PROMOTING CRITICAL THINKING THROUGH PROBLEM-BASED INSTRUCTION

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Abstract

This article presents a reflection and a potential applicative proposal about Problem-Based Learning (PBL), in order to change the perspective that students and teachers of public schools and technological adult institutions have about the learning of English in Tunja. This proposal intends to raise awareness about the language learning process, which may not only be the acquisition of rules and grammar structures but also a means to develop critical thinking skills in the students. This process will be developed through six stages, in which students will be invited to reflect and question their learning processes. Problem-based learning may help us to change the wrong perception that our students and EFL teachers have regarding the value of learning and using the English language.

Resumen

Este artículo presenta una reflexión y una posible propuesta de aplicación sobre el aprendizaje basado en la solución de problemas, con la cual se espera cambiar la perspectiva que los estudiantes y profesores de colegios de instituciones públicas tecnológicas para adultos de la ciudad de Tunja tienen sobre el aprendizaje del idioma inglés. Esta propuesta busca que el aprendizaje de una lengua extranjera no se oriente solamente a la adquisición de reglas y estructuras gramaticales, sino que también sea un medio para desarrollar habilidades de pensamiento crítico en los estudiantes. Este proceso se realizará a través de seis etapas en las cuales se invitará a los aprendices a que reflexionen e indaguen sobre sus procesos de aprendizaje. El aprendizaje basado en problemas nos podría

Key words: problem-based learning, critical thinking, Language learning, Problematic situations, Teaching practices, Public Institutions

ayudar a cambiar la percepción errónea que nuestros estudiantes y profesores de lengua extranjera tienen respecto a la utilidad del aprendizaje y el uso de la lengua inglesa.

Palabras clave: aprendizaje basado en la Solución de Problemas, Pensamiento Crítico, Aprendizaje de una lengua, Situaciones problemáticas, Prácticas de enseñanza, Instituciones Publicas

Introduction

We authors believe that language learning must be a process that not only encourages the development of the four language skills; but also, and above all, a process that can foster a critical position regarding the events embedded in our world. Sadly, in our educational contexts (a public high school and a public technological adult institution located in Tunja), a critical position is not considered; as we have been able to evidence in our workplaces during our teaching practices and as La Presidencia de la República de Colombia (1994) states "part of the current educational system is characterized by a fragmented, uncritical, outdated and inappropriate teaching that does not allow a conceptual integration, which discourages the students' curiosity and develops inappropriate cognitive structures and behaviors" (p.142). Consequently, we think that education should foster a critical thinking in the students. We still can see how our teaching focuses mostly on getting students to manage language in terms of grammar and form, but language is not yet being used as

a tool for allowing students to express their insights and thus, to become critical thinkers. This situation is reflected in our teaching practices at public schools, where there are only two or three hours of English per week; consequently, they can only get to know it and use it in its form. Students in this context are not aware of the importance of learning this foreign language as such; they only worry about passing their school year.

Likewise, in a public technological institution for adults, which is the workplace for one of us; we have observed during our teaching practices that the four language skills learners are expected to achieve, are generally related to knowing language as a system and to be able to understand it when it comes to reading passages or texts and information about their training area. Unfortunately, throughout our teaching experiences in both of our contexts and through the work we have done in our master's program seminars, we have been able to observe and analyze that very little, or nothing has been done about encouraging learners to think in a critical way and to use the language they are learning

for knowing different perspectives about the world. Besides this, most of students only take their English classes because they need the course to obtain their degrees, which means that they are neither aware of the use of the language, nor enthusiastic about the learning process. In this case language is only being perceived by both teachers and students as a system of grammar rules and structures. Then, the purpose of this paper is to reflect on our teaching practices in our public institution contexts with intermediate level students and EFL teachers, and finally to present a possible proposal for raising awareness about the relevance of the critical perspective that language should have.

The Problem-Based Learning (PBL, hereafter) approach can be implemented in these environments as a possible strategy to increase students' critical thinking skills regarding problematic situations they can face in their lives, so they can find possible solutions to them. In this paper, we intend to present and describe the stages of Problem-Based Learning (PBL, which will be defined further on) to be applied in our contexts in order to overcome the problematic situations that is emerging in our practices. For this purpose, we will explain how English teaching is approached in our contexts, and then, we will go through the theoretical background that will support our ideas and the importance of PBL. Finally, we will present the stages that would take place in the implementation of this feasible proposal and the conclusions for this reflection.

Throughout our experience related to the teaching of English in public institutions (a public high school and public technological institution for adult located in Tunja, as we have already mentioned), we have been able to see how students are expected to learn English. According to an observation that took place in our settings during our practices and through a teacher oral interview in which we asked them what methods and activities they used for teaching the foreign language, we realized that the most common were the grammar translation and the audio-lingual method. These two methods combined can succeed in their purpose of helping students to achieve certain management of the grammatical structures of the language which is obviously useful for the learning process but not enough.

But the English teacher has to go beyond this idea and try to help students to reflect on the role they should have in their learning process. According to Freire (2004:15) "education makes sense because women and men learn that through learning they can make and remake themselves, because women and men are able to take responsibility for themselves as beings capable of knowing — of knowing that they know and knowing that they don't". For us, this means that we teachers have to encourage students to take a more active role in their processes, they should not conceive learning as a mere practice of receiving information; instead, they should constantly question the contents they study, the methodology the teachers use, the learning activities/tasks proposed, and the factors related to both teaching and learning processes, and connect these factors with their lives.

According to studies conducted by Mergendoller, et al. (2006) and Mioduser & Betzer (2003), with the application of PBL to a group of students with low verbal ability and students with little previous content knowledge, pupils were able to learn more than what they learned through traditional classes. Besides, helping students to master academic contents, PBL allowed them to learn not only for the classroom but also for their daily lives, as Boaler (1997:56) found in his study, "learners learned real-world contents that were useful for different tasks".

For the aforementioned reasons, we think that PBL can be a good approach to meet the double purpose of helping students become proficient in the use of English as a foreign Language and allowing them to use this language as a means to go beyond in their learning process, not only as language learners, but also as human beings who should question everything around them. Here, we will present some more reasons we have to consider PBL as a good option to work in the language learning process.

Theoretical Background

Barell (2007:11) defines PBL "as an inquiry process that can resolve questions, curiosities and problems about complex phenomena in life; problems are seen as any doubt, difficulty or uncertainty that invites or needs some kind of resolution". This leads us to affirm that PBL is a way to encourage students to constantly question themselves and everything around them, in order to expand their knowledge, which is important in the classroom to help research to emerge. According to Perkins (1992), PBL involves intellectual processes such as comparing /

contrasting, generating and testing hypothesis, questioning among others, so when students learn through reflection and questioning, "it is more likely to promote transfer than simply memorizing information from a text" (Bransford et al. 2000: p.59). In other words, students must be encouraged to interpret, analyze and question the information they receive.

Horan, et al. (1996:21) stress that PBL seeks the development of collaborative skills; through their study, pupils were able to increase their initiative and teamwork while working with their peers. The authors also found that "PBL can encourage motivation in the students". According to Tretten & Zachariou (1995), through PBL students showed more confidence and their attitudes towards learning improved. These findings encourage us to attempt to implement PBL in our contexts, in order to provide our learners with a different approach to the English learning process, in which they can be more involved and can enjoy more what they learn.

For the purpose of our reflection, it is also relevant to deepen in what critical thinking means. Different authors have proposed definitions for critical thinking over the years; this is the case of Paul, R and Elder, L. (2003:15) who stress that "Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and mindful command of their use. It entails effective communication and problem-solving abilities".

Also, Dewey (1909:23) presented the term Reflective Thinking and defined it as an

"active, persistent, and careful consideration of a belief of a supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends". This kind of thinking invites us to not simply receive outsiders' ideas and adopt them, but rather to question them and to have a more active role in our learning processes. Glaser (1941:49) built upon Dewey's ideas and presented the following definition: "Critical thinking calls for a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends". We authors believe that education in general should promote critical thinking skills as the Ministry of Education (1994:10) suggests in order "to solve the national problems".

On the one hand, working on problematic situations through a motivating question is the starting point (Dewey, 1992 & Perkins, 1993). In this way, students will intend to respond to curiosities promoted in the classroom and to their own doubts, so that they can construct their meanings and knowledge; therefore, they will try to solve other motivating questions proposed by the teacher as Richard, P (2002) suggests (e.g. Socratic questioning: What do you mean…? What is the relationship between…? *What are your reasons for saying…? What is the cause/effect of…? etc.*) at the beginning of the seminar or the course in their syllabuses or curriculums (in our case intermediate level). "Teachers must consider the doubts, difficulties or uncertainties generated in the class along with those interesting topics for the students" (Ogle, 1986, p.7); in essence, teachers must involve students in exploring the world and raise their curiosity to

construct their knowledge through the kind of questions already mentioned.

On the other hand, PBL helps to arrange the curriculum and focus it on intriguing and motivating situations regarding those meaningful topics (Bean, 1997), so that students become involved and interested in the different topics of the subject (Barell, 2007). For that reason, teachers should review the educational standards stated by the Ministry of Education when selecting topics that are worth learning considering both the age and the L2 level of the student. If the goal is to arrange the syllabus or curriculum, teachers could think of an easy, interesting, exciting and motivating question in order to make emerge the sense of investigation in the student (Blythe, 1998).

There are some other authors that will support our proposal, since they take language as a means to encourage learners to think in a critical way.

Williams (1977:59), states that "a definition of language is always, implicitly and explicitly, a definition of human beings in the world". In light of this, we think that language teachers should bear this thought in mind in their teaching methodology, because Language definitely means a way to show and express our beliefs, our thoughts and ideas; unfortunately, this is not how language teaching is being approached in our public contexts. Through the work we have done in our master's program seminars, we have been able to carry out deeper observations and analysis regarding classes and syllabuses used in our institutions. These observations have shown us that language is only studied as a group

of grammar rules that must be learned properly in order to perform well while using the language, in other words neglecting the human critical content of the language.

Learning a language must be an opportunity for students to develop their critical thinking. According to Wallerstein (1983:14) "critical thinking begins when people make the connections between their individual lives and social conditions". Some other authors such as Horan, et al. (1996) support in their studies the idea that PBL supports critical thinking: "PBL has also been proved to encourage the development of critical thinking and problem-solving skills". Horan, et al. reported that low-ability students were able to increase the use of critical thinking skills such as synthesizing, evaluating, and reflecting, among others in a 46% and that students with a high ability enhanced their use in a 76%. In this case, we can have our students making these connections by exposing them to topics related to their social environments, asking them questions that make them reflect upon potentially controversial issues, thereby fostering class discussions where they can share their insights and also listen to their classmates' points of view. Problem-Based Learning is a way to expose students to this type of situations.

Luke (2003:26) explains that one of the characteristics of the critical thinking is "to engage in disruptive, skeptical, and "other" social and discourse relations than those dominant, conventionalized, and extant in particular social fields and linguistic markers". We think that, besides helping students learn the language, teachers should urge students to question the world in which they live, so that they do not take everything for granted and go beyond what is given to them; this way teachers could help them change their passive role of followers for the one of leaders.

Other related research studies

For the aforementioned reasons we think that the following steps are worth it in order to offer students of English as a foreign Language, a meaningful and challenging learning environment through PBL.

First of all, it is essential to create a setting in which teachers offer and guarantee a non-threatening environment to their students, so they feel free to take risks and express their opinions without being judged not only by their teacher but also by their peer. According to Krashen (1987: p. 34) "low motivation, low self-esteem, and debilitating anxiety can combine to raise the affective filter" (which is a number of affective variables that play a facilitative, but non-causal, role in second language acquisition) "and form a mental block that prevents comprehensible input from being used for acquisition". In other words, when the filter is 'up' it impedes language acquisition. In this sense, we think that we will start by sensitizing students about the importance of listening to and respecting everybody's ideas in order to create a comfortable learning environment and foster interaction. It will be necessary to make students realize that their behaviors or attitudes towards their classmates while they are talking will ease or ruin positive results in the process.

After creating a safe environment for students, the teacher should also start

redesigning the classroom activities and defining the aspects that will be worked on through PBL. In doing so, Barell (2007) proposes six steps: teacher modeling, questioning, quality responding, peer interacting, developing group inquiry skills, and using reflective journals. The first one, teacher modeling, will be crucial for helping our students to assimilate and understand what they have to do in terms of questing and researching in daily life. It is in the teacher's hands to be a model that invites students to continuously question everything around them, to be able to listen and respect others' opinions, and finally to construct a critical position towards different topics and situations in order to solve daily problems.

The second one is questioning, which has to do with encouraging our students to continuously question themselves, always going beyond what is on the surface. The third element is quality responding, which are the affective and emotional features that are present in the way we answer our students' questions. Depending on the success of these three steps the students might feel encouraged or not to keep their inquiry and communication processes. Then, we have the fourth step, peer interacting, that has to be guaranteed by the teacher through the use of questions that promote interaction among the students to decrease shyness (e.g. Socratic questions or common questions that learners already know) as Bean (1997:5) suggests "the questions that teachers develop depend on the nature of question asking in their own discipline and on their own emphases in teaching critical thinking". A way to do this is by modeling a good discussion that shows students how to handle their attitudes must

be while interacting; likewise, the use of journals can decrease shyness through reflection about students' performances (Barell, 2007).

The fifth step is developing group inquiry skills such as researching, thinking critically about information, listening to others' points of view, focusing on the topic developing consensus, among others. Finally, the last step is the use of reflective journals in order to support the questioning process with constant reflections so that the teacher can eventually develop a community of inquiry. In our case, it will be necessary to work on each one of these six steps, because they have a special contribution to the development of PBL in our contexts in order to promote critical thinking through the use of investigation. Besides, we teachers can promote values such as respect and tolerance in the classroom when students share their findings, opinions and beliefs.

Now that the environment is ready for the inquiry process to take place, it is important to establish the stages that will be carried out throughout the PBL. According to Harvey & Daniels (2009) there are four of them which will be working together simultaneously with the language learning process. The first one is immerse, where the process will start through the encouragement and sharing of curiosity, modeling how to make questions, studying different materials and topics to build background, and creating small study and meeting groups among them. The second stage is investigate, Harvey & Daniels mention that in this second stage students will be more exposed to materials and resources for topics and questions in order

to "enable them to articulate their thoughts and questions that stem from their interests and experiences"; in these other words, pupils will be able to "listen, talk, review, and read to gain information; write, talk, and draw to think about information; develop questions, then read, listen and view to answer them; meet with learners to set and monitor schedules and task completion" (Harvey & Daniels, 2009: p.63).

The third stage is coalesce which is pretty much similar to the work done in the second stage, but it is intensified. Here students will be able to carry out processes of evaluation of sources, interviews, surveys, questionnaires, etc. The fourth and last stage is going public, in which students will be able to demonstrate and share their learning through posters, performances, flip charts, mottos, brochures, and short guided-essays, etc. Also they will articulate their learning process, reflect on their knowledge, pose and investigate new questions for further research, consider changes in their beliefs, and finally take action by writing and speaking through productive activities such as discussions and essays.

Each one of these stages will be very useful in our context (our work places in Tunja), since they will allow students and teachers to have a structured and well-informed approach to the teaching of the English language. All these processes will help them to realize the importance of asking questions, of not taking things for granted, of consulting different sources before constructing an opinion about any topic, of listening and respecting others' opinions and eventually of taking actions, little by little, in their communities and social groups.

Conclusions

To sum up, we would like to emphasize the benefits of implementing PBL as a teaching approach that enhances the use of the English language within a context that favors the development of students' critical thinking skills. In this way, they will reflect on their own learning, because PBL will allow them to share what they know and what they really want to learn as they interact with their classmates. We strongly think that teachers should encourage their pupils to question the world in which they live and the things they learn because they must not take everything for granted; in this case, we teachers play a role model and help them to go beyond what is given to them; this is the beginning to help them to change their role of followers in order to become leaders.

Throughout this reflection, we teachers also want to remark the importance of starting an inquiry process through motivating and interesting questions, doubts or uncertainties, given that the way in which teachers introduce this process to their pupils will influence their commitment during the process. An example of a motivating way to do so is the Socratic questioning as suggested in (Richard, P. 2002), in which pupils will feel the need to investigate and find out an answer to all those uncertainties aroused in the classroom. This is the way how critical thinking must emerge as a possible solution to those real life problems.

Teachers can support the inquiry process by helping students to make connections between their individual lives and social conditions through the exposure to topics related to their social environments, and

questions that encourage reflection and discussions upon potentially controversial issues. This, in turn, may lead to the development of critical and reflective thinking that may help us to change the wrong perception that our students have regarding the benefit of learning and using the English language.

Finally, through the application of PBL, we authors hope to help our students to change their perception of the English language, which they conceive as a mere means of communication and as a step for getting their degrees as we explained through this reflection. It is in our hands to allow them to see that there is so much more behind language, thanks to it, they will have a broader access to the world in which they live in, in order to better understand it and accept it.

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