

Design of a digital journal as a learning strategy for Veterinary Bacteriology

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Abstract

Nowadays, the teacher requires different strategies that allow them to take full advantage of the potential of the students in a constructive and efficient way, in order that they acquire significant learning. The use of work by projects as an educational strategy proposes to work in groups and strengthen the differences in their learning styles and skills. On the other hand, technology was used to strengthen capacities, collaboration and socialization. Therefore, the present work proposed the design and construction of a digital journal with students of the educational program of veterinarian and zootechnician, furthermore teams were integrated so that the approach of science and work by projects. The journal was covered by four sections: veterinary, cultural, sport and entertainment bacteriology. In addition, it was explained on the work by projects and the use of the Canva design platform. Finally, the students defined the name, the contents, the schemes and the images, among others. The dissemination and evaluation of the products created was carried out in the social network of Facebook in a closed group. This strategy made it possible to strengthen the teaching - learning processes, to show the active participation of learners, to increase motivation and creativity.

Learning, Projects, Journal, Technology

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1. Introduction

Education in the 21st century implies great changes in the way of teaching and instructing, teachers see the need to permanently build innovative proposals that promote learning, the desire to learn and student participation so that they feel an active part of the teaching-learning process and take your responsibility in society.

In this way, the present work proposes the construction of a digital journal in which the student will make use of elements of ICT, will strengthen the communicative and scientific activities from a cooperative and collaborative work, where each one participates actively in the realization of activities, from the study of the bacteria of veterinary interest.

In addition, it will demonstrate the learning not only of bacteriological area, but it will include sports, arts and entertainment. The construction of the proposal can be consolidated by motivating learners and guiding them in the search for information, in the use of ICT.

1.1 Justification

Academic performance is a concern inherent in teaching, so it is constantly sought to impact learning. Therefore, it is intended to investigate if the implementation of learning by projects can serve to promote the teaching - learning process, which leads to improve academic performance. This proposal aims to offer a teaching alternative that favors the meaningful learning of the students who take the subject Veterinary Bacteriology.

The present study seeks to integrate knowledge of science, culture, sports and entertainment. In addition to influencing the behavior of students, in the manifestation of affect, in their ability to critically understand the reality that surrounds them, in the development of specific skills for dialogue, self-direction, active participation, cooperation or tolerance.

1.2 Problem

The teachers of the University of Guadalajara observe a demotivation of the students for their learning. For what alternatives are sought that increase the desire to learn, the development of skills such as collaboration, project planning, communication, decision making, use of technology, among others.

The design of collaborative works encourages the active participation of students in the realization of activities. Hence, the development of a digital journal will increase their individual learning strengths, the development of collaborative activities to build knowledge and learn in a practical way the use of technology

1.3 Hypotesis

The elaboration and diffusion of a digital journal allows to raise the levels of learning and to develop the basic competences of the undergraduate students.

1.4 Objective

The objective of this research was to construct a didactic proposal for the students of the third semester of the degree in veterinary medicine, of the University of Guadalajara, for the teaching of bacteriology from a perspective of pedagogy by projects, using as a strategy the design and diffusion of a digital journal that entails an integral learning at the same time.

2. Theoretical framework

The new roles of the teacher and the student imply changes in the traditional ways of teaching and learning; In this context, teaching methodologies characterized by the protagonist role of the student in the challenge of learning are becoming important [Barba et al., 2007]. Hence the need to plate methodologies focused on the student, in order to foster critical reflection and lifelong learning.

Project Based Learning (PBL) has its roots in constructivism (Galena, 2006), which allows teaching to take action, where the learner, based on his previous knowledge, will build new knowledge that enriches and enhances his personal growth (Diaz & Hernández, 1999). The PBL is an educational strategy that exceeds the limits of the models of rote learning, proposes to work with groups of people and be strengthened from the differences in their learning styles and abilities.

The objective of the PBL is to develop competencies, by increasing knowledge, skills and values in an area of interdisciplinary content. The evidence of learning in this educational model is the design, development and dissemination of the product. ICT facilitate the creation, dissemination, evaluation and collaboration among users (Rosario, 2005). In addition, you can create digital journals since there are platforms or special software for it on the web. Digital journals allow savings in printing and publishing costs, include elements of high added value, have a high speed of publication and accessibility is very high (Torres, 2010).

For the aforementioned, this work addresses the construction of the school digital journal as a learning product that is shared on the web and where the participation of students is possible.

3. Research Methodology

It was proposed as a learning project the creation of a digital journal for students who took the subject of veterinary bacteriology, which is taught at the University Center of Agricultural Biological Sciences, University of Guadalajara. The product was developed in a collaborative way, integrating teams of three people and using the Canva design program with the accompaniment of the teacher. The strategy began with orientation to the students about the PBL, the design of a journal and the contents.

By consensus of the group the journal was named, the contents of the four articles that would conform according to the preferences of the members of the team were agreed, taking into account science, culture, sports and entertainment. The journals were evaluated through a rubric and shared on Facebook in a closed group for analysis and feedback.

A survey was conducted on the experience lived in order to know the influence of the design, development and dissemination of the journal on student learning.

4. Results

89.83% of the work teams completed their project on time and shared it. It was observed that 71.19% followed an order in the development of the work, 67.79% of the developed articles show a clear and pertinent content based on the information of the investigated topic, 64.40% have developed skills to work in a team, 42.37% of the journals were elaborated attractive and interesting .

The results of the survey showed that 10.17% mentioned that the responsibility among the members of the team was not shared, 37.28% identified and used the skills of each member of the team, 84.74% satisfied the work by projects. Regarding the CANVA program, 100% did not know it, 28.81% said they do not consider it friendly.

Some of the opinions expressed by the students after designing, elaborating, exhibiting and receiving feedback from their work were: developing their creativity with freedom (88.13%), increasing their knowledge and skills (71.18%), promoting participation and work in team (84.74%), the product was laborious, dynamic and enriching (81.35%), was fun (35.59%), allowed the development of tolerance (22.03%).

5. Discussion

The ABP encouraged a high percentage of students mainly because it allowed them an active participation with freedom to include other areas of knowledge. Escudero (2009) says that students are given a certain freedom to be creative, to introduce new changes, to plan for tastes and preferences.

According to the self-assessment, the students deliberated that the project of elaboration of the digital journal allowed to increase their knowledge and skills in veterinary bacteriology in one and in other interdisciplinary areas of interest (71.18%). The results of the research agree with those of Rodríguez et al (2010) with respect to the research process carried out by 30% of the students reporting that they had learned well and 60% very well.

6. Conclusions

The use of the ABP methodology was positive, since the students were involved in research, planning, organization and teamwork processes. Project work allowed students to build knowledge, develop skills and promote the strengthening of their values. In addition to strengthening their relationships to meet the goal and tasks entrusted.

The journals reflected a level of learning and a degree of creativity of the student in its creation. From the experience of the use of the Canva technological tool, it is clear that there was interaction between the participants both in its execution and in its dissemination. Using the social network Facebook for the dissemination of the journal allowed each student to receive feedback.

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