Empleo de historietas para reforzar el aprendizaje del nivel superior en UPIBI - IPN

Employment of comic strips as Reinforcement Learning of Higher Education in UPIBI-IPN

Usando desenhos animados para reforçar a aprendizagem em nível superior UPIBI - IPN

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Resumen

Las estrategias de enseñanza-aprendizaje son instrumentos en los que se apoya el docente para mejorar el aprendizaje de los estudiantes. Las historietas pueden ser una herramienta pedagógica que favorezca el aprendizaje, ya que se basan en la narración de una historia a través de una sucesión de ilustraciones que se complementan con un texto. El objetivo de la historieta en el nivel superior es contextualizar el tema que se está estudiando en clase.

En el presente trabajo se observó a 30 alumnos del área de ingeniería mientras elaboraban una historieta. Durante el proceso manifestaron habilidades gráficas y de redacción enfocadas en

facilitar el aprendizaje, poniendo en práctica su capacidad analítica y creativa, así como su comunicación oral y escrita.

Palabras clave: historieta, estrategia, aprendizaje, trabajo.

Abstract

The strategies of teaching-learning are instruments that support the teaching to improve the students as learners. Comic strips can be an educational tool that promotes learning, since is based in the narration of a history through a succession of illustrations that are complemented with a text. The comic strips at the top level aims to contextualize the topic being studied in class. In the present work 30 engineering students were observed while they made a comic strip. During the process demonstrated graphic and of writing skills focused on facilitating learning, putting in practice its ability to analytical and creative, as well as its oral and written communication.

Key Words: comic strips, strategy, learning, work.

Resumo

As estratégias de ensino-aprendizagem são instrumentos em que o professor é suportado para melhorar a aprendizagem dos alunos. Cartoons pode ser uma ferramenta educacional que promove a aprendizagem, uma vez que eles são baseados em contar uma história através de uma série de ilustrações que complementam o texto. Dos desenhos animados com o objetivo de nível superior contextualizar a questão está sendo estudada em sala de aula.

Neste estudo observou-se 30 alunos da área de engenharia durante o desenvolvimento de uma história em quadrinhos. Durante o processo expressa gráficos e editorial focada em facilitar as habilidades de aprendizagem, praticando suas habilidades analíticas e criativas, bem como comunicação oral e escrita.

Palavras-chave: desenhos animados, estratégia, aprendizagem, trabalho.

Introduction

Context

Often the teacher uses teaching-learning strategies to contribute to the implementation and development of skills in students (Pimienta Prieto J., 2012). Resources and educational materials are tools that the teacher can use to support their teaching task; the term "didactic resource" also is applied to all the elements that an education institution has, either infrastructure or all kinds of material, for example, audiovisual, bibliographic, etc (Díaz Lucea J., 1996).

The didactic resources are also the strategies used by the teacher during class and facilitate their teaching task. These include the organizational aspects of the session and the way the knowledge or content is transmitted. While the resources and didactic materials are not the most important elements during the process of teaching learning —we must not forget that the objective of education rests with students and the interaction between them and the teacher—, some of them are indispensable to carry out educational practice and knowledge transfer.

The term didactic resources or materials can be understood as those elements with different meanings, from a symbolic to a direct representation. Those teaching materials are incorporated to the teaching strategies to contribute to the construction of knowledge and provide meanings for the curricular concepts (San Martín, 1991).

In the case that concerns us, these resources, whose intention is support in the learning process, they are based on a symbolic meaning (texts, sounds, images) and in a material content (for example, software) to have access to the content of a particular subject. Those resources for learning fulfill a mediating function between the educational intention and the learning process, between the teacher and the student; also, the teaching resources involved in those educational processes, although in practice its implementation is not always easy; however, based on experience, it is possible to work in schools even without the support of textbooks.

The influence and advance of Information and Communications Technology have produced profound changes in the ways of teaching by incorporating methods and techniques for the sessions in class. These changes have influenced, additionally, in the teaching method since these new resources are used, that provide new techniques that optimize the training and offer other methods that facilitate learning (Bravo Ramos J., 2004).

From the point of view of teachers, to learn the benefits of the resources of new technologies and support them should consider the following:

Knowing the electronic media and be able to interpret and handle, that is, have the capacity of understanding software programs or employees, symbols previously agreed, intended to represent and transmit information between sender and receiver. The teacher must know the languages of communication that allow interpreting and developing the resources, including from the possibilities of written text and its formal organization on certain issues, to query web pages. You should also stay constantly updated to know how to use, ie, know its operation from the technical point of view, when the resource is already made, or to be able to develop them with the mastery of the specific technique for its realization. In addition, you must acquire the ability to apply them in concrete learning situations, ie what you want to teach, because without proper use strategy would be of little use of electronic resources, for example, if an educational video will be used how good this was the expected result is not obtained.

Any media can be converted into a teaching if it meets or supports the objectives of learning, but its effectiveness will be greater if it adapts to the needs of the subjects. For any remedy or electronic media it requires planned effective method of use, which is based on the specific characteristics and needs of each subject.

The teaching materials and resources must meet basic support functions curricular content and become elements that facilitate the teaching-learning process. From this point of view and as Diaz Lucea J. (1996) points out, it can be said that different teaching materials and resources must comply mainly with the following functions:

- Motivating Function: teaching materials and resources must be able to capture the attention of students through shapes, colors, touch, actions, feelings, and so on.

- Structuring Function: must have the ability to create links in the student between reality and the knowledge that is acquired.
- Strictly didactic function: there must be consistency between the material resources that can be used and the aims of education.
- Facilitative role of learning: a range of materials should be available for learning to occur.

The materials used during classes help to bring out and guide the teaching action in the transmission of knowledge or learning considering their choice depends on the particular needs, rules in academic programs and student characteristics.

There are two types of learning resources:

- The curriculum materials. Its purpose is to help develop the curriculum, both for use by teachers in their task of teaching, as students in their learning task.
- Material resources. It aims to facilitate the teaching and learning activities, such as print, audiovisual and computer (Mena Marchán, 2001).

At this point, printed materials can be interpreted as support materials that do not directly develop a curriculum content in concepts, procedures and attitudes, but that guide in the classroom or reference for the student. Reflecting on our teaching work is valid ask the following questions: what is worth teaching? and how do we present content to students?

Educational institutions should develop tools and methods that facilitate learning and the teacher's task, and the assimilation of knowledge by students. Because of its communicative potential, the educational use of cartoons and comics can be a very attractive alternative. Comics allow:

- Develop social skills, attitudinal and communication skills through images.
- Exercise the ability to understand and interpret schematic representations of reality. Exchange opinions and views on the message that is intended to convey the author, using

appropriate arguments to validate or refute views or specific approaches, and use creative skills in a fun and engaging environment.

Cartoon is a cultural product that works as a mechanical hidden persuasion, assuming the posture of evasion receptor that stimulates immediately the qualities of the creators. Comics mostly reflect the implicit pedagogy of a system and work to reinforce existing myths and values (U. Eco, 1972). The cartoon is one of the largest media acceptance by teenagers. The illustrated stories that enliven the comic within the educational field conducive to learning because they start from the telling of a story (context) through a series of illustrations that are complemented by a written text; the author organizes cartoon story he wants to tell distributing a series of spaces called vignettes, while the text is usually contained in what is known as balloons (E. Baur, 1978).

You can use comics to cartoons or as resources for teaching and learning in the classroom. As Martin A. (1978) points out, the cartoon can be defined as a story told through pictures and interrelated texts, which represent a progressive series of significant moments according to the selection made by the narrator history. This remark supports the fact that if the illustrated stories that bring to life the stories are built within a referenced in its plot frame and in a targeted manner, whether they are class issues, these materials can be a good teaching resource in the classroom.

Cartoon or comic is on the one hand, a mass media, mass media and on the other hand, a system of meaning with its own specific code that spreads massively or not. Therefore, the comic is aimed at a large number of people to influence them more or less directly.

Cartoon or comic arises primarily as a tool to entertain and amuse, but social needs forced the cartoon to gradually enter the area of education, trying to teach through delight. The resources used for this purpose can be multiple, for example, you can highlight the identity of a certain ideology emphasizing character, attitude and projecting a particular value. Since illustrated stories are a means of communication highly accepted by adolescents, it is possible to use them as educational resources. To do this, put aside the negative opinion that states that comics

encourage the student distraction that its contents are banal and without much significance, and just entertained without contributing anything really benefit the reader.

From the educational point of view, the cartoon can be considered a cultural product ordered, reflecting all relevant aspects and values of our society, such as aggressiveness, strength, courage, family, among others. This helps to know which aspects are still valued, which have changed or which have been incorporated are. the element of persuasion also present, through messages which sometimes are presented subtly or not understandable at first glance. The cartoon can also be used to strengthen myths, values or situations considered as positive or acceptable for certain groups or social interests.

Another important feature cartoon or comic that is used as a teaching resource is that it helps to make a visual analogy process. That way you can set generalities from relationships established between the character, environment and ours.

The goal is to capture cartoon speech by the thought of the characters through a series of stories that can function as the contextualization of a subject under study, based on creativity and student participation.

the freshmen were asked to electrical engineering career which activities carried out in their spare time were. Among the respondents, he said reading books, magazines and comics.

Development

We worked with a group of 30 students of the third semester of studies of biomedical engineering that is taught within the UPIBI, for which the guidelines of work at the beginning of the semester were established, then the activities to be developed along mentioned thereof, among which it highlights the development of a cartoon.

For drawing cartoon stages of implementation according to the learning process and progress in the semester they were established.

Stage one. In the classroom theoretical aspects related to power generation, care in handling electricity, the characteristics of electrical installations were handled, and exercises resolved in electrical circuits in series and parallel connections.

Stage two. students who will make up teams of approximately 5 students were asked. Once organized teams and adherence to class issues, instructions for performing a cartoon in the classroom were given; for it is asked to use letter-size sheets of paper, which could be colored or white. The cartoon must have a maximum length of 10 pages, minimum two panels per page, color illustrations or white and black, dialogues in balloons, a cover and a back cover where they should list their names, also considered an estimated one-hour time average for implementation (figure 1).

Figure 1. Materials used for making cartoon.

Stage Three. Once specified the characteristics for the production of the cartoon, was taken as a starting point the following context:

"In the previous chapter, the hero Super Electron falls into the hands of the fearsome power loads gourmand who plan to end the electrical substation, electric power resource electromechanical UPIBIANA planet in the galaxy."

Stage Four. Once given the indications and context finally to students who work roles assigned to each of the team members, so that all involved in the development was requested. They were also asked to nominate artists and writers.

And subsequently throughout the hour and a half class, teams went to work to develop cartoon (Figure 2).

**Figure 2.** Comic covers.

Evaluation

Once the teams prepared their stories, shared with each other for peer assessment, considering the following criteria:

1. Creativity.
2. Relevance to the themes of the subject.
3. Consistency in the story developed.

95% of students said that the final product was quite creative and allowed them to express themselves artistically in drawing and narrative.

The remaining 5% of students in the group expressed difficulty expressing through this activity considering that handles abstract concepts, so he said to prefer mathematical operations or laboratory tests.

On the other hand, 98% of students said it is a challenge for them to represent abstract concepts in an activity hitherto unknown as a means of study and strengthening of basic concepts (Figure 3).
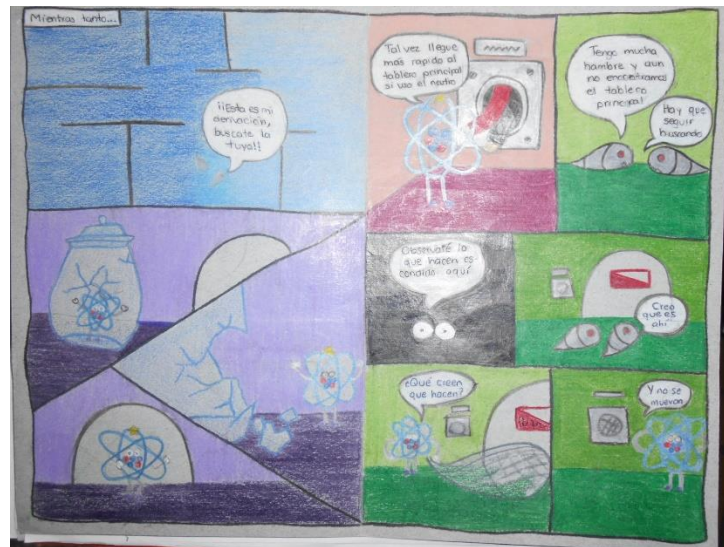
Figure 3. Content cartoons.

Meanwhile, 2% of students were indifferent to the activity.

100% of students drawing cartoon allowed to do group work with which they expressed their emotions, develooped their identity with the AU and reinforced the themes seen in class creative and fun in an environment of respect and tolerance, as each team member contributed ideas for the project.

Later the students to give their opinion on use comics as didactic support for the various subjects were asked. Some of his views were as follows:

1. The figures relate to the concepts of electron, voltage and current, and history with the electrical effects.

2. The concepts we see in the subject and the characters are related, besides reading allows us to relax.

3. It was a challenge to invent the story, but in the end was fun and helped us to better assimilate the theoretical concepts.

4. We learn in a different and fun way in which we all work and support us.

5. It is a good way to teach because it brings many benefits.

6. This activity allows us to express our artistic side, which is rarely used in our career.

Based on the results obtained during the process of developing the cartoon, we can say that it is feasible to use it as a learning tool, but it is necessary to consider the following:

When the student produces cartoon implements various skills and knowledge, which is reflected when posed the story, environments, colors, size and characteristics of the characters. It also highlights written communication skills in dialogues used and the connection between the topics covered in class, as well as the consistency of the story.

The development team cartoon is a form of study for students involved. On the other hand, if the material already completed is also used as an instrument of study it is possible for students to better understand abstract concepts or procedures of the subject.

The use and application of comics as a teaching resource can cover all branches of knowledge, provided the teacher knows the time and type most appropriate intervention. Overall, this teaching resource is well received by students, although many teachers are still reluctant to implement it.

Conclusions

Cartoon use as a teaching resource within higher education reinforces the knowledge of pleasant way, opening communication links between students and teacher. That appeal is not opposed to deep research or reading books as it is based on concepts previously studied in the classroom.

The development and use of cartoon can reinforce learning of students, plus it is a resource that integrates innovative teaching and learning different skills and ways of communicating different topics of the curriculum.

On the other hand, it allows teachers to explore new teaching resources if they cast aside their prejudices. If from the start is raised, organized and implemented in a timely manner, it is a very useful tool for teaching and learning. The comic is a way of entertaining reading invites interested in school issues through the world of fantasy.

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