The 90 students that participated in the project completed it in the established time. to verify the effective implementation of the project, which includes the agents,

entities and beneficiaries involved in this execution, was develop the present study, under the following investigation questions:

1.1. General Research Question

How was the experience of the executors of the Durango Technological University, Campus Bilingual, International and Sustainable (UTD- BIS) and the other agents during the execution of the project "Learning by Teaching"?

1.2. Secondary Research Questions

- What was the perception of the agents involved during the execution of the project Learning by Teaching?
- What were the difficulties experienced by the agents involved in the project during the implementation of the project?
- What were the easiness experienced by the agents involved in the project during the implementation of the project?
- What were the learning and study methods used by the project executors?
- Based on the experience of the implementers, what can be improved from the project?

Similar research studies have been developed in recent years, such as the one by Cardozo [3], who in 2011, described the peer tutoring experience that took place at a university in Bucaramanga, Colombia. Cardozo described the conditions and scenarios of university education to self-regulate learning and incorporate new strategies in the student-teacher pedagogical relationship. He concluded that these tutoring programs are more relevant during the first semesters than in those with the highest dropout rate, since students do not adapt completely to the new system, and their tutors, university partners, are the guides in the adaptation process.

Álvarez and González [2] referred to peer tutorials, as the process in which students of the last university degrees are trained in a program called "peer tutors", in which they are instructed to help new students of the university, in order to guide them in the educational system, practical and theoretical issues and the same university environment, and thus reduce school dropout in the first university degree.

Torrado, Manrique, and Ayala [8] described a peer tutoring program as a pedagogical strategy, where upper level students assist their peers by reinforcing the learning process within a disciplinary area. As a conclusion, the authors mention the benefits of the peer tutoring experience, as a result students improve their grades, reinforce their previous knowledge and acquire motivation to study.

Lebsanft, Soto and Araujo [5] explained a teaching-learning method in which the university student learns while teaching his classmates, helping the student to develop autonomous learning skills and generating a commitment to his own learning in the subjects of Writing and Composing of Texts (Degree in Translation and Interpretation), Management of Tourist Events and Second Modern Language I (German, Degree in Tourism) and German II (Diploma in Tourism). The results revealed

that the program was a positive experience for both students and teachers, and the method was remarked as part of an update on teaching yet to be explored.

On the other hand, Vargas [9] uses the method of learning by teaching as a strategy to increase the academic performance and, above all, to generate a commitment of the student towards his or her own learning. The method has students reproduce a lecture originally taught by their teacher, then, using a software program, teach the lecture to their peers and upload the outcome to a digital platform. The content is then evaluated by their peers and teacher.

Given the above, as Duran [4] mentions in the value of the pedagogical resource of the learning process of teaching, the more complex the activity is to teach, the more opportunities are generated from learning to teach.

2. Methodology

Starting from the socio-critical paradigm the method of systematization of experiences is used to answer the research questions.

For Souza (2008) [7], systematization is an activity that allows us to construct and explain the knowledge that has been or is being produced in a given experience by different subjects, through the analysis and valuation of actions. The CEAAL (2009) [7] points out that systematizing experiences allows us to promote processes in which the protagonists of these experiences interpret them and produce useful neurosciences for the enrichment of the practices, in this way we build theoretical-critical contributions in a perspective of transformation and social change.

Sánchez [7] points out four main characteristics of systematization:

1. It is a reflexive activity, for which it can resort to methodological elements of textual linguistics.
2. This reflection applies to a particular process.
3. Through the critical perspective, reflection allows organizing the elements that are disjointed or dispersed (knowledge, practices, data, among others)
4. It is essentially participatory, it involves the social actors related to the experience.

2.1. Subjects

The group of informants chosen for the present systematization was based on their commitment to the project and for having been selected in the university's international mobility program, which allows students to conduct a four-month study in the United States of America or Canada.

Considering a sample of case-types and convenience [6], 13 students (6 males and 7 females, average age 19) were selected, who completed the third period of studies, eleven in the degree programs of International Business Operations and two in the program of Business Development.

2.2. Technique and instrument of Data Collection

In order to collect the information, the interview was used as a technique, defined by Alvarez-Gayou [1] as a

conversation with structure and purpose that seeks to understand the world from the perspective of the interviewee, and to delve into the meanings of their experiences.

The instrument was a semi-structured script of 23 questions grouped according to four axes of systematization: the first one, perceptions of the teachers and managers of the institutions where the project was executed, the receptors (students of the executors) and the project executors themselves. The second axis deals with the problems presented by the agents (executors, participants – receptors - institutions) participating in the project in any of its stages. In contrast to this, the third axis refers to the easiness experienced by the implementers, receptors and institutions when the program

was in progress. The fourth axis describes the general apprenticeships and the methods of study used by the executors to review and learn the subjects to be taught.

In order to define these axes, the executors were previously asked about their general perceptions while carrying out the project, through a semi-structured interview in which they expressed their experiences and exposed their general experience in the project.

2.3. A Priori Definition of Categories

With the axes of the systematization described above, and in order to answer the research questions, it was decided to define in *a priori* the categories of information analysis, remaining as shown in Table 1.

Table 1. A priori definition of categories

Systematization axis	Category	Subcategory	Purpose
1. Perception	1.1. Initial perception	1.1.1. Initial Institutional Perceptions	It describes the perceptions at the beginning of the project of the teachers and managers of the institutions where the project was implemented
		1.1.2. Initial perceptions of receptors	It describes the perceptions at the beginning of the project of the students who received the class of the executors
		1.1.3. Initial perceptions of the executors	Perceptions are described at the beginning of the students who executed the project, teaching English classes
	1.2. Perception in the middle phase	1.2.1 Perceptions of the receptors in the middle phase of the project	The perceptions in the middle phase of the project of the students who received the class by the executors are described in this category
		1.2.2 Perceptions of the executors in the middle phase of the project	The perceptions in the middle phase of the project of the students who executed the project, teaching English classes
	1.3. Final perception	1.3.1. Final Institutional Perceptions	It describes the perceptions at the end of the project of the teachers and managers of the institutions where the project was implemented
		1.3.2. Final perceptions of receptors	The perceptions at the end of the project of the students who received the class are described in this category
		1.3.3. Final Perceptions of executors	The perceptions at the end of the project of the students who executed the project, teaching English classes
	2. Difficulties	2.1. Difficulties experienced by executors	-
2.2. Difficulties experienced by receptors		-	The difficulties presented by the receptors to whom classes were given are described
2.3 Difficulties experienced by institutions		-	It describes the difficulties experienced by the institutions where the project was carried out
3. Easiness	3.1. Easiness in institutions	-	The easiness presented in the institutions where the classes were taught are described
	3.2. Experienced easiness for receptors	-	It describes the easiness experienced by the receptors to whom they were given classes
	3.3. Easiness experienced by executors	-	It describes the experienced easiness of the project executors
4. Learning and methods of study	4.1. Methods of study of the executors	-	Describes the methods of study used by the executors to review or learn subjects to be taught
	4.2 General learning of the executors	-	It describes the learnings by the executors

Source: own elaboration.

3. Results

The perceptions experienced by the agents (first secondary question of research) were compiled through categories 1.1, 1.2 and 1.3.

As for the initial institutional perceptions, most of the informants commented that it was positive. They mentioned that the managers of the institutions provided easiness and showed an emotion to the execution of the project, requesting that they start as soon as possible, as expressed by the informant number two: "I think that as a new school, the managers took it as very nice, since they were free English classes, they saw it as a benefit to the school and they received us very affectionate and with a great support towards us".

The initial perceptions of the students who received the classes taught by the executors, varied. For example, some receptors showed distrust and shyness to the executors, while others were enthusiastic and excited to be taught by the executors. Other varying factors were the level of the receptors' engagement in the class activities as well as their pre-existing knowledge of English. Informant number three explained: "My students were accessible. They were very shy at the beginning, they were afraid to be wrong, some made fun of the pronunciation of others. We wanted to establish respect from the beginning, so when we saw how that participation was, with respect, the students began to have more confidence".

The initial perceptions of the executors were mostly related to nervousness, uncertainty and fear of starting the project: "Ah! I felt a little afraid because I had never done it before, so I did not know how the children would respond" (eighth informant).

In the middle phase of project implementation, the receptors established their trust towards the executors and vice versa, a situation that allowed the activities to be more fluid, which was pointed out by informant seven: "We were very confident, they knew how we were from the first day we arrived and until the end, it could be that they saw us as someone who helped them in their personal and educational lives".

At the end of the course, the perceptions of the institutional agents and the receptors presented a common element, the recognition and appreciation to the executors. In this regard, the third informant mentioned: "there was a child who almost cried and there was another child that he and his mother asked for my phone number to see if they contacted us to continue teaching them. Everybody wanted more classes".

At the end of the project the executors expressed different perceptions, for example, the fifth informant mentioned: "At the end I felt very good with the work we did, from a low level are already a little more prepared... "; The fourth informant reflected the following: "It is well known that Mexico needs a change and oneself can come to think that we cannot make the change simply because we are a person among millions of people of population that are in Mexico, nevertheless when teaching to the children I felt proud of me to be able to share my knowledge with young people ...".

The difficulties experienced by the agents (second secondary research question) were compiled through categories 2.1, 2.2. And 2.3.

The main difficulties experienced by the executors include factors such as the insufficient time for class execution, the issues they were difficult to impart, the percentage of use of the educational program given by their teachers, nervousness, scenic panic and classroom management. In this regard, the twelfth executor commented: "We saw 60% being sincere, because the children really have different levels and then it was very difficult to apply the syllabus with everyone", while the fourth informant said: "At first I was very nervous because It was my first-time teaching English...".

The difficulties experienced by the receptors and institutions were centered around shyness and fear of error. In the first case of what the third informant said: "my students were accessible, they were very shy at the beginning, they were very afraid to be wrong and some made fun of the pronunciation of others".

As for the institutions, the difficulties centered the school buildings: "... at the time of arriving to give the first class the children were very happy since they do not have an established school, then offering them our internships of English they were really happy ..." (seventh informant).

The easiness experienced by those involved in the implementation of the project (third secondary research question) were addressed through categories 3.1, 3.2 and 3.3.

As for the institutional easiness, most of the informants agreed that it was the flexibility and willingness to support the executors, as witnessed by the eleventh informant: "the teachers and the director were very open to us. We were greeted very well. My school was very flexible, so if we wanted to spend the hour or more, we were allowed".

In another sense, the easiness experienced by the receptors towards the project were the excitement and happiness they felt in taking English classes with new and young teachers: "at the time of the first class the children were really happy, because they do not have an established school "(sixth informant); "The truth was that they responded very well, I was afraid at first, but as soon as we started working, all the children wanted to participate, they were very excited about what was happening..." (seventh informant).

Finally, for this axis of systematization, the easiness experienced by the executors focused on the ease and mastery of the subjects to be taught, and the cooperation of the receptors and institutions towards the project: "only the class had to be planned, but from that I think that I did not have to look for more in the book since what we taught was very basic for being elementary school children..." (first informant).

The last axis of systematization, learning and methods of study (corresponding to the fourth secondary research question) was addressed through categories 4.1 and 4.2. For the second case, the methods of study used by the executors were varied, such as process planning, memory use, research and design of study tools, as expressed by the third informant: "I first saw the topics and if I already knew it, I would only do it as a mental map or something like that of important things that I could teach them because, because we were against the time, I could not get into the subject very much, so I would bring out the most relevant things that could serve them...".

Regarding the investigation, the fourth reported: "I was looking mostly for basic activities or activities that could be used in front of the group with minors ...".

The general learning of the executors is the most important category for the purposes of this research, and although the learning they experienced varied, the informants agreed that in addition to the specific domain of the English language, personal experiences and learning were the most relevant: "I feel that you learn a lot by teaching, you value more the person that stand in front of you (allusion to a teacher) giving you classes..., I changed my habits, I was more punctual, I learned to plan "(first informant); "I grew a lot in knowledge and experience, and the truth helped me a lot to help some children because there seemed to be no English class in that school" (second informant). "Personally I was looking at topics for higher levels, but I did lack the basics, I forgot some things, then at the moment investigating the subjects to teach the children I remembered the fundamental thing to continue advancing at higher levels" (Sixth informant).

In coincidence with the above, the twelfth informant said: "I was left with a good experience in teaching the children, since we had to review many things that, over time, are forgotten. We had to practice pronunciation and writing well".

Informant nine provided a final reflection of his participation in the project, explaining: "I think it was a great way to learn because we developed the skills to think fast and know how to act in different situations. We used the knowledge learned and yet we taught something else, something extra, so that was the best for me".

Based on everything explained by the agents involved in the project, the suggested aspects of the improvement (fifth secondary research question) are: to generate commitment on the part of the executors and the advisory teachers (from the UTD-BIS) towards the project, to diagnose and to document the level of English of the executors both at the beginning and at the end of the project with a standardized test in order to evaluate the progress and measure the achievements of the project. Initially, reduce the scope of the project and cut it to a minimum of fifteen hours, maximum of twenty, reducing the contents to a single theme; to unify the criteria of implementation and monitoring of the project by the teachers and to involve more the institutional part of the UTD towards the project.

Furthermore, to carry out a previous training to the executors regarding the group management and to perform a clinic of techniques for the teaching of grammar and vocabulary, to present sample classes to their classmates by way of preparation and previous practice at the beginning the execution of the project; Standardize class days and hours per week to generate feedback on established dates and review the respective executions of each work team. Generate a simple class planning format to help implementers with classroom management; and finally, to perform a diagnostic test of easy implementation and standardized in order to measure the level of the receptors.

4. Conclusions and Discussion

In general, responding to the main research question, it was concluded that the experience of the agents involved

during the execution of the "Learning by Teaching" project was positive.

Thus, the perceptions of the executors moved from uncertainty, fear, nervousness and enthusiasm in the initial stage of implementation, to the satisfaction and consideration of their work in institutions as a positive life experience at the end of their activities, noting also that there are aspects of improvement such as the need to create and implement techniques, games and ludic activities in order to generate motivation in receiving students. The receptors and the institutions involved would like to emphasize their gratitude towards the executors of this project.

The main difficulties faced by the implementers were group management, confronting scenic and technical panic, zero or low English level of receptors, and in some cases the conditions of schools. The experiences presented by the receptors were summed up in the excitement and happiness of taking English classes with new and young teachers. As for the executors, the easiness focused on the ease and mastery of the subjects to be taught, the cooperation of the receptors and the institutions towards the project, and the empathy and confidence generated by all those involved in the project.

It was also concluded regarding the methods of study used by the executors that it is necessary to plan their classes in detail to optimize the time of project delivery, they require knowledge of study tools and it would be very helpful to provide them with English vocabulary and simple ludic activities for classes.

There was a great variety of learning acquired by the executors, starting from the personal, civic and social learning, which denote the personal impact of the project, self-learning about the English language. Their work made them break the barrier of fear, realize what they are capable of; and feel part of a culture of change.

It is considered that implementing the suggested aspects for improvement described in the previous section, the project will be executed in a more effective way, improving its relevance and achieving a greater impact on the beneficiary population.

Finally, although the comparison of empirical research results is not a goal pursued in studies like the present one, the positive experiences resulting from the implementation of "Learning by teaching" are similar to those of Lebsanft et al. [5] who concluded that this method, in which a student learns while teaching his / her classmates, generates skills and commitment for the autonomous learning of both parties, resulting in a positive experience.

Besides, one thing is certain, the more capacities were demanded of the executors, the more they were to be involved in the project, which coincides with what Duran [4] said when he said that the more complex the activity to teach, the more opportunities are generated Learn to teach.

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