EDUCAÇÃO FÍSICA E CIÊNCIAS DO ESPORTE: PESQUISA E APLICAÇÃO DE SEUS RESULTADOS 2

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CAPÍTULO 13

THE ACQUISITION OF OLYMPIC VOCABULARY THROUGH LEARNING OBJECTS

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ABSTRACT: This paper aims to present a set of learning objects on the vocabulary of one of the Olympic Games, volleyball, part of the daily Physical Education routine of students in Elementary School. These objects were created in two languages, English and Portuguese, with potential applicability in the teaching of Olympic vocabulary, which is very little explored in Brazil. By doing so, teachers create conditions to motivate students to learn about the values and culture of the Olympism. The theme of assimilating Olympic vocabulary through learning objects came from the participation of Brazil in the 2016 Olympic Games and, for such, we chose Magana's Translational technology use (2017) as the theoretical foundation and the research project developed by professors from the Letters and Physical Education Schools from the Pontifical Catholic University of Rio Grande do Sul, called "The elaboration of a Lexicon of the Olympic Sports English/Portuguese: a legacy of the Olympic Games Rio 2016" (TODT, PERNA and DELGADO, 2012). Thus, this study outlines some particularities of learning objects and their possible uses, since it is theoretically and pedagogically structured. Their applicability in real school contexts are to be presented in further research, in which a qualitative assessment to the student's learning achievements and teacher's satisfaction levels will be described.

KEYWORDS: Learning Objects, Translational technology use, Volleyball, Olympism.

A AQUISIÇÃO DO VOCABULÁRIO OLÍMPICO ATRAVÉS DE OBJETOS DE APRENDIZAGEM

RESUMO: Este trabalho tem como objetivo apresentar um conjunto de Objetos de Aprendizagem sobre o vocabulário de um dos esportes dos Jogos Olímpicos, o voleibol, presente na rotina escolar de alunos do ensino fundamental. Esses objetos foram criados

em duas línguas, o inglês e o português, podendo servir de apoio para o ensino do tema olímpico, pouco explorado no Brasil. Além disso, ao trabalharmos com vocabulário olímpico, criamos condições para que os alunos se motivem a aprender mais sobre o Olimpismo, seus valores e sua cultura. Esse tópico de estudo surgiu por conta da participação do Brasil nas Olimpíadas de 2016 e, para tal, buscou-se a fundamentação teórica baseada no domínio translacional de Magana (2017) e na pesquisa desenvolvida por professores das faculdades de Letras e Educação Física da Pontifícia Universidade Católica do Rio Grande do Sul, chamado "A elaboração de um Léxico dos Esportes Olímpicos Inglês/Português: um legado dos Jogos Olímpicos Rio 2016" (TODT, PERNA and DELGADO, 2012). Este estudo mostra, de forma breve, algumas particularidades presentes nos objetos de aprendizagem e formas de uso, sendo teórica e pedagogicamente estruturado. Sua aplicação em situações reais de aula deverão ser apresentadas em trabalhos posteriores, em que poderemos trazer uma avaliação qualitativa de aproveitamento discente e de satisfação docente.
PALAVRAS-CHAVE: Objetos de Aprendizagem, Uso tecnológico translacional, Vôleibol, Olimpismo.

1 I INTRODUCTION

It is unquestionable that we have been going through an accelerated digital technological revolution. The recent advances in different workplaces resulted in the immediate use of devices such as Virtual Reality in surgery and entertainment applications, Augmented Reality in medical training, and design and modelling, and Artificial Intelligence in finance and agriculture, to name a few. In education, it has not been otherwise. Technology has been more and more present in schools, but can we say that we have developed classrooms that are digitally rich but innovation poor? Has teaching substantially elevated instructional practices and maximized student learning? Even with variable technological resources at our disposal, have our students been able to assimilate the content we present?

These are some of the questions we will discuss in the lines to follow by presenting some reflection on Magana's T3 framework of educational technology and suggesting the use of Learning Objects (LOs) in Elementary School's English classes. The theme chosen for the LOs is the Olympic values, since the Olympic Games (2016) were performed for the first time in a South-American country, Brazil. As for the sport, the LOs introduce the volleyball terminology with practical examples and activities.

The idea of creating LOs with an Olympic sport vocabulary came up with the need to promote the Olympic theme, which has not been well explored in Brazil. We believe that the suggestions presented in this paper help foster the sports terminology in English classes as well as motivate the implementation of interdisciplinary studies in educational contexts.

That said, we will now define LOs and present some of their features.

2 | LEARNING OBJECTS

Learning Objects have been mainly studied in the areas of education and computer science, because they are considered the digital resource that helps the teaching and learning process. They are also known as knowledge or content objects. This chapter aims to present definitions for LOs, their characteristics and uses.

2.1 Defining learning objects

It is difficult to find a specific definition for LOs in the literature, once there is no consensus among educational scholars. According to Wiley (2000), LOs are elements of a new type of computer-based instruction grounded in the object-oriented paradigm of computer science. The IEEE (Institute of Electrical and Electronics Engineers, 2007) defines LOs as any entity, digital or non-digital, which can be used, re-used or referenced during technology supported learning. Guilhermo, Tarouco and Endres (2005) say that LOs are elements from a new teaching and learning methodology based on the use of computers and the Internet. According to the Encyclopedia of Technology and Networking (2009), multimedia content, instructional content, instructional software, software tools, learning objectives, persons, organizations, or events are included as examples of LOs.

Additionally, LOs can match with other ones, according to the user's needs, and create larger sets of LOs for the assimilation of knowledge. Wiley (2000) claims that LOs used in different contexts have been seen as key tools for the improvement and raising of efficiency in the learning environment, providing many advantages for their users. We believe they can be an addition to English teachers and students.

When creating LOs, the objectives should be well defined and clear, but they cannot be so specific as to limit the contexts of their use. The Encyclopedia of Technology and Networking (2009), states that a well-designed LO should allow the student to learn a great deal through failure as well as success. As a way to assure the quality of LOs, Vargo et al (2003) proposed an instrument to evaluate LOs called LORI (Learning Object Review Instrument). LORI (version 1.3) measures 10 separate points of quality for learning objects listed as follows. Regarding **presentation**, aesthetics and design for learning; also, accuracy of content and support for learning goals; next, motivation; as for **interaction**, motivation, usability, and feedback and adaptation; reusability; metadata and interoperability compliance; and accessibility.

2.2 Characteristics of learning objects

While there is no specific definition for learning objects, much research has been done to contribute highlighting their concept. According to Wiley (2000), the activity is considered a LO and might be added in a learning environment if it has the following characteristics:

- Reusability: it should be reusable several times in various learning environments;

- Adaptability: it may be adaptable to any learning environment;
- Granularity: it should contain content pieces, for easy reusability;
- Accessibility: it is easily accessible via the Internet for use in various locations;
- Durability: it can be used continually, regardless of changing technology;
- Interoperability: it has the ability to operate over a range of hardware, operating systems and browsers, and exchange effectively among different systems.

As examples of this kind of system, we can mention MERLOT (Multimedia Educational Resource for Learning and Online Teaching) and ELO (Electronic Learning Organizer), both authoring systems.

2.3 Authoring system elo

The ELO (Electronic Learning Organizer) is a repository and an authoring system designed for the production of LOs focused on language teaching, and to have access to the system, the user has to fill in a form available on the website. The tools are free for students, teachers and schools. By using ELO, it is either possible to create activities already existent in the repository or from scratch, using the models provided by the website. This environment provides a file that can be saved in an electronic support, which may be reloaded and updated whenever needed. Basically, the system provides the teacher with the necessary tools to create activities for students, whose content can be edited for future classes. ELO encourages the publication of activities and learning objects, providing space on the website for people who want to explore the uses of LOs.

The system is user-friendly and the language can be switched anytime between English, Portuguese and Spanish. Another advantage of ELO is that it is possible to integrate the activities with Moodle, a learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalized learning environments.

Figure 1 – ELO website introduction

Source: https://elo.pro.br/cloud/

In the next subsection we will present some models for the creation of LOs, which are available in ELO.

2.3.1 Models provided by the repository

The models of activities for the creation of LOs are listed below:

- Eclipse: displays texts to be reconstructed by the student. Ideal for exploring standardized forms of language such as situated dialogues, proverbs and abstracts.
- Sequence: is an educational game. Ideal to explore and teach the progression of the text.
- Cloze: creates gapped texts. The gap may be a word, part of a word (suffix, prefix, etc.) or a multiple word expression. Ideal for working with definitions, grammar issues, description of characters, dialogues and keywords.
- Memory: produces the memory game objects. This tool can be used not only for the teaching of vocabulary, but also for showing relationships in the syntactic structure (phrasal, cause and consequence, suitable verb and object, among others).
- Quiz: it has multiple choice and dialogic options. Multiple choice offers general and specific feedback for each option. The dialogue option allows you to simulate the teacher/student through a sophisticated analysis of the free learner response.

ELO can also be used to create other environments such as homepages, using pictures, sounds and videos. This system, thus, provides a variety of instructional options

for educators so that learners can interact with the content and navigate freely on the LOs, making the learning experience more enjoyable.

Technology is a prevalent part of today's society, and as educators who are preparing students to become successful in this society, it is fundamental that we use it to foster their learning in a meaningful way. Hence, building well-structured and attractive digital resources for students like the LOs, which contain carefully selected and researched content, it is possible to transform the classroom in a prosperous environment to stimulate schooling.

Having presented ELO and its features to create LOs for use in the English Language classroom, we shall now address the theory that has served as the foundation for the present study.

3 | MAGANA'S APPROACH TO EDUCATIONAL TECHNOLOGY

Magana (2017) made a positive contribution to the field of educational technologies by his important book, *Disruptive Classroom Technologies,* through which he presents the T3 (Translational, Transformational, and Transcendent) framework. Broadly speaking, such a framework aims to enable the effective integration of digital tools in teaching and learning, raise awareness of the value each stage provides to learners, and offer a set of criteria that assist teachers in the development and assessment of meaningful goals throughout the educational process.

Magana (2017) highlights that a meaningful technology integration model can prepare educators to conduct and communicate technology educational innovation so as to cause a positive impact in students' learning. Even subtle changes can result in the effective use of digital resources and in important benefits in educational contexts, as follows: i) help students build and reinforce connections between their previous knowledge and the new one; ii) support students in this process so that they can create models that represent the new knowledge.

Educational technologies based on Magana's T3 framework (2017) occur in three distinct stages named *translational* (automation and consumption), *transformational* (production and contribution) and transcendent (investigation and social entrepreneurship). The framework contributes to the revisitation of outdated practices to innovative methodologies, fostering the development of abilities, competencies and aptitudes required to prepare young students for the world outside the classroom.

Such methodologies permeate four pedagogical principles as follows: i) lifelong learning; ii) learning seen as a social activity; iii) knowledge being provided within a meaningful and relevant context for the student; iv) evaluation as a means of stimulating learning as well (Bransford et al., 2004). Thus, a *framework* especially designed for technological use needs to account for effective pedagogical strategies and principles, and to assist the teacher in improving them, bearing in mind the available technologies. Given

this scenario, we can say that the three stages of Magana's approach, based on similar principles as Bransford's, can be shown effective as they gradually provide a way to think about the uses of technology that are immediately useful.

Taking into consideration elementary school teachers, we focused on the first stage named *translational* (automation and consumption) since tasks commonly addressed include data storage and record keeping, communicating, grading and testing, to name a few. In fact, this stage can be regarded as doing old tasks in new ways, changing from analog to digital resources. According to Magana (2017), "this level is certainly important, and advises that it should be systematically addressed, well-monitored, and continually updated" (foreword). However, he adds "stopping at this level is a mistake all too often made" (foreword).

As mentioned earlier, the two steps of translational technology applied in education are automation and consumption, both considered an entry-level step, and commonly used in schools. Some of the most usual uses of educational technology for automation of tasks are assimilating new content information, being tested and graded, and communicating with teachers, peers and parents. Regarding consumption, students consume multisensory information when they are first interacting with or practicing and deepening new content knowledge, and it is this multisensory aspect of digital media that adds value by enhancing students' abilities to make connections between new information and their previously acquired background knowledge and experiences (MAGANA, 2017).

Therefore, the consumption of multisensory media certainly adds more value than the automation of unvaried tasks; the level of interactivity varies among sources, but the nature of consuming digitally represented forms of knowledge is inherently multisensory, adding more value to the learning experience than consuming text in the absence of nonlinguistic representations (MAGANA, MARZANO, 2014; MARZANO, 2007; MAYER, 2001).

We will now address the theme proposed in this article, namely Olympism, in order to present the LOs mentioned before, having Magana et al as our theoretical guidelines.

4 | OLYMPISM

We selected Olympism to be the theme underlying the LOs because we believe in the importance of gradually including it in schools, since it is understood as a philosophy of life, which defends, through sports practice, the shaping of peaceful, democratic, humanitarian, cultural and ecological consciousness. It exalts and combines in balance the qualities of body, will and mind. Over the creation of a lifestyle based on joy of effort and the respect among citizens, Olympism intends to place sports at the service of the harmonious development of humankind. As a result, Olympism contributes for individual development and strengthens the comprehension and union among nations. As we live in a period in which interdisciplinarity is acclaimed and stimulated in the school scenario, we

see the interface between Physical Education and English as a fun and motivating way of joining aspects of body language and movement with the linguistic structures in the teaching of English. Moreover, as most of the subject matters on Olympism are brought to us in English language through the institutions that foster Olympic education, this reality offers an opportunity for expanding English language content in this field of knowledge.

The expression Olympic Education came from “sport pedagogy” advocated by the French Baron Pierre de Coubertin (1863-1937), founder of COI, Olympic Movement and Olympic Games. Coubertin was a historian and an educator, who revived the Olympic Games of the modern era. The term “Olympic Education” has been used nowadays to better refer to the idea of Coubertin of having a harmonious education. Coubertin believed that young people needed to train their bodies and minds. He thought about creating an international event inspired in the heritage of the Ancient Olympic Games held in Greece to spread his idea about sport pedagogy. Through this thinking, the actual Olympic Games were created by him.

The Olympic Education has different meanings for different people. Its applicability can vary from country to country because the relationship between teachers and students is different and the parents and students, educational authorities and community members have contrasting expectations. There is also the issue of the schools, which have distinct groups, structure and ways of teaching.

4.1 Olympic education in brazil

The Olympic Education was introduced in Brazil by professor Lamartine Da Costa, who worked at Gama Filho University in 1995, after coming back from meetings at the IOC Research Council. He has been a prominent researcher in the area, having generated a substantial amount of studies on Olympic Education in Brazilian universities. The projects conducted in the country promoted positive values and attitudes among students and fostered the professional education among an endless number of teachers.

Furthermore, Brazil was the first country in South America to host the Olympic Games; needless to say, it was a unique opportunity to have implemented social programmes that consider Olympic values as a fundamental axis.

Generally speaking, it is known that there is no strong Olympic culture in South America, and this includes Brazil. Triggered by this lack of cultural background, a group of university professors and students, from the Physical Education and Languages Departments at the Pontifical University Catholic of Rio Grande do Sul (PUCRS), decided to elaborate a bilingual Olympic Lexicon of Sports (English-Portuguese). Todt, Perna and Delgado (2012) started an interdisciplinary project entitled “A elaboração de um Léxico dos Esportes Olímpicos Inglês/Português: um legado dos Jogos Olímpicos Rio 2016”, whose objective was to sow the seeds of Olympic themes in a country with continental dimensions. Much of the literature produced in this field is written in English, French and German, and not in Brazilian Portuguese, a condition the authors wished to change.

Regarding Portuguese, we must say it is spoken in many countries around the world such as Portugal, Brazil, Angola, Mozambique, Cape Verde, São Tomé and Príncipe, Guinea-Bissau and East Timor. Portuguese is the world's seventh most spoken language with approximately 260 million total speakers (CHAVES, 2015), being another reason why Todt, Perna and Delgado (2012) produced such material.

5 | THE CREATION OF LEARNING OBJECTS USING THE OLYMPIC LEXICON IN ENGLISH-PORTUGUESE

Using LOs in the classroom provides students with opportunities of digital interaction with the content being introduced and allows for the input of new language to become more attractive. The new generation of students, the so-called Alpha (born from 2010 on), have been in contact with technology since infants, being naturally apt to interact with the digital world.

The LOs presented in this paper bring about the theme of Olympic Games with a focus on volleyball, since it is a sport played by elementary school students in Physical Education classes. Our intrinsic motivation was to stimulate children to learn more about the sports they play at school, especially because they were about to watch the volleyball games on TV during the Olympic Games Rio 2016.

We have chosen to use the authoring system ELO for developing LOs since they are suggestions that can be transferred and redefined to any other platform, and because of its facility of use and for being a free tool.

The vocabulary to make up the activities was taken from the corpus of the Olympic Lexicon in English-Portuguese (TODT, PERNA and DELGADO, 2012), the official website of the Olympics, and from other websites such as blogs, containing texts and rules about the topic. Among the array of terms that the Olympic Lexicon covers, fifteen basic terms were chosen according to their relevance of use.

The focus on the creation of the LOs is to offer students the chance to explore more systematically the volleyball lexicon in English since they are already familiar with them in Portuguese. Furthermore, we were able to introduce the Olympic culture, values and culture, which are the basis for the development of citizenship. This content was shown previously to the actual LOs practice as well as pre-teaching lessons were given on pronunciation and meaning of the terminology to be presented to students.

By using the authoring system ELO, four LOs were created and associated as a course called **Assimilating Olympic Vocabulary**. The course is divided in five parts: Introduction, Recognizing terms, Remembering terms, Relating terms and Assimilating terms. Students can access the LOs whenever they wish; they do not need to be allowed by the teacher and they can also refer back to the activities whenever they wish.

In this section, we outline a brief description of the course and the LOs, starting with the one named “Recognizing terms”, followed by “Remembering terms”, “Relating terms” and “Assimilating Terms”.

This LO presents the enunciation and all the terms listed in English first. The student is supposed to write these terms in the gaps beside the terms in Portuguese. The students do not necessarily need to follow the steps provided by the course; they can choose the activity they want, by clicking on a menu on the left side of the screen.

As previously stated, the main idea of this LO is to make the students relate the terms in Portuguese that they are used to listen to in Physical Education with the corresponding term in English (**Recognizing terms**).

The **Remembering** terms LO is presented as a memory game. The student is supposed to find the pairs of words, one in English and the corresponding one in Portuguese. There is an enunciation with the following message: “This is a Memory Game. Click on the cards and try to find the corresponding words in English and Portuguese. Good Luck! ”

On the face of each card, we have the image of the volleyball pictogram, taken from the Rio 2016 Olympics website. When the students click on a card, a term in Portuguese or English appears. If the students find the pair, the cards will remain on the screen showing the terms; if they do not make a pair, the cards will remain faced down again. The purpose of this LO is that students practice the terms introduced in the previous activity in a playful way. At the end of the game the motivation message “Well done! ”, and an image of the Olympic torch appears followed by a button to move to the next LO.

Figure 2 – Activity on remembering terms

Source: Ramos (2015)

The LO with focus on **Relating terms** is a multiple-choice activity. There is an enunciation saying that the student has to choose the right answer. There are six non-

cognate terms in English, in which the student has to mark the corresponding term in Portuguese. When the student clicks on the right answer, a message written “Excellent! ”, and a tick appears. If the student clicks on the wrong answer, a message with the sentence “Try again! ” appears on the screen. At the end of the activity another message appears “Good job! Now let’s go to the next activity. ”

Assimilating terms is the last LO of the course. In this activity, a small text is shown to the student for him to read and complete it by grabbing and dropping the terms according to the order they should be in the text.

The objective of this LO is to make students practice the comprehension of some terms they have seen during the whole course. If students are registered on the website, they can see his or her score, evaluate the LOs and send a message to the author. The teacher can visualize the students’ score by accessing the teachers’ profile and clicking on Report. In this section, the teacher will be able to see who has accessed the courses or activities and the evaluation of each user in the course.

The LOs proposed here aim to make students acquire Olympic vocabulary in English in a joyful way. It is well-known that students learn better when they are having fun, so offering such activities in the language classroom may help foster the learning of Olympic vocabulary. As proposed by Krashen (1982), students retain what they learn when the learning is associated with strong positive emotions, as the ones present in a joyful environment.

6 I FINAL CONSIDERATIONS

The LOs are useful technological tools for teaching and learning that might benefit both teachers and students. The use of educational technology is real and motivates both students and teachers by creating a positive environment in the classroom. The creation of LOs focused on Olympism is a way of implementing the Olympic values and culture in Brazil.

The LOs presented in this paper were created, but not tested by the author with real students. They are simple examples of what can be done using authoring systems and vocabulary from a lexicon. In the future, we suggest the development of more LOs with other sports of the Olympics that may be made available for the use of teachers in public schools at elementary level, as well as the implementation of these activities in real-life situations in order to assess their applicability and validity.

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