

Inquiry-Based Learning in an English as a Foreign Language Class: A Proposal

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Abstract

This paper analyzes the benefits of inquiry-based learning as an action model for an English as a Foreign Language Class (EFL). Nowadays, thanks to digital technologies, students have more access to native speakers of English and to information on the web that can become great allies in the acquisition of a foreign language. Teachers, on the other hand, want to know new methodologies to keep students motivated, and at the same time, offer them more opportunities to construct knowledge. Through inquiry-based learning and the integration of technology into the curriculum, students can improve linguistic skills, and at the same time they can learn different perspectives on a topic, different cultural aspects, and develop social skills.

Key words: approaches in language learning, cognition, inquiry, technologies in education, learning activities

Resumen

Este artículo analiza los beneficios del aprendizaje por indagación como un modelo de acción para una clase de inglés como lengua extranjera. En el presente, gracias a las tecnologías digitales, los estudiantes tienen más acceso a hablantes nativos del inglés y a información en la *web* que pueden ser grandes aliados en la adquisición de un idioma extranjero. Por su parte, los educadores desean conocer nuevas metodologías que mantengan a los estudiantes motivados y que a la vez les permita mayores oportunidades para construir conocimiento. Por medio del aprendizaje por indagación y la integración de tecnología en el currículo, los estudiantes pueden mejorar sus destrezas lingüísticas y a la vez conocer diferentes perspectivas de un mismo tema, discutir sobre distintos aspectos culturales y desarrollar habilidades sociales.

Palabras claves: enfoques en el aprendizaje de la lengua, cognición, indagación, tecnologías en educación, actividades de aprendizaje

Background

During the 1950's, cognitive science emerged as a field to understand the process of human learning from a multidisciplinary perspective (including anthropology, linguistics, philosophy, developmental psychology, computer science, and neuroscience). In the cognitive paradigm, human beings are active, curious learners, in constant search for information, but at the same time, they bring their own prior knowledge, concepts and skills. Learning, thus, is a process that takes place when people construct new concepts and understanding based on their existing knowledge and experiences (Brandsford, 2000), and there are many movements that respond to this goal.

The cognitive movement responds to and is motivated by the scientific-technical revolution, the overwhelming increase of information and all the changes that have occurred in the field of information and communication technologies (ICTs) during the last three decades. This movement is based on mental representations and cognitive dimensions and on the search for acquisition, organization and the use of knowledge (Chapelle and Jamieson, 2008). The main goal is to provide learners with the opportunity to learn how to think and to use strategies on how to learn, implement and develop several skills that work as active processors, independent and critical for knowledge construction. Under this premise, that is to achieve meaningful learning, the following factors need to be acknowledged:

- a rigorous, logical presentation of the learning material -with integrity and coherence
- learner's intention to learn
- and a facilitator who organizes learning situations in a way to teach not only information, but also cognitive and metacognitive skills, and who plans continuous support and feedback (Ferreiro, 2005).

The social changes generated in the last years and the transition into global economies have increased the need to process great amounts of information and to communicate with people from other cultures and languages. These changes have had an impact on the EFL class, where teachers struggle on how to help students improve the target language, and at the same time, develop other abilities needed to understand this constantly changing world. This learning method becomes essential for students to achieve a more productive academic and non academic life. When they participate in real life situations, they can develop effective research skills, adapt and respond better to change, and they are also prepared to the develop critical thinking skills.

Even though the use of computers in a language class was some years ago only a concern to a small group of researchers, their use became a reality during the sixties, and different teaching approaches and levels of technology have been introduced since then. One of the most significant was the Computer Assisted Language Instruction (CALI), with a behaviorist-based approach, in which the

computer played the role of a mechanical tutor that allowed students to work individually, doing routines and mechanical exercises. However, language teachers soon became disappointed by CALI due to the limited approaches and programs used based on the grammar-translation and audio-lingual methods, which had already been overcome by other more communicative methods (Beatty, 2003). From the early 1980's until today, researchers and practitioners of Computer Assisted Language Learning (CALL) have proposed more learner centered approaches in which activities are focused on the use of grammatical structures more than on the structures themselves, teaching grammar implicitly more than explicitly, and allowing students the use of the target language (L2) to generate articulations rather than simply manipulating prefabricated language. Since then, CALL has evolved and has been implemented in different ways, in and out of the classroom.

Today, the access to innovative digital media and the Internet are a reality in many schools around the world, and schools in Costa Rica are not an exception. Mobile devices provide contact with the latest information and experiences of the world in real time. They allow access to other students (native and non-native speakers of the target language) to implement collaborative projects that will help them understand the topics more in depth and from other perspectives, and to also learn about other cultures. Furthermore, teachers have realized that just asking students to look for information without a pedagogical justification does not empower them. On the contrary, teachers as well as researchers (Cummins and Sayers, 1995) have concluded that what really matters is not students' access to information but what students are able to do with it in order to construct knowledge.

To provide validity to the integration of ICTs to an EFL class, Dudeney (2000) states that the learning of foreign languages can be improved if some factors are considered, like establishing different interaction strategies among the students in the target language, fomenting the use of multiple learning styles and carrying out a cognitive approach instead of just promoting simple memorization. Having access to a foreign language through different media gives students the opportunity to be exposed to it from different entry points and contexts, and to recreate the language themselves. On the other hand, Brown (2000) pointed out that educators can help students become active learners with activities that motivate them to explore and become creative when they use the new language instead of being just passive recipients. Technology has the power to motivate students to use English in real life situations with native speakers through the web, and especially through the social networks. Therefore, teachers must be aware about the great amount of learning material available on the web and other digital media to improve students' linguistic skills and teach them to use it in a way that responds to their needs.

This paper, thus, proposes the implementation of inquiry-based learning for the EFL class as an action model, in order to integrate the use of innovative strategies through technology to encourage students to have more contact with the target language even when they are not at school and do not have access to their teacher.

Implementing Inquiry-based Learning (IBL)

According to the Intel Teach Essentials Courses webpage (<http://www.intel.com/content/www/us/en/education/k12/teach-elements.html>), inquiry-based learning is more than a model for learning. It is an attitude towards life that implies students' involvement in facing and solving a problem and the search for realistic and strategic solutions. This model requires students to think in a systematic way in order to reach reasonable solutions. It is also student centered and promotes collaboration among the students. Some important characteristics of IBL are:

- It encourages the development of critical thinking.
- It allows an active participation of students in the acquisition of knowledge.
- It facilitates problem solving skills.
- It guides students to form and express concepts through a series of questions
- It allows for a more meaningful use of digital technologies linking students to the local as well as the global community.

When EFL teachers use this model, their role changes. They become more student centered and use open ended questions to encourage research, participant observation and reasoning. They introduce different tools and strategies according to the content of the unit or topic and become mediators for students' learning. They do active teaching, proposing projects and problems to work on. They constantly become part of the group by walking around the class interacting with the students, talking to them, asking questions and making suggestions instead of just sitting down at their desks. They also encourage students to follow the inquiry cycle:



According to (<http://www.cii.illinois.edu/InquiryPage/>) on the first stage, that is, ask, students have to plan their tasks and formulate meaningful questions about a problem or topic they have to discuss as part of a unit of study. To illustrate, these are sample questions for a unit on cultural differences:

- Are there any similarities between Costa Rican students and American students? Which ones? Are there any differences?
- What roles do teenagers play in the Costa Rican family? In the American family?
- Which students are more independent, Costa Ricans or Americans? What do cultural values have to do with independence? How are cultural values related to independence?

The second stage, investigate, is the information-gathering step. Students get together in sub-groups and narrow down the topic. They begin to gather information, inquire from different sources, study and interview people, observe carefully and even reformulate the question when necessary. The use of computers and digital resources open many windows for them. Teachers, then, must teach them to evaluate the information they find on the Internet and how to choose valid sources. Students can also meet native speakers of the target language online in schools that participate in international projects. This online communication allows for real conversations about families and the roles of each member in two different countries, for example, and information exchange from both countries would be compared and contrasted.

On the third stage, create, students begin to make connections. They synthesize what they have learned and shape new thoughts, ideas, and theories outside their prior knowledge and experience. This is the stage where students practice their composition skills and begin writing their reports and planning their presentations within their subgroups.

On the fourth stage, discuss, students share their new discoveries with other members of their sub-group. They also find out about other classmates' findings and involve themselves into a community-building process. The purpose of their research now becomes more relevant as students continue comparing notes and discussing conclusions with members of their subgroups and with the collaborators from the other groups and from the other English speaking countries.

On the last stage, reflect, students get together once again to look back at the question or problem proposed. They analyze once more the whole research process and the conclusions made, including the information received by online collaborators. They also prepare for the final written reports and oral group presentations. Each stage of the cycle leads to the other, and if there are gaps, new questions arise, giving students more opportunities to investigate and continue through the cycle until they are satisfied with the answers.

Benefits of IBL in an EFL Class

Through the implementation of IBL, students are the ones who propose the topics they want to investigate and generate the questions to solve the problems they are interested in. This gives them more opportunities to use and understand how to formulate questions. Teachers can teach the corresponding

structures of good questions, not only from the perspective of content but also from the grammatical point of view.

Moreover, inquiry and problem-solving have been proposed by researchers for many years because they help students learn metacognitive strategies. According to Brown (1994), students who can use these strategies are better language learners. In IBL, the structure of the traditional class changes, as students do not sit passively to take notes as with other approaches; on the contrary, they have an active role in choosing the topics they are learning and on developing the outcomes of their own investigations. This motivates students to pay more attention in class and to be interested in using the target language because they feel a sense of control in a more appropriate language level. Going through the different steps of the cycle, also, encourages more communication in oral and written forms, since students need to discuss their conclusions with other members of their group. Students have to write reports on their new findings and achievements and formulate new questions in order to go deeper into the investigation process. This also encourages more use of the target language in a meaningful context, both, in the written and oral forms.

In relation to the role of technology in IBL, Stevens (2006) supports its use as a collaborative tool for learning since it has a positive effect in motivation and in the construction of knowledge. Students use it not only to understand contents but also the world around them in a deeper way through synchronous and asynchronous interactions with other students, teachers and experts in the topic.

Conclusions

Inquiry-based learning and the integration of digital technologies empower EFL students in different ways so they can be in control of their own learning. Lessons are more centered on the students' needs and interests; and information in real time is available to students anywhere, allowing them to work in collaboration with others, doing research, sharing findings, analyzing and clarifying doubts with students from other schools, universities and even with English-speaking students from different countries. As a result, students have more contact with the target language in real life situations and the opportunity to make connections with the outside world, visualize complex concepts, and interact with native speakers of English, any place and any time. Since their role is more active, through personal involvement students remember better what they do and acquire the foreign language in a similar way they did with the first one; so, it's useful to remember the old adage that says: "Tell me, I'll forget; show me, I'll remember; involve me, I'll understand".

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