

Pacheco-Cortés & Morales-Salas, 2018

Volume 4 Issue 2, pp. 1463-1474

Date of Publication: 20th September 2018

DOI-<https://dx.doi.org/10.20319/pijss.2018.42.14631474>

This paper can be cited as: Pacheco-Cortés, A.M. & Morales-Salas, R. E. (2018). Students' Perceptions about Their Learning Process With the Use of Learning Objects. PEOPLE: International Journal of Social Sciences, 4(2), 1463-1474.

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STUDENTS' PERCEPTIONS ABOUT THEIR LEARNING PROCESS WITH THE USE OF LEARNING OBJECTS

Adriana Margarita Pacheco-Cortés

Instituto de Gestión del Conocimiento y del Aprendizaje en Ambientes Virtuales, University of Guadalajara. Guadalajara, Jalisco, México
adrianap@cencar.udg.mx

Rubí Estela Morales-Salas

Instituto de Gestión del Conocimiento y del Aprendizaje en Ambientes Virtuales, University of Guadalajara. Guadalajara, Jalisco, México
rubi.morales@suv.udg.mx

Abstract

Although many teachers and students are used learning objects (LO), however, we unknown the students' perceptions of LO used, we need to know if they identify that this materials facilitates their learning. The general objective study was analyze students' perceptions about their learning process with the use of LO in a group of master class by surveying. This research has been base on qualitative and quantitative research methods, for the data collection instrument used was a survey to evaluate and analyze the perceptions of students, each of the rating questions used a 4-point Likert-type scale, respondents were students from a master's group, individual student responses the survey. At this moment, the data were used for evaluation of students' perceptions. To accomplish this, the individual ratings were summed and averaged. Further statistical analysis to examine the student's perceptions of significant perceptions about statement of research problem was also conduced. The results of the survey explored show that students who were part of the study group perceived a significant increase in their learning with

the use of learning objects, and the student research skills too. It is observed that the students' perception on the LO use, it was found that 40% of the participants indicated that they are agree that LO facilitated their learning, 30% affirmed that they are totally agree, 20% declared to disagree and 10% strongly disagree. The results of the survey revealed that most of the participants (70%) have a positive perception about the LO used.

Keywords

Learning, Learning Object, Perception, Multimedia Materials, Teacher Developed Materials

1. Introduction

In the present writing is described the theoretical foundation that sustains this study. In its structure we find a literature review and research questions. The concept of LO, research's related to the use and application of LO in best practices with the use of technology. Some approaches to learning with the use of this type of materials are addressed. As well as the purposes of the research that provide guidance and delimitation. Based on the above, the particular historical and social moment of the institution makes sense in the process of change, which is why the need to integrate the use of LO into educational programs is justified.

Many teachers and students are using LO, however, we unknown the students' perceptions of LO used, we need to know if they identify that this materials facilitates their learning. Pacheco- Cortés (2015) noted that a LO is a digital educational material that has a goal, at least a learning activity, content and an evaluation. LO is related to an educational activity suggested as an innovative technology-based task. This materials are smaller units and reusable.

Hetherington & Wegerif (2018) argued that there is a gap in the way that teachers think about the role of materials, they do not consider the relationship between the material resources they deploy and the learning. On the other hand, what is the students' opinion about the use of learning object as a material resource in the achievement of their learning? For this reason, the purpose of the study was to explore the students' perceptions about the use of LO to facilitate their learning process in a group of master class that may have contributed to improve the development of digital educational materials, such as the LO.

General Objective

- Analyze students' perceptions about their learning process with the use of learning object.

Specific objectives

- Identify in a group of master students if a learning object facilitate their learning.
- Evaluate the students' responses to the use of a learning object to improve digital educational materials to facilitate learning.

1.1 Statement of the Problem

Zulkifli (2013) specified that the students agreed on the learnability with the use of the LO. However, at the University of the Study, we are unknown the students' perceptions about their learning process with the use of learning objects. Also identify in a group of master students if a learning object facilitate their learning. The students respond to the use of a new digital educational material. Can we learn more and better with the use of technology?

1.1.1 Research questions

General Question

What are the students' perceptions about their learning process with the use of learning objects?

Specific questions

How identify in a group of master students if a learning object facilitate their learning?

How did the students' responses to the use of a learning object to improve digital educational materials to facilitate learning?

2. Literature Review

Zulkifli (2013) did an evaluation about the use of the LO was conducted among 30 students. The results indicate that the students agreed on the learnability, usefulness, ease of use, functionality and effectiveness, satisfaction and outcome/future use of the LO. The potential use of LO for teaching and learning is discussed.

Yeni & Ozdener (2014) noted that the teachers it was seen that most of them exhibited positive attitude toward learning objects. These authors, also, considering the factors affecting selection of learning objects, it would be an important step to provide support to creation of learning object, with high explanatory quality and exercise opportunities, for development and spread of this type of materials.

Akpinar (2014) evidenced on the learning effectiveness of learning objects used in two types of study settings: Collaborative and individual. A total of 127 seventh and ninth grade students participated in the experiments. The observation data showed that though the learning objects were primarily developed for individual use, they may also help students working in

peers. The study provided evidence that using the learning objects in collaborative and individual mode is possible and designing and developing learning objects for the use of multiple modes is crucial. Implications on collaborative learning objects are discussed.

Bütüner (2016) this study aimed to reveal the effects of teaching with learning objects on student achievement. This author findings from the written opinion forms suggested that the students found the activities to be instructive and fun, enjoyed using concrete models in their classes, and learned from discovering the rules. It was also found that students had previously not engaged in similar activities.

Alvarenga, Ginestié & Brandt-Pomares (2017) investigated a Brazilian and French teachers about the existence of statistically significant relationships between personal variables and the variables related to the use of objects. The two main reasons for educational use were to motivate the students for their studies and to help them in the learning of new concepts based on the features of the objects.

These authors noted that the data reinforces the teaching strategies that contribute to the knowledge construction process in an interactive way, while taking into consideration the characteristics of technology.

Chapman-Waterhouse, Silva-Fletcher & Whittlestone (2017) examined the increased demand from learners in higher education to access resources flexibly has resulted in considerable development in the use of reusable learning objects via a blended learning. Some of the variables which have been measured are students' choice to use and the impact on student performance.

These authors considered a positive effect is likely to occur following LO use because the students have adopted a process of active engagement, which the authors know can bring about a deeper approach to learning.

For Luckin (2018) the educational technology is looking for the best ways to use technology in the classroom. However, there are few resources that "Enhancing Learning and Teaching with Technology" brings together researchers, technologists and educators to discuss how technology can be designed and used for learning and teaching to best effect.

In México Adame & Llorens (2016) promoted the use of learning objects and open educational resources for best practices.

2.1 Literature Analysis

Zulkifli (2013) indicated that the students agreed on the learnability with the use of the LO, Bütüner (2016) reveal the effects of teaching with LO on student achievement. Alvarenga, Ginestié & Brandt-Pomares (2017) this useful contribute to the knowledge construction process in an interactive way.

3. Methods

This research has been base on qualitative and quantitative research methods, for the data collection instrument used was a survey to evaluate and analyze the students' perceptions about the use of a LO. Survey design was applied. Creswell (2014) mixed methods approach is pragmatic knowledge claims, collection of both quantitative and qualitative data sequentially. The study design was explanatory sequential mixed methods.

3.1 Participants

A diagnosis was made, the sample group was a students of the Master's Degree in the first semester of Business Administration of a University of the west of the Mexico. The ratio of the target population was 70% of the students was male and 30% female. Their average age was 29 years old. All participants were required to use the LO.

3.2 Instruments

For the quantitative data-collection instrument was a survey with 12 close-ended questions and 2 open questions. The rating of each 12 questions used a 4-point Likert-type scale, respondents were students from a master's degree group, individual student responses the survey.

For the qualitative data collection instrument was a semi-structured and personalized interview with 8 open questions.

3.3 Materials

To collect the data for this research a LO was used. The goal of the LO was facilitated the students' learning considering the many opportunities offered them to develop the students skills in statement a problem in a research that they have to propose. Although, to document the students' perceptions about their learning process with the use of LO in order to understand what this material look like and help students manage their learning experiences and digital learning spaces.

Learning objective of the LO

The student will define a process of conceptualization about a research problem with at least three elements that integrate an approach in order to integrate it into his research

The LO consists of several moments:

- a) Recovery of prior knowledge with a brainstorming strategy, the students express their ideas orally at the group for statement of research problem, see the figure 1.

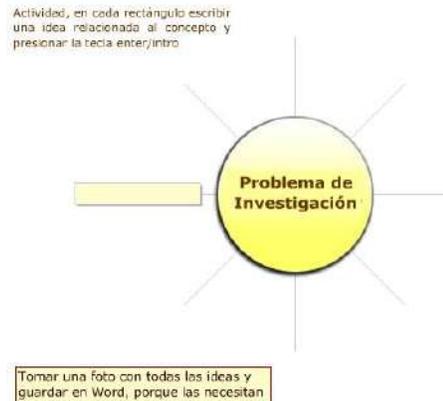


Figure 1: *Brainstorming strategy at the group*

- b) Definition of research problem. After the teacher writes all the students' ideas in the LO. In the group they construct a definition of research problem
- c) Compare/contrast the group definition with two definition's authors.
- d) Identify similarities and differences (students) about the research problem conceptions. Then the teacher write all the similarities and differences that the students identified between the definition that was structured in the group and two definitions of the authors.
- e) Identify examples and not-examples of real problems. Then, the students identify which problems are examples and which are not.
- f) Identify of the elements that contain a research problem. After, the students identify the elements that contain a research problem
- g) At the end of the LO. All the students socialize their research problems between peers.

3.3 Procedures

Creswell (2014) pointed that the explanatory sequential mixed methods involves a two phase research in which the researcher collects quantitative data in the first phase, analyzes the results, and then uses the results to plan (or build on to). The second, is a qualitative phase, the qualitative data help explain in more detail the initial quantitative results. In this research was applied this explanatory sequential mixed methods, in the first phase was applicate a survey,

analyzes the results and the qualitative phase applied an interview. The above was done to answer the general research question.

Creswell (2014) declared a survey procedure: (a) instrument for data collection, (b) sample, (c) variables in the study and (d) data analysis and interpretation. In this case, (a) for the quantitative data collection was applicate a cross-sectional survey design, in this type of survey the data collects was at one point in time. The instrument was an existing validated instrument and it was modified, after a content validity was carried out by 5 experts. (b) The sample was a random group. (c) The variables in this study was the students' perceptions, learning object and learning. (d) See section 5.

For the qualitative data collection a semi-structured and personalized interview was applied to the students.

The general procedure study consisted of five steps: (1) literature review, (2) design and development the LO (statement a problem in a research, see section 3.3), (3) use the LO in class, (4) apply the measurement instrument (survey and analyzes the results with descriptive analysis), (5) analysis and triangulation of all the research data. After, to complement the qualitative data an interview was applied.

4. Results

4.1 Quantitative results

In the results of the survey explored show that students who were part of the study group perceived a significant increase in the areas of students' learning and their students' perceptions were developed research skills.

As can be seen from Figure 2, only 10% of the respondents strongly disagree that LO used facilitated their learning.

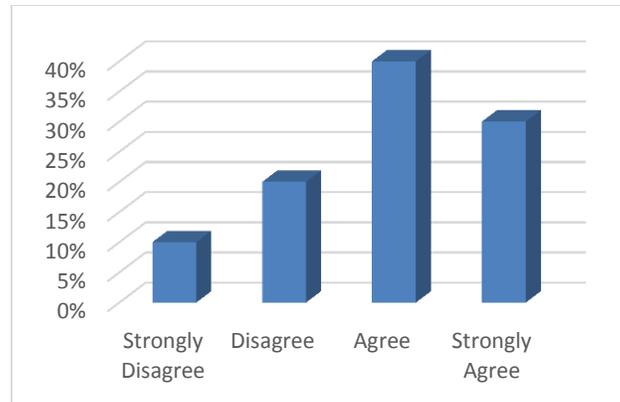


Figure 2: *Percentage of participants who know how use of the learning object for facilitated their learning*

Figure 2 shows one of the results, it found that 40% of the participants indicated that they are agree that LO facilitated their learning, 30% affirmed that they are totally agree, 20% declared to be disagree and 10% strongly disagree.

Another result shows in the figure 3, is the answer of a other question, that 20% of the participants indicated that they are agree that learn the content with the LO used, 60% affirmed that they are strongly agree, 10% declared to be disagree and 10% strongly disagree.

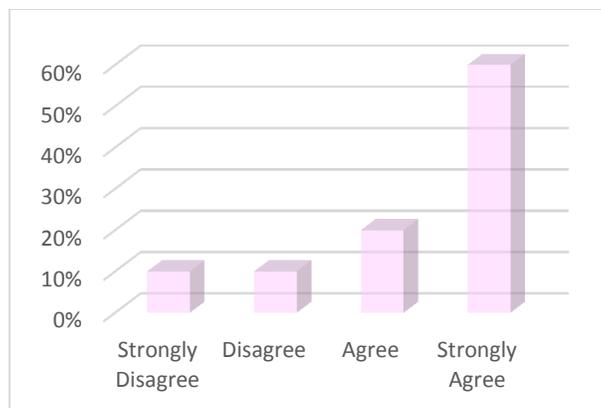


Figure 3: *Percentage of respondents who know how learn the content with the learning object used*

Other finding is presented in the figure 4, 30% of the participants indicated that they are agree that enjoy the LO used, that they would like to learn more about the subject and 20% affirmed that they are strongly agree. Nevertheless, it is a split opinion because the 30% declared to be disagree that they enjoy the LO used and 20% strongly disagree.

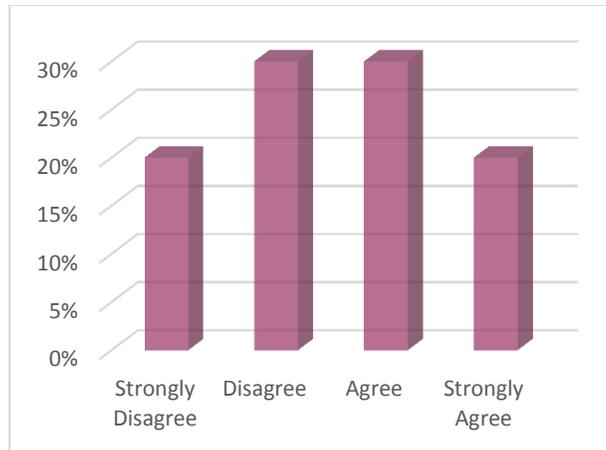


Figure 4: *Percentage of participants who know how to enjoy the learning object used and they would like to learn more*

In the figure 5, another finding is presented, that 60% of the participants indicated that they are agree that the use of LO developed their skills in statement a problem in a research, 20% of the participants indicated that they are strongly agree that development their skills with the LO used, 10% affirmed to be disagree and 10% declared to be strongly disagree.

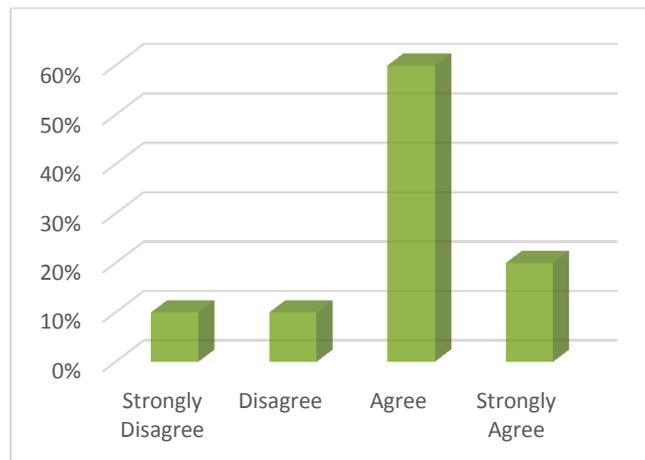


Figure 5: *Percentage of respondents who know how developed their skills in statement a problem in a research with the learning object used*

Based on these results, favorable environment, particularly considering the many opportunities offered to the students to learn to statement a problem in a research.

4.2 Qualitative results

According to the results of the interviews conducted face to face to each one of the students that make up the master group, it was found that 80% of these:

- a) The students are agree to use LO to facilitate their learning process.
- b) They felt that they understood in a fast and concrete way the conceptualization process.

- c) They had fun using this type of LO
- d) They like to interact with digital objects, because they feel that they are using current technology.

The 10% of the students of the master group, affirmed that:

- a) The LO is good, however, they can replace the learning by readings or exhibitions by the teacher.
- b) They feel that the activity takes a long time to use the LO.

Thus, 10% of the rest of the master students said that:

- a) They found it a slow activity and prefer to opt for traditional methods of learning: exhibition, readings, individual research on the subject, among others.

In general, the students of this graduate group reported that the LO can have certain improvements in terms of its presentation, and practicality to move from one section to another. Very important comment to improve this LO.

5. Analysis and Discussion

The study about the students' perceptions about their learning process with the use of learning objects was conducted to investigate the views of master students with respect to LO used as a learning process in relation to other learning options that are likely to compete for their attention.

One of the results, it found that 30% of the students' perceptions affirmed that they are totally agree that LO facilitated their learning, 40% of the participants indicated that they are agree, 20% declared to be disagree and 10% strongly disagree. The total of those who are agree and totally agree that LO facilitated their learning is 70%. This percentage of students give the importance of LO used to research problem conceptualization.

Zulkifli (2013) did an evaluation about the use of the LO was conducted among 30 students. The results indicate that the students agreed on the learnability, usefulness, ease of use, functionality and effectiveness, satisfaction and outcome/future use of the LO. The potential use of LO for teaching and learning is discussed.

From the above it is inferred that LO is usefulness, learnability and satisfaction outcome/future use of the LO. At least 70% of the students of this study confirmed that LO facilitated their learning. So we need to use the LO as technology for learning and teaching.

The findings of the survey explored show that students who were participated in the study group perceived a significant increase in the areas of students' learning and students' research skills. It was observed that the students' perception about the use of the LO are good.

6. Conclusion

The results of the survey revealed that most of the participants (70%) have a positive perception about the LO used, they confirmed that LO facilitated their learning.

Akpinar (2014) evidenced the learning effectiveness of learning objects used in two types of study settings: Collaborative and individual. The observation data showed that though the LO were primarily developed for individual use, they may also help students working in peers. The study provided evidence that using the LO in collaborative and individual mode is possible and designing and developing LO for the use of multiple modes is crucial. Implications on collaborative LO are discussed.

In this research, the results of the survey explored show that the 70% of the students group perceived a significant increase in the areas of student learning, as well as the research skills of the same.

On the other hand, the future research can extend to teachers' perceptions and the knowledge boundaries of this research by taking a larger sample.

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