The Impact of Virtual Platforms in the Field of the Knowledge and Information Society as a Learning Resource

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Abstract
Teaching-learning processes have been influenced by technological advances and the proliferation of online digital systems. The educational field requires of strategies that improve students' performance and induce them to an ecosystem mediated by ICT, as key tools along their training process. This research seeks to determine the impact of Kahoot educational platform in the students of the Language Institute of Universidad Nacional de Loja (UNL) and how its application has improved the students' development. A quantitative methodology is used, which focuses on the results obtained with Kahoot platform on three different themes and dates. The results prove the hypotheses raised: 1) Kahoot improves English learning through the dynamic questionnaires proposed; 2) The indexes shown by Kahoot reflect the active and high participation of students in online activities. Thus, Kahoot is positioned as a learning tool that gets the students' attention to learn by playing in a context of higher education.

Keywords
Virtual learning, active learning, evaluation, pedagogic innovation, ICT.

1. Introduction

Technology and its constant transformation infer in all aspects of the life of a human being and education is one of the areas that benefits most from it. The development of online educational platforms entails the integration of the academic pensum with digital tools, so that students receive the contents in a dynamic and much more playful way, which allows them to face challenges and assimilate knowledge in less time.

Families and educators need to be competent at the media level, to act as instructors both professionally and socially and to constructively give information, content and the conglomerate of knowledge through the various means currently available [1]. The new digital environments demand an analytical and contrastive capacity that processes information and all multimedia material that requires the improvement of very particular skills [2, 3].

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Mainly in the last decade, different tools, platforms and methods to support education have emerged and remained successful because of the results they bring. Pérez- Rodríguez, Ramírez-García and García-Ruíz (2015), point out that "in line with scientific and technological advances, people's needs are not the same, largely because of the amount of information and communicative interactions that have generated "(p.620) [4]

In this line, [5] highlights that new methods such as social platforms, "in addition to change the structure of learning-teaching environments, favor access to the great masses by being unlimited in time and place" (p.178). For Karaduman (2013), the development of these competences forges a new thought and development in relation to the context in which a person develops, improving the interactions he has with his immediate environment [6].

However, it should be taken into account that there are several factors that influence the association of technology with the topics taught in the classroom, which is decisive to achieve optimal results and commitment from the parties involved. It cannot be ignored as indicated by Braojos-Gomez, Benitez-Amado and Llorens- Montes (2015), the capacity of the infrastructure, the management of innovation, the improvement of skills in the management of social networks, are directly linked to the development of media competencies, competences that develop within a world in constant convergence [7].

Currently [8], technological convergence is already a trend of widespread innovation and presents countless opportunities that can and should be exploited in various technological fields, to permanently monitor which are the most appropriate or successful trends in what were used. Particularly in education, the implementation of several systems that speed up the processes and become a collaboration for those who learn and for those who teach are required.

The convergence of technology [9], conceptualized , occurs within a context of potential costs and benefits, as indicated by the influence of the level of technology preparation and the life cycle that will be fulfilled within the context where it is developed, so, in terms of an effective policy and to promote a technological convergence, actions that aim to reduce costs and increase profits should be proposed.

Emerging technologies face forced changes, where cyberspace, production and intelligence that emerge from here will be inseparable and will condition the integration of several systems into one, with the sole objective of improving and strengthening processes and mechanisms [10].

Some authors [11] refer as essential to the use of media, information and communication technologies as teaching resources to promote the teaching of curricular content and mention that "it is usually the first step of integrating technology into the curricular development of educational centers" (p.33). In this context [12], consider that training on these issues should not be seen as something isolated, but as learning for a person who is part of a group and does it for his or her own good and the one of the communities.

This research collaborates with the evaluation process in the educational context of the XXI century, for which it is important to recognize what Zabala Vidiella (2000), p. 203 basically, evaluation is considered as a sanctioning and qualifying instrument, in which the subject of the evaluation is the student and only the student, and the object of the evaluation is the learning carried out according to minimum objectives for all. This still holds in many political aspects within the current educational context; However, it is satisfactory to propose changes in the evaluative process for students of the XXI century, with the application of the field of infor-

Table 1
Most used educational platforms

Online educative platforms	
Pipoclub.com	Games for students from 0 to 12 years, oriented to reading comprehension and artificial vision.
Árbol ABC	It encourages learning in children from 3 to 10 years old incorporating riddles, jokes, interactive readings.
Science & Fun by Elesapiens	Online tool for primary science education, in English and Spanish.
Poisson Rouge	Web in English and French designed by pedagogues. Visual platform for children to play for themselves.
Planetanimado to learn by playing	Platform for students to give their first steps with the computer and reinforce learning.
Aprendizaje lectoescritura	Videos and various recreational activities to work memory, logic, mathematics or language.
Socrative	Online tool that allows to create questionnaires, with versatility and visually attractive results.
Kahoot	Creates quiz games with countless quizzes and customize them.
Quizizz	It is an alternative to Kahoot, creates quizzes and answers.
Code.org	One of the main programs in the world of programming poses challenges that must be solved by playing.

mation and the insertion of various virtual platforms in the field of society and information, today its impact use to meet evaluative educational needs; However, it has been considered to focus on the use of one of the educational platforms, such as Kahoot at the Language Institute of the National University of Loja (UNL), as a resource to stimulate educational practices in a foreign language.

With this background, this research aims to evaluate the results of the insertion of Kahoot educational platform as a resource to boost educational practices in a foreign language, while measuring the results that students show in their online experiences. The research hypotheses are: 1) Kahoot improves English learning through the dynamic questionnaires it proposes; 2) The motivation of indexes shown by Kahoot reflect the active and permanent participation of students in online activities, with the aim of accumulating points.

1.1. Methodology

The methodology of this research is quantitative, based on reports from the Kahoot educational platform, as an integrated tool into the educational dynamics of the of the Languages Institute of UNL. This platform is established as a free application which purpose is the creation of questionnaires for further evaluation, measuring students' performance and how they have understood the knowledge they have been taught. In addition of being a completely free medium (which eliminates budgetary or economic barriers of any educational institution), it provides reliable information on: the percentage of correct and incorrect answers, ranges, accumulated points, questions and response options.

For the research sample, three different themes were selected where the platform is used to measure students' understanding in the area of English. The themes selected were: Simple present (with other verbs) / A-an, Whose / mine / your, developed on May 23, 2019; the second focused on ¿What time is it ?, developed on July 9, 2019; The third theme covered Subjects / before / after / go / do, also held on July 9, 2019.

The selection of three different themes is carried out based on analyzing the changes or similarities that occur in the students' responses to the questionnaires. It will also be an indicator of the management of the teacher or if there are parameters that must be corrected.

1.2. Results

With the methodology applied to the subject of study, it is verifiable that the Kahoot tool allows the consolidation of a teaching-learning model that is not only supposed to be linear, where a teacher teaches and students listen, but opens a new field of permanent collaboration, regardless of geographical location or time. The digital educational dynamics provided by the platform become the basis of a bidirectional education, which allows greater and better use of time and especially, the introduction of information and communication technologies as mediators in any academic process. In particular, Kahoot becomes a key application for teaching a new language, and the practice that facilitates students is essential for the adoption of grammar or oral expression with which they were not familiar. The Institution of Higher Education as a training entity, begins to integrate new educational strategies, in order to capture in each class a global education, the management of technological and digital tools, the adaptation of curricula to 2.0 resources, but with a special emphasis on achieving a convergence of the 21st century, which ultimate goal is an effective adoption of knowledge.

The theme What time is it? obtains an overall performance of 88.33% of correct answers and 11.67% of incorrect answers, in activities raised to six teams of thirty students (Friends, Cats, Half Moon, Stars, Team Sama and Grupo Nectar). The effectiveness of the tool is checked in: Friends, 10 correct answers and any incorrect; Cats, 9 correct and 1 incorrect; Half Moon, 9 correct and any incorrect; Satrs, 9 correct and 1 incorrect; Team Sama, 8 correct and 2 incorrect and finally Grupo Néctar with 8 correct and 2 incorrect.

The points that each player achieved on the Kahoot platform, earned him or her a position and rank as shown in the table, which indicates that the tool not only becomes an educational allied, but also begins to generate healthy competition between the actors involved, a competition mediated by the knowledge that all of them have of the subject that arises, motivating

Table 2
LEVEL I: ¿What time is it?

What time is it?	
Played on	July 9th, 2019
Organized by	Erika Lucía Gonzalez
Played with	6 teams
Played	10 of 10 questions
General performance	
Total of correct answers	88.33 %
Total of incorrect answers	11.67 %
Average score	9621.17

Table 3
LEVEL I: ¿What time is it?

Final scores				
Rank	**Players**	**Total score (points)**	**Correct answers**	**Incorrect answers**
1	Friends	12495	10	0
2	Cats	9599	9	1
3	Half Moon	9411	9	1
4	Stars	9213	9	1
5	Team Sama..?	8788	8	2
6	Grupo Nectar	8221	8	2

them to learn to achieve the first positions.

The implementation of digital tools in education, is consistent with the interest aroused by technology in recent years and taking advantage of the attention achieved in young people, resources have been allocated to the implementation of online platforms that measure their learning and be able to record how they evolve, both in how they capture the contents, and in their online abilities.

The questions that were posed to the students, emphasize the time and the respective response options so that the student chooses the one he deems appropriate. Among these options, differences in form and grammar structure are presented, so that the choice is based on the previous knowledge received by the student and the demonstration of how effective they were. For the teacher, this system becomes one of his best allies, since it allows him to quickly and accurately measure the effectiveness of the content he imparted to his students, and how clearly, they received it. Based on these parameters, it is very practical to propose

Table 4
LEVEL I: Questions and answer options – What time is it?

	Questions	Answer options
Question 1	¿What time is it?: 6:00	It's six o'clock - It's 6 o clock - It six o clock - It 6 o'clock
Question 2	¿What time is it?: 9:00	It's eight o'clock - It's 9 o'clock - It's nine o'clock - It is ninth o clock
Question 3	¿What time is it?: 10:15	It's eight o'clock - It's quarter past ten - It's quarter past ten - It is quarter past nine
Question 4	¿What time is it?: 12:45	It's quarter to eleven - It's quarter past twelve - It's quarter to one - It is quarter past eleven
Question 5	¿What time is it?: 3:50	It's quarter to four - It's ten to four- It's quarter to three - It is ten to three
Question 6	¿What time is it?: 6:40	It's quarter to seven - It's twenty to eight- It's twenty to seven - It is ten to eight
Question 7	¿What time is it?: 10:55	It's five to eleven - It's ten to five - It's five to ten - It is ten to ten
Question 8	¿What time do you wake up?	I wake up at six o'clock - She wakes up at six o'clock
Question 9	¿What time does Walter read poems?	I read poems at 5:30 - He reads poems at 5:30
Question 10	¿What time do they cook the dinner?	They cook the dinner at 8 p.m. - He cooks the dinner at 8 p.m.

future strategies that become the channel of union between the group of students and the technological development to which they must join.

As shown in the tables, the theme is focused on "Simple present (with other verbs) / A-an, Whose / mine / your", and developed on May 23, 2019, a total of 200 players that participate (in 3 teams) answer the 22 questions posed. The figures obtained reflect the great effectiveness of the Kahoot platform, with 92.31% of correct answers and only 7.69% of incorrect ones. With this tool, three players (Power Rangers, Friends and Super Power Gi) measure their compe-

Table 5
LEVEL II: Simple Present

Simple present (with other verbs) / A-an, Whose / mine / your	
Played on	May 23rd 2019
Organized by	Erika Lucía Gonzalez
Played with	3 teams
Played	22 of 22 questions
General performance	
Total of correct answers	92.31%
Total of incorrect answers	7.69%
Average score	25592,00

Table 6
LEVEL II: Final scores- Simple Present

Final - Simple present (with other verbs) / A-an, Whose / mine / your				
Rank	Players	Total score (points)	Correct answers	Incorrect answers
1	Power Rangers	27355	21	1
2	Friends	25820	20	2
3	Super Power Gi	23601	19	2

tences in the subject and through different activities that are presented to them they obtain a total of points, which in this case are segmented as follows: Power Rangers (21 correct and 1 incorrect answers), Friends (20 correct and 2 incorrect answers), Super Power Gi (19 correct and 2 incorrect answers).

The use of Kahoot in the learning of English, energizes the teaching processes, allows to capture knowledge through recreational activities and, in particular, simulates a game that, while entertaining, imparts knowledge. In areas such as English, taught in places where the native language is Spanish, it is essential to integrate technology to bring students closer to another language, and is necessary that this process flows naturally, as does any navigation process in line.

Due to the results obtained, the performance of a student is enhanced by relating it to educational digital systems that accompany the teacher and take part of the curriculum, as a method towards a change of substance and form in the educational field. The concepts that handle platforms such as Kahoot, focus on enhancing a mental skill and speed, while students are able to record concepts and understand thematics, with greater retention power.

This table shows the main questions that were asked to the students and the response options they had. Taking into account, as evidenced by the data mentioned before, that students have a mostly favorable performance, this system can be defined as appropriate to transmit content

Table 7
LEVEL II: Questions and answer options – Simple Present

	Questions	Answer options
Question 1	Choose the best answer	A elephant – An elephant
Question 2	Choose the best answer	A man – A men
Question 3	Choose the best answer	An university – A university
Question 4	The auxiliaries in the simple present are:	I, you he, she, it, we, you, they – do,does
Question 5	In the simple present tense, you add an "s" to the verb in "HE" "SHE" "IT"	Correct – Incorrect
Question 6	Select the best opinion:	I works in Loja – I don't work in Loja
Question 7	Select the best opinion:	We reads a lot of books – We don't read a lot of books
Question 8	Choose the best opinion:	¿Does she plays soccer? – ¿Does she play soccer?
Question 9	Choose the best opinion:	She sings in the park - She don't sing in the park
Question 10	Choose the best opinion:	We don't eat cookies - We dont' eat cookies.

related to another language. The use of questions with objective multiple choice answers is also evident, which makes it easier for each student to develop an agility to answer as they would in a written exam, but in a 2.0 environment, where the composition of colors, elements, animations and in general multimedia aspects take an important role.

Regarding "Subjects / before / after / go / do", the questions were raised in Kahoot on July 9, 2019 to 200 players in each team, who answered 8 of the 8 questions raised on the platform, obtaining a general performance of correct answers that amount to 66.67% and incorrect answers that reach 33.33%. As can be seen in the table, the different players occupy a range that responds to the total points accumulated by the responses they exhibit, so Friends presents 7 correct and 1 incorrect answers, Team Sama with 6 correct and 2 incorrect answers, Group 5 has 5 correct and 3 incorrect answers, like Girls Power and Stars, and finally, Cats that has the same number of correct and incorrect, 4 in each one.

Unlike the other topics analyzed, here is a slight increase in incorrect answers and a decrease in those that are correct, which could mean that it is still necessary to deepen the topic so that the differences between the participants are minimal, and if possible, that the contents are clear in all students. This may also reflect that the topic is more complex for students and takes

Table 8
LEVEL III: Subjects / before / after / go / do

Subjects / before / after / go / do	
Played on	*July 9th 2019*
Organized by	María Lorena Muñoz Vallejo Vallejo
Played with	6 teams
Played	8 of 8 questions
General performance	
Total of correct answers	66.67%
Total of incorrect answers	33.33%
Average score	5016,67 points

Table 9
LEVEL III: Final scores - Subjects / before / after / go / do

Puntajes finales				
Rank	*Players*	**Total score (points)**	**Correct answers**	**Incorrect answers**
1	Friends	7217	7	1
2	Team Sama	5614	6	2
3	Group 5	4646	5	3
4	Girls Power	4604	5	3
5	Stars	4486	5	3
6	Cats	3533	4	4

longer to process.

The scores that the focus group obtains are a test for the teacher of how the methodology that applies to them is working. In this case, it might be convenient to rethink some technique that improves the current values and allows us to obtain similar indexes to the previous variables, where the correct answers were the ones that prevail.

The questions posed to the students were oriented to complete some sentences with the grammar options proposed by the teacher, and in other cases, they were asked to choose the correct option. As in other topics, several options were offered so that the student, according to the knowledge acquired, choose the one he considers correct. However, from the data collected, it is shown that there was confusion in them, not at a high level, but that it already caused differences with the previous themes and in what would be necessary to emphasize, so that the knowledge is sufficiently clarified and be established as a basis to continue with the academic curriculum established as a teacher. The online measurement of student performance, even

Table 10

Questions and answer options - Subjects / before / after / go / do

	Questions	Answer options
Question 1	*I _to university from Monday To Friday*	Do-go
Question 2	I _homework from Monday to Friday	Do-go
Question 3	I brush my teeth___I eat the luch	Before – after
Question 4	She___math exercises in the class	Goes - do – does
Question 5	Choose the correct Word	Philosopi – Physolosphy – Philosophy
Question 6	Choose the correct Word	Chemestry – Chemestri – Quemestry
Question 7	Choose the correct Word	Economic – Economics – Quemestry
Question 8	Choose the correct opinion	I always take a shower - Always I take a shower

more in a foreign language, clarifies the potentials and shortcomings in real-time, without the intervention of external agents and with the possibility of accessing results as objective as possible.

1.3. Future perspectives

Kahoot: Due to the data found, it is easy to predict that this platform will continue to be implemented as a learning channel for students who are in the process of assimilating a new language, however, as their training grows they will have to attach new tools that enhance what they learned and diversify the practical results of their academic exchange.

Learn by playing: At the level of teaching-learning pedagogies, play and entertainment become powerful resources to capture content and the total number of teachers will be forced to incorporate digitally based planning so that students educate through interaction. Although the games are related to an early age, there is a variety of dynamics for adults, with which they can process information, assimilate and materialize it.

Virtual education: Virtual education tends to be associated with a computer or any mobile device, however, the goal in the near future is to connect the traditional contents to these devices, so that the student (regardless of the branch to which he or she belongs) appropriate a mobile education, available 24 hours a day, 7 days a week.

1.4. CONCLUSIONS

- Kahoot platform is positioned as a learning tool. In the three themes analyzed students show a good predisposition to be part of an educational dynamic and insert themselves

in a virtual ecosystem that provides them with not only entertainment, but also with the possibility of playing while learning. The fact that with Kahoot, the themes in the English language register positive values, does not eliminate the possibility that some problems arise along the way, verifying that the information transmitted to students requires prior work and not only the insertion of digital systems.

- The competition that this platform awakens in students is favorable, since it motivates them to prepare themselves, to capture the knowledge that their teacher imparts to them and above all, it fosters an environment where getting to know more becomes a competitive advantage, which fosters an educational environment where students like to learn.

- From the results obtained, it is demonstrated that the students respond mostly favorably to the questions that are asked them through the platform, which shows a good use of Kahoot as an online tool. It also shows that young people begin to familiarize themselves with new educational techniques and their learning through them is much more optimal.

- With this research it is also discovered that there are themes that demand greater efforts to be understood by students, and this is justified by the lower scores achieved with the Kahoot platform. These data can become the premises that guide the teacher towards a particular structure of some contents, in order to reinforce those topics for the students.

- The two hypotheses that were raised are verified:

- Kahoot improves English learning through the dynamic questionnaires it proposes. Indeed, Kahoot is positive for learning a foreign language, because its interface encourages the acquisition of knowledge and active participation in the digital environment.

- The indexes shown by Kahoot reflect the active and permanent participation of students in online activities, with the aim to accumulate points. The hypothesis is verified at the points that players accumulate in this tool, which demonstrates assiduity and closeness, at a fairly high level and that allows them to measure themselves with others.

- In the future, it would be interesting to measure the evolution of the students since the beginning of their use of this platform, until their final study cycles, to compare their evolution and how Kahoot has influenced the learning, memorization, and implementation of the contents they acquired with the platform.

- As mentioned theoretically, there is a whole conglomerate of educational platforms that are available online totally by free, which should be integrated gradually into the learning processes, both for students not to be close only to a single pedagogical model, but also for the teacher, in which way he or she can experience with other resources, which may exceed the one currently employed.

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