PERCEPTION OF THE USE OF VIDEOGAMES AS A TEACHING RESOURCE

The case of students of education at the Autonomous University of Chiapas

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ABSTRAC

Rapidly changing times and conditions demand new skills in all professions in order to cope with emerging challenges. In the context of the knowledge society teachers and future educators should attend issues relating to the needs and characteristics of today´s students, digital natives who are expecting learning environments that most schools are not offering, such as new ways to access knowledge available in the network that so far have not been taken into account by the educational institutions. Video games represent a potential learning resource absent from the classrooms probably due to the lack of discussion with regard to their educational benefits. In this paper the results of an investigation conducted with pedagogy students at the Autonomous University of Chiapas about their perception of video games as a teaching resource is presented as a study case. The research approach was made through a survey. The main findings of the study show that students perceive the use of video games as for leisure, entertainment or even for self reward purposes but not as a potential learning resource.

It is important to highlight that this approach helps pave the way, to explore the issue of teacher training in Information and Communication Technologies from different angles and discuss the future of education in network society.

Keywords: *videogame, teacher training, perception, teaching resource, conceptions.*

Living in the society of knowledge is a reality that cannot be ignored, from the evidence of access to information that most of us have and which results in the introduction of new practices in communication and information management. Interpersonal relationships have changed their ways of interaction, and many advances in various fields of knowledge have been occurring at breakneck speed. These changes, however, do not occur in the entire population; the subsequent digital divide and information gap are terms that are widening differences in access to and use of information (Vega-Almeida, 2007), but are part of this world that in their eyes appear confusing and unstable, because the certainty of stable knowledge gives way to uncertainty, a situation that we are probably not used to.

The recognition of this uncertainty in a complex world (Morin, 1999) is part of this new way of living in which we find ourselves and that may seem a little complicated to understand for those who, through access to certain information, are transforming the stable version of reality that changes at a dizzying rate. Moreover, as a result of the accessibility to information and communication, knowledge and how that knowledge is no longer in the hands of a few and comes from various sources they are acquired, perhaps outside of the control of school or family, which for some makes for a difficult educational process, particularly in the context of the school.

Information technologies are changing traditional practices, like it or not, with students and we cannot ignore these changes that occur in the so-called network society (Castells, 2011), which have a significant impact on the way teaching is organized, resulting in interest from some teachers to learn, incorporating Information and Communication Technologies (hereinafter ICT) in teaching strategies that occur in the classroom. This new condition can be an alternative to break the monotony and tedium that characterizes certain school spaces that have little congruence with what happens outside of them.

It is important to consider that although it is not a generalized situation, due to unequal access to technology resources, there are some areas of shared concern to modify repetitive practices of teachers who remain in the comfort zone of their unchanged teaching practice, covered by the confidence of knowledge, as something that is finished- something that is transmitted and not built.

The Digital Skills for All Project (Proyecto de Habilidades Digitales para Todos-PHDT) is a sign of the importance that our educational system is in the process of incorporating ICT to educational practices at the basic level with specific actions, relating equipment and training of the teaching staff as has been happening in Latin America, hoping that the students have a more active role.

This project aim is the formation of learning communities involving all educational actors that build their own knowledge. Through the Explore platform, students can also interact with the use of ICT, with an impact on school performance and achievements.

Francisco, who was quoted by Pallares (2014) reflects on these issues, with particular attention to changes in education with the emergence of a new type of student with greater creativity, which requires large doses of motivation to learn and where images are of such a high value as the world of written language. It is from this characterization of students that it must recognized the importance of the incorporation of technology to solve the challenges confronting us posed by old teaching practices. There are other challenges that must also be addressed as those related to the sociocultural environment, the cultural capital of each student and the ways in which information is selected and processed to understand and learn.

Therefore, retaking the proposal by Dussel and Quevedo (2010) the problem of equipment is not the only thing to worry about, although it is a necessary requirement but it is not sufficient, rather the presence of a symbolic and cultural mutation involves the basis on which the school is built, (p. 11).

In this sense we can consider that the concern does not focus exclusively on providing technology infrastructure, but what to do with it, not to be in the mere recovery of the same content in new formats, but to deal with, reflect on and propose alternatives for teaching with more significance with respect to the integral development of students

New methodological proposals address the problems with communication strategies through social networks, email, forums, chat and other resources. Others have insisted on more structured models, such as learning communities or collaborative learning models. Some of these proposals are in line with the statement made by Coiro (2003) regarding the utility of the Internet, which states:

> The Internet provides opportunities for interacting with new text for- mats (e.g., hypertext and interactive multiple media that require new thought processes); new reader elements (e.g., new purposes or motivations, new types of background knowledge, high-level metacognitive skills); and new activities (e.g., publishing multimedia projects, verifying credibility of images, participating in online synchronous exchanges) (p. 459)[1].

A proposal that is increasingly growing in strength is introducing the use of video games in the classroom to promote learning, but first we must face the myths relating to them regarding addiction and violence, and secondly for the poor preparation teachers have in this sense, being a young area in process of construction. For example Bernart (2006), noted that although games have received much criticism, it is also relevant to reflect on the role that these younger generations have as gateways to ICT. This indicates that the concern for a more serious study of the use of video games for educational purposes has been around a long time, and although most were not created for teaching purposes, the revision of its characteristics has identified a use beyond en-

tertainment whether to develop motor skills, socialization, and disciplinary knowledge, among others.

From the Grup F9, quoted by Bernart (2006) it is stated that games promote a set of skills including the following: instrumental, for resource management in multimedia environments, and for communication and for criticism, among others. With this statement, which is a result from the research generated in this field, other points of view are opened to consider the possibilities of learning from and with videogames. For Revuelta and Guerra (2012), video games:

> "… are technological tools that are fully integrated into society. They are a current vehicle of culture in society -we must build on that momentum as something positive as we begin to start building new learning systems. There is a pending issue in the inclusion of ICT in the classroom, with this being a difficult challenge for the seemingly ludic character and being reviled by mass media even though it is a tool present in almost every household (p. 2)."

It is pertinent to think that it is a pending case, because although there are already many experiences of working in all levels of education, using videogames as a teaching resource in the sense of being elements that help to foster meaningful learning experiences – while there still exists classroom spaces. Whether either for poor preparation of teachers or by the limited access to technology or the lack of consent of the parents- their use is debated, controversial and difficult to implement.

THE GAME AS A TEACHING RESOURCE FOR STUDENT TEACHERS

Following concerns about the application of video games in education, in the last decade, there has been a marked increase in research on its usefulness for educational purposes and it has been

concluded that they can play a formative and significant learning function in understanding the complex situations of reality, and achieve a dynamic generation of knowledge.

Efforts to implement change from the paradigm of the smart classroom with a connectionist version of learning, makes video games an object of serious and relevant study in the society of knowledge. Mathematics, science, values, and socialization skills are just some examples of applications in schools and it would be worth reconsidering the stage from where school knowledge does not devalue such a common activity in some students - the use of ICT in their daily lives.

If video games can be considered as a complementary teaching resource in educational practice, we can reflect and search for answers to the following questions:

Do students of education perceive the possibility of using video games as a teaching resource and strategy?

To what extent perceive that joining the teaching practice can affect the academic performance of students?

Does prior knowledge of the use of video games be a reference for understanding them as a teaching resource?

Is the specific training they are receiving be a variable that affects the perception of videogames as a teaching resource?

In an investigation carried out with a sample of 20 students in 5th semester of the Bachelors program in Education at the Autonomous University of Chiapas in the school year from August

to December of 2013, we set out to know their perception about using videogames as a didactic resource.

To account for this perception, we used a survey as a technique and a questionnaire of 14 questions as an instrument, of which 9 questions were open and five closed. This combination was due to the need to know firsthand student data that cannot be pre-encoded such as the names of their favorite video games or what they thought they had learned from them during their use.

This instrument, applied in writing, allowed to know the time they had as a gamer, the age they started, the number of games they know and preferences and experiences in the use of videogames. There were also inquiries about their expectations in their use in education and some considerations of videogames unfit for education. The Statistical Package for Social Sciences (SPSS) was used, with the use of descriptive statistics for processing the data.

RESULTS

Regarding the sample: The choice of the sample was based on the willingness to participate, and only gamers with more than three years of experience were considered. It should be noted that of the total group, more than 50% , did not agreed to answer the instrument, since they did not have this requirement and some argued they were not addicted and were not interested in knowing about videogames. This situation is interesting to analyze, because there are a number of prejudices in the use of video games as something that should be avoided to avoid falling into situations beyond control.

Meanwhile the student's that were surveyed showed willingness and interest in the investigation , noting the time spent on video games in their daily lives and the moment they started this type of activity.

The age of the students ranged between 20 and 25 years, with an average of 21.6, of which 60% (f. 12) corresponding to the female gender, while 40% (f. 8) to the male gender**.**

Age of onset of video games

Regarding the age of first use of video games, 33.3% (F. 4) of women and 50% (.F .4) of men said that in the range of 5 to 8 years; meanwhile 50% (f. 6) of women and 25% (f. 2) of men said that began in the range of 9-12 years. 16.7% (f. 2) of women and 25% (f. 2) of the men said that they began between 12 and 18, as seen in the following Table 1.

Table 1: Age when first started playing videogames

			At what age did you begin playing viedogames?			
			5 - 8 years old	9 - 12 years old	12 - 18 years old	TOTAL
SEX	Female	Count	4	6	2	12
		% of sex	33.3 %	50.0 %	16.7 %	100.0 %
		% of total	20.0 %	30.0 %	10.0 %	60.0 %
	Male	Count	4	2	2	8
		% of sex	50.0 %	25.0 %	25.0 %	100.0 %
		% of total	20.0 %	10.0 %	10.0 %	40.0 %
TOTAL		Count	8	8	4	20
		% of sex	40.0 %	40.0 %	20.0 %	100.0 %
		% of total	40.0 %	40.0 %	20.0 %	100.0 %

Source: questionnaire perception of video games as a teaching resource

The number of games that are known:

41.7% (f. 5) of women and 12. 5% (f. 1) of men said they know of 0-10 games, 8.3% (f. 1) of the women and 37.5% (f. 3) men said they know 11-20 games; 25% (f. 3) and 12.5% (d. 1) of men know of between 21 to 30 games and finally 25% (f. 3) of females and 37.5% (f. 3) of men know of over 30 videogames although they have not played them . Thus we can say, that even if a significant number of women know about video games, the proportion of men who know over 30 is higher than that of women, as seen in the second table.

Table 2: number of videogames that are known but have not yet played

			indicate the number of videogames that you know although you have not yet played them				
			from 0 to 10	from 11 to 20	from 21 to 30	more than 30	TOTAL
SEX	Female	Count	5	1	3	3	12
		% of sex	41.7 %	8.3 %	25.0 %	25.0 %	100.0 %
		% of total	25.0 %	5.0 %	15.0 %	15.0 %	60.0 %
	Male	Count	1	3	1	3	8
		% of sex	12.5 %	37.5 %	12.5 %	37.5 %	100.0 %
		% of total	5.0 %	15.0 %	5.0 %	15.0 %	40.0 %
TOTAL		Count	6	4	4	6	20
		% of sex	30.0 %	20.0 %	20.0 %	30.0 %	100.0 %
		% of total	30.0 %	20.0 %	20.0 %	30.0 %	100.0 %

Source: questionnaire perception of video games as a teaching resource

The reasons for playing

This question was designed to as an open question so that students were asked to list three reasons why they play videogames,

encoding the respondents in three options, namely; the first as a distraction, likes and skill, the second as a distraction, relaxation and pass time and the third for fun, likes and exercise.

8.3% (f. 1) of women and 25% (f. 2) of men said it was for distraction, likes and skill. 66.7% (f. 8) of women and 25% (f. 2) of men answered that distraction, relaxation and to pass time, while 25% (f. 3) of women and 50% (f . 4) of the men replied for fun, pleasure and physical exercise. These results indicate that there are a huge variety of reasons why people play videogames, but an interesting fact is what they thought as regarding their use only for recreational purposes. So then, they may still have some connection with the myths of entertainment but not for training purposes, although investigations are pointing to that probability. (See table three).

Table 3: Reasons for playing videogames

			number three reasons who you currently play videogames			
			distraction, like, and skill	distraction, to relax, to pass time	fun, like, physical exercise	TOTAL
SEX	Female	Count	1	8	3	12
		% of sex	8.3 %	66.7 %	25.0 %	100.0 %
		% of total	5.0 %	40.0 %	15.0 %	60.0 %
	Male	Count	2	2	4	8
		% of sex	25.0 %	25.0 %	50.0 %	100.0 %
		% of total	10.0 %	10.0 %	20.0 %	40.0 %
TOTAL		Count	8	8	4	20
		% of sex	15.0 %	50.0 %	35.0 %	100.0 %
		% of total	15.0 %	50.0 %	35.0 %	100.0 %

Source: Questionnaire perception of videogames as a teaching resource

What I learned from videogames

It is interesting to review the responses to this question about what the gamers consider they have learned from video games because students as a whole do not consider the thematic knowledge in their learning from this resource. They focus their skills on such areas such as agility, design strategies , teamwork, dancing, being patient and controlling their nerves. These points serve as a platform to explain the educational applications that can be given to these areas in the classroom, unless they are not related to the development of strategies as will be discussed in detail below. Most women, 50% (f. 6) and 50% (f. 4) of men agreed that they learned to be agile, to be fast and stay awake, as seen in Table 4.

Table 4. Three things than you have learned from videogames

			Three things than you have learned from videogames						
			Make strategies, make teams, analyze	agility, speed, be awake	be patient, have reflexes, work in teams	dance, play in teams, understand tactics	additive, violence, fun	able to learn to lose, control my nerves	TOTAL
SEX	Female	Count	1	6	1	1	2	1	12
		% of sex	8.3 %	50.0 %	8.3 %	8.3 %	16.7 %	8.3 %	100.0 %
		% of total	5.0 %	30.0 %	5.0 %	5.0 %	10.0 %	5.0 %	60.0 %
	Male	Count	2	4	1	0	0	1	8
		% of sex	25.0 %	50.0 %	12.5 %	0 %	0 %	12.5 %	100.0 %
		% of total	10.0 %	20.0 %	5.0 %	0 %	0 %	5.0%	40.0 %
TOTAL		Count	3	10	2	1	2	2	20
		% of sex	15.0 %	50.0%	10.0 %	5.0 %	10.0 %	10.0 %	100.0 %
		% of total	15.0 %	50.0%	10.0 %	5.0 %	10.0 %	10.0 %	100.0 %

Source: Questionnaire on the perception of videogames as a teaching resource

The relevance of the use of video games as a teaching resource

After this first approach to gamers in terms of the features of their history, preferences and other aspects, we set out to investigate the appropriateness of the use of videogames as an educational resource to be used in classrooms, given the case students in the near future would be in charge of teaching a group, found that 75% (f. 9) of women and 62.5% (f. 5) of men's considered it possible to be considered in planning, with a view to enhancing learning in their students, while 16.7% (f. 2) indicated that women that they would not include them.

However, it can be seen from the graph that 8.3% (f. 1) of the women and 37.5% of men said they did not know, which may indicate they do not know how they could insert videogames in a activity of teaching and learning, reinforcing this idea that the videogame has its principal purpose entertainment and recreation and rather than a potential learning resource (see Table 5).

Table 5: If you were a teacher, how would you use videogames to reinforce learning

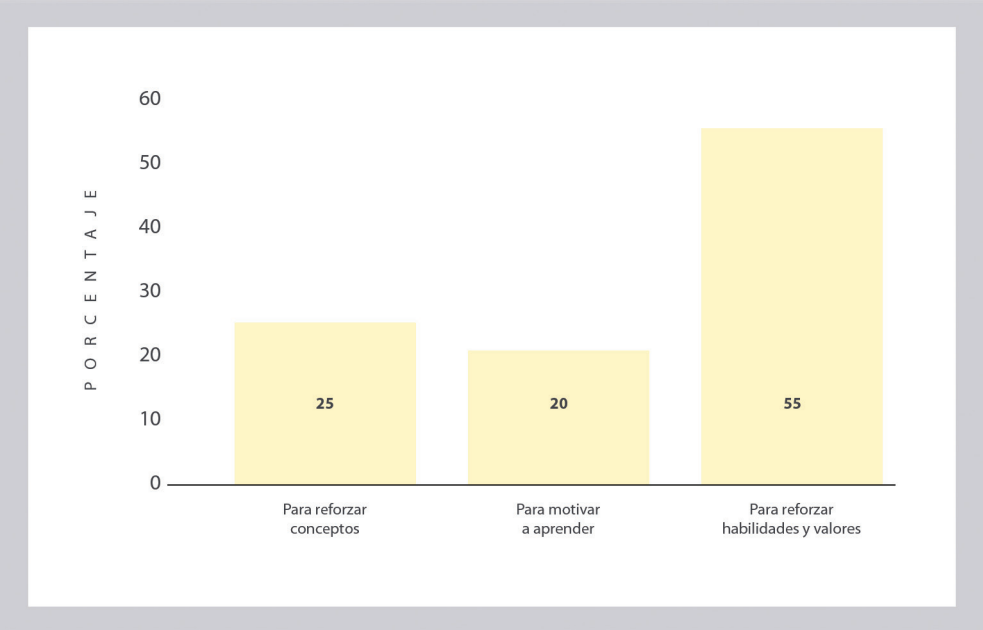
			If you were in charge of a primary school class, would you use videogames to reinforce learning in the students?			
			Yes	No	/ I don't know	TOTAL
SEX	Female	Count	9	2	1	12
		% of sex	75 %	16.7 %	8.3 %	100.0 %
		% of total	45 %	10.0 %	5.0 %	60.0 %
	Male	Count	5	0	3	8
		% of sex	62.5 %	0.0 %	37.5 %	100.0 %
		% of total	25.0 %	0.0 %	15.0 %	40.0 %
TOTAL		Count	14	2	4	20
		% of sex	70.0 %	10.0 %	20.0 %	100.0 %
		% of total	70.0 %	10.0 %	20.0 %	100.0 %

Source: Questionnaire perception of videogames as a teaching resource

The function of videogames in the classroom

Starting from the answer to the previous question, they were asked about the perception of the role of videogames in the classroom, finding that 25% of the respondents would use them to reinforce concepts, 20% as a motivator to learn and finally, 55% perceive the functionality of videogames because of its potential to reinforce skills and values, based on their own experience as a gamer, as shown in Figure 1.

Figure 1: The perception of the primary role of the use of videogames for didactic use



The results allow us to observe that although some students have a different perception of videogames as a learning resource they may still not have a sufficiently clear understanding of the ways they can use them with prospective students for learning purposes.

This may be due to, according to Gross (2004, p.3) that one of the major problems of education and training today is

that most educational approaches used are not in line with the needs of children and young people and the kind of society we are living in.

Those students who dis not wish to participate in the study, argued informally that they have not played videogames nor are they interested in doing so, because they have no positive value and that they only result in a lot of wasted time and distraction. This may mean that while studying , teachers most likely have not yet introduced the discussion of using videogames as a teaching resource, showing a bit of skepticism and distrust in their use, indicating that they find nothing positive in them and suggesting a kind of danger that they failed to define.

In the case of the research participants, they responded guided by their own experience, some in addition to the questionnaire responses, suggesting that they would apply videogames in the same way as their computer teachers did with them as a reward for completing a task before the rest of the group, almost as a kind of reinforcement, as stated by operant behaviorism.

A reflection which the future teachers and participants in the study did not have was the relevance of including the discussion of the inclusion of video games as a learning resource, as established by the Horizon project (2013) which indicates that their use may bring opportunities for discovery and goal oriented learning. Also, opportunities for collaboration and the development of skills for team building are increased; moreover, it suggests that using simulations or exchange of roles it is possible to recreate complex situations in order to prove new responses or pose creative solutions.

CONCLUSIONS

The ICT's present in our daily life have profoundly changed our practices with respect to these two essential aspects of human life, to inform and to communicate, in such a way that the knowledge about ourselves and the world has changed substantially, opening doors to new formats of interaction and learning as in the case of videogames. In education, even if the changes seem to be slower, guided by the inertia of teachers who have established routines in teaching, student expressions are felt who symbolically refuse to remain inactive in the habitually that they have gotten used to in the past.

The urgency of change does not occur equally in all educational stakeholders, including students who still wish to remain in the position of spectators of change and expectation of what teachers propose them. However, the demands of society require greater creativity and a more proactive stance from future professionals to have higher levels of adaptation in the knowledge society.

Videogames as a teaching resource appear as an unclear possibility in the investigation participants, due to the little recognition that the school has given this tool that although various authors have pointed out it was not designed for educational purposes, especially online games – they can be redesigned with proper seriousness to be an element in favor to increase the desire to learn and to link the contents of the school with the reality of our daily lives.

In this sense, research in this field should be aimed at the recovery of beliefs and myths that exist not only in students but also in teachers , and to identify the experience they have in the field to the extent possible in order to design specific training programs to give a new face to classroom teaching.

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