

Gamification in teachers for the teaching of history at the baccalaureate level

Gamificação em professores para o ensino de história no ensino médio

La gamificación en el profesorado para la enseñanza de historia en el bachillerato

Enrique Vicente Quinto Saritama<https://orcid.org/0000-0002-9770-1852> Professor at National University of Loja, Ecuador.
Master's in Special Education at Equinoccial
Technological Universityenrique.quinto@unl.edu.ec (correspondence)**Marjorie Maribel Romero Serrano**<https://orcid.org/0000-0002-6344-0826> 

Professor at the school the immaculate, Ecuador.

maryuriromero2302@gmail.com**Jonathan Patricio Fajardo Fajardo**<https://orcid.org/0000-0003-2683-2158> Professor at National University of Loja,
Ecuador. BEd minor Basic Education. MA in
Neuropsychology and Educationjonathan.fajardo@unl.edu.ec**Rubia Estrella Jiménez Calva**<https://orcid.org/0000-0002-5250-736X> Professor at National University of Loja,
Ecuador. Support psychologist at the district
inclusion support unitruby_estrellajc@hotmail.com**Henry Nicolas Logroño Mendoza**<https://orcid.org/0000-0001-9831-0629> Professor at National University of Loja,
Ecuador. Support psychologist at the district
inclusion support unithlogronom@unemi.edu.ec**ARTICLE HISTORY****Received:** 11-01-2023**Revised Version:** 24-04-2023**Accepted:** 19-05-2023**Published:** 30-05-2023**Copyright:** © 2023 by the authors**License:** CC BY-NC-ND 4.0**Manuscript type:** Article**ARTICLE INFORMATIONS****Science-Metrix Classification (Domain):**

Economic & Social Sciences

Main topic:

Gamification in education

Main practical implications:Draw an applicable gamification strategy for
future action research or within the classroom**Originality/value:**Gamification is one of the main active
methodologies and this paper contributes to the
discussion in the context of a developing
country such as Ecuador**ABSTRACT**

The present work is based on a didactic proposal in gamification as a teaching strategy for the subject of History, in order to provide teaching staff with an approach towards the application of this strategy as a response to the problems that arise in the classroom classes at the time of having a continuous traditionalist methodology. The methodological change constitutes for the teacher the overcoming of traditional linear approaches, for this reason the importance of innovating the teaching methodology with activities that motivate and promote the integral formation of students is exposed (Fidalgo, 2020), likewise, it is detailed in detail. clear and simple the elements of a gamified project that allow its joint development. The activities proposed in this project have the purpose of developing together with the participants a didactic unit in the subject of history and they can acquire by themselves an experience in gamification, facilitating its implementation in the classroom and above all serving as a reference for the next projects that each participant plans to carry out, according to the needs of their students and the theme that is being taught.

Keywords: Gamification, Teachers, Education, Baccalaureat.**RESUMO**

O presente trabalho tem como base uma proposta didática em gamificação como estratégia de ensino da disciplina de História, a fim de proporcionar aos docentes uma abordagem para a aplicação desta estratégia como resposta aos problemas que surgem na sala de aula. o tempo de ter uma metodologia tradicionalista contínua. A mudança metodológica representa para o professor a superação das abordagens lineares tradicionais, por isso é exposta a importância de inovar a metodologia de ensino com atividades que motivem e promovam a formação integral dos alunos (Fidalgo, 2020), da mesma forma, é detalhada em detalhes. claros e simples os elementos de um projeto gamificado que permitem o seu desenvolvimento conjunto. As atividades propostas neste projeto têm como objetivo desenvolver junto com os participantes uma unidade didática na disciplina de história e que eles possam adquirir por si mesmos uma experiência em gamificação, facilitando sua implementação em sala de aula e acima de tudo servindo de referência para os próximos projetos que cada participante planeja realizar, de acordo com as necessidades de seus alunos e o tema que está sendo ensinado.

Palabras clave: Gamificação, Professores, Educação, Bacharelado.**RESUMEN**

El presente trabajo se basa en una propuesta didáctica en la gamificación como estrategia de enseñanza de la asignatura de Historia, con la finalidad de brindar al personal docente una aproximación hacia la aplicación de esta estrategia como respuesta a la problemática que se presenta en el aula de clases al momento de poseer una continua metodología tradicionalista. El cambio metodológico constituye para el docente la superación de enfoques lineales tradicionales por ello se expone la importancia de innovar la metodología de enseñanza con actividades que motiven y promuevan la formación integral de los estudiantes (Fidalgo, 2020), así mismo, se detalla de forma clara y sencilla los elementos propios de un proyecto gamificado que permitan la elaboración conjunta del mismo. Las actividades planteadas en este proyecto tienen la finalidad de desarrollar conjuntamente con los participantes una unidad didáctica en la asignatura de historia y puedan adquirir por si mismos una experiencia en gamificación, facilitando su puesta en práctica en el aula de clase y sobre todo sirviendo de referente para los próximos proyectos que cada participante se plantee realizar, de acuerdo a las necesidades de sus estudiantes y de la temática que se esté impartiendo.

Palavras-chave: Gamificación, Profesorado, Educación, Bachillerato.

INTRODUCTION

Currently in Ecuador and despite the numerous efforts of professionals and researchers in the educational field, a traditionalist approach still persists when teaching classes whose purpose is discipline and obedience, for this the teacher assumes power and authority as an essential transmitter of knowledge, with a single fundamental method based on expository discourse and verbal procedures (Carrillo, 2009), therefore, student participation is very limited, since their learning is reduced to repeating and memorizing. If the student is taken as a sponge that should only absorb knowledge by rote, we are not allowing them to develop socio-emotional and autonomy skills for life.

In this regard (Vega, 2014) states "in order for the student to achieve autonomy, he must acquire a need that allows him to be fully involved in the search for information and learning from it". Likewise, he must show an interest in the topic being addressed, therefore, the teacher will have to plan his activities and methodological strategies in such a way that it attracts the student's attention and they can understand that what they are studying will serve them in their daily life. and is directly linked to their tastes and emotions, in turn, (Bermúdez, 2018) expresses that "the challenge of a teacher of this century is to generate learning experiences to motivate students' capacity for wonder" so in our work we must opt for new methodologies with didactic actions that favor motivation and find the content much more attractive.

Based on what has been stated, this master's thesis as a contribution to teachers and their continuous training, addresses issues related to the creation of a motivating environment for students with the incorporation of ICT in the classroom, specifically showing various guidelines for implementing gamification in the teaching of History, this subject being one of the most theoretical and passive when it comes to presenting its content to students (Lerner, 1997), which is why it is taken as a reference for a methodological change. in educational practice.

As teachers we are constantly searching for educational innovation, strategies and various methods that motivate the student. In this context, gamification is found as a teaching-learning technique since it transfers the mechanics of games to the classroom with the aim of In order to achieve better results in obtaining the interest and motivation of the students (Contreras, R., & Eguia, J. 2017), this technique allows focusing the contents from another perspective, since the activities are generated from the dynamics of the game. , allowing the student to face learning from a much more attractive point of view, being playful and fun, generates significant experiences among other great advantages offered by its implementation in teaching.

METHODS

The sectioned didactic methodology to train history teachers in the use of gamification in the teaching process has been proposed through the implementation of various methods and techniques for both teaching and evaluating, a mixed approach based on bibliographic research with analysis of basic concepts of education, innovation, gamification and the study of technological tools that will be essential in the elaboration of the gamified didactic unit as a response to the methodological change of the teaching-learning process that is required.

To comply with the first specific objective, the proposal is based on the execution of the first four activities through a lecture by the instructor, on the various concepts, differences and new teaching methodologies, using audiovisual media to avoid the traditional method based on the exhibition of contents, these themes have reflection activities, surveys and participation in forums.

The second objective is achieved with the other activities proposed since all the work with the participants will be practical, the necessary indications of the use of each resource necessary in the creation of the elements that make up the gamification material will be given, the activities are planned with the purpose of developing together with the participants the didactic unit in the history subject as a reference for future projects that each training participant plans to carry out according to the needs that arise, both with the students and in the theme that is imparting.

This proposal also allows teaching staff to practice various technological tools such as Kahoot, Genially, Mentimeter, Canva, loom, padlet, draw roulette, etc., promoting the development of information technology skills among teachers and increased your repository of digital resources that you can use with your students afterwards.

RESULTS AND DISCUSSION

The evaluation of learning is a fundamental element within the training processes since they allow enriching the construction of knowledge based on the shortcomings that can be detected in its application, for this there are various techniques or procedures to collect information systematically. Casanova (1998) mentions the following: observation, project development, portfolio, rating scales, recordings, questionnaires, among others.

For the present work, with the purpose of knowing the level of knowledge that the teaching staff acquires during the training process in the implementation of gamification as a teaching strategy, an initial survey was carried out with the purpose of identifying the knowledge in technological tools that each participant possesses. The following instrument is shown below:

Table 1. Initial survey

How would you rate your knowledge and handling of technology?

	1	2	3	4	5	
Regular	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

2. What technological tools have you used in your teaching work?

3. What active methodologies have you used when teaching classes?

4. Do you know about gamification?
 YES NO

If your answer is yes, how would you describe it?

5. Have you used games as a resource in your classes?
 YES NO

If your answer is yes, please mention which ones.

Source: The authors

Throughout the instruction process, a formative evaluation will be carried out, which in the words of Neumer, e. to. (1981) is a systematic and continuous activity, which is carried out during the teaching-learning process and aims to provide information about the educational process, which can be used to review and modify activities.

In this investigative work, the formative evaluation will be carried out through the use of the observation technique with its checklist instrument, for which a continuous review of the activities carried out each week will be carried out, compiled in a digital evidence portfolio, this being the main evaluation strategy. To facilitate both the evaluation and the generation of a repository of work, a specific educational blog has been created for this project, which will serve as a digital portfolio and the participants will include, as the training progresses, the different jobs, scenarios, badges, etc. models, templates, images and other resources that are generated.

In this way, the progress and achievement of the participants will be able to constantly evaluate their acquired knowledge and give feedback in a timely manner those that have not been fully assimilated and give them the possibility of including changes in their learning process. In addition, for the execution of the proposed activities, the use of various technological tools such as kahoot, mentimeter, canva, etc. is required, which promotes the development of ICT skills and allows a comprehensive and interactive evaluation of the knowledge they are acquiring. The following instrument is shown below:

Table 2. Checklist

Indicators	Yes	Almost always	Sometimes	Hardly ever	No
All team members have participated in the activity.					
They understood the instructions and rules to work with.					
They comply with the established standards to carry out.					
They generalize worked contents previously.					
They use communication strategies to interact in the group					
They show interest in the execution of each activity.					

Source: The authors

The final evaluation of the didactic unit will be carried out upon successful completion of all the designed activities, for which a rubric will be used as an evaluation instrument:

Table 3. Evaluation rubric

Indicators	Achievement levels			
	Very good	Good	Regular	Insufficient
Activity 1 Forum	Participates opportunely In the discussions and their interventions are related directly with the theme of discussion.	Participates opportunely in the discussions, but introduce contributions that they do not keep a direct relation with the theme.	Participate to mistime, comment on it minimum over the theme and manner rudimentary and superficial.	Enter late and is limited to Do Comments superficial about the contributions his companions.
Activity 2 Diagram of Venn	It is capable to explain of manner clear and concise each one of the criteria and elements that compare.	Explain each of Criteria Of comparison, but you lacks clarity and capacity of Synthesis.	Explain some of the criteria of comparison lack clarity and capacity of synthesis	hasn't presented the activity, not has explained by way of clear the criteria to compare.
Activity 3 Video	The topic assigned was treated with property, if offered details and examples.	The topic was discussed main to depth and with the level of Detail required.	The theme was treated a both basic and superficial.	The content and Information contributed is minimal and there Some errors in the details.
Activity 4 Gamification	I create a game interesting and creative demonstrating their skills in the use of technology.	Applied an effort medium in the creation of game.	He tried to make the game interesting and fun but some details they did not understand each other.	It demonstrates little effort in creation of the game and a Presentation deficient.
Activity 5 Goals	The objectives are clear and accurate, let you know where is directs and what hopes to achieve with activity gamified.	They define the objectives and allow of some way know and what hopes to achieve with activity gamified.	Settle down objectives for the Activity gamified but do not respond to a need.	Settle down of some way the objectives, but they are not clear, it's not possible measure them or evaluate them.
Activity 6 Script	The storyboard presents in order the images that summarize the plot. It is understood the history.	The storyboard presents in an orderly way the images and scenes that summarize the plot.	The storyboard gives a very general idea of the scenes of the story.	The script is not presented.
Activity 7 Padlet	Participate in a timely manner with your comment and his intervention is directly related to the topic of mechanics in gamification.	Participate in a timely manner with your comment, but introduce contributions that do not save a direct relation to the topic.	Participate at the wrong time, comment the least on the subject and in a rudimentary and superficial manner.	He enters late and limits himself to making superficial comments about the contributions of his companions.
Activity 8 Components	I create interesting and creative avatars, badges and rewards demonstrating their skills in using the technology.	Put a medium amount of effort into creating avatars, badges, and rewards.	Tried to make the avatars, badges, and rewards interesting and fun, but some details are missing. they understood.	Little effort is shown in the creation of avatars, badges and rewards and a presentation deficient.
Activity 9 Gamified activity	I create a game adapted to the objectives of the didactic unit, with each of the components of the gamification.	I create a game adapted to the objectives of the didactic unit, with some of the components of the gamification.	I create a game adapted to the objectives of the didactic unit, with at least one gamification component.	The game of the didactic unit is not presented.
Activity 10 Presentation	The presentation of the group is clear, with appropriate language and the information is organized logically.	The group exposition maintains an appropriate language, most of the information is organize logically.	The group presentation is not clear or clearly structured in its entirety.	The group does not demonstrate mastery of the theme, the information appears dispersed, no follow a logical structure.

Source: The authors

After having carried out the evaluation of the didactic proposal, a table is presented with the respective parameters:

Table 4. Proposal evaluation parameters

Assessment Type	Percentage
Diagnostic	20 %
formative	50%
Final	30%

Source: The authors

Finally, for the evaluation to be considered effective, other necessary aspects will be incorporated into it, such as measuring the degree of satisfaction of the participants with respect to the gamification course in a personal and private way, this will allow assessing the applicability of the contents, the interaction with the instructor, the expectations of the participants, among others, in order to carry out improvements and adaptations to keep the teaching process effective, this is done through an anonymous survey generated in google forms.

Measures of attention to diversity

Diversity is an intrinsic characteristic of human beings (Marqués, 2012), therefore, the challenge for teachers is to seek methodological strategies that are adequate and inclusive to meet each need. This proposal is aimed at training history teachers in the use of gamification as a methodological change strategy, therefore, according to what is specified in section three and in the event that one of the students has a physical limitation, this The proposal maintains dynamic, motivating, comprehensive activities that can be adapted to the inclusion of the participants, in addition, its execution requires that it be group - collaborative, so the student may be included in each of the activities proposed for the preparation of the Didactic Unit applying a gamified strategy.

The evaluation is also adapted to the needs that the participants may present, being formative, their progress achievements will be constantly evaluated, as well as the knowledge acquired and feedback in a timely manner on those that have not been assimilated

FINAL CONSIDERATIONS

Throughout the progress of this educational innovation project, the importance of modifying teaching strategies when teaching classes has been expressed, since education must go hand in hand with new technologies and what better way to take advantage of them to innovate the teaching-learning process, within this context, gamification has become a more effective strategy in terms of capturing the interest and motivation of students, since it allows generating fun study situations, (Fonseca, 2019). This stimulates communication, participation, promotes perseverance and exerts a change in the paradigm of monotonous and traditional education. Therefore, it has been proposed to design an educational innovation project aimed at teachers, taking the history subject as a reference because it is one of the most theoretical in terms of content to implement gamification in a didactic unit with the purpose of granting staff teacher the knowledge and tools necessary to generate gamified content and activities and these can serve as support in the continuous improvement of their pedagogy and training.

In order to comply with the general objective, three specific objectives have been proposed, which can be achieved in the following way, the first of which has the purpose of exposing the importance of innovating the methodology with which the subject of History is taught, for this has carried out a meticulous bibliographical review, which has allowed teachers to be shown and made aware of the need to implement new methodologies and that motivate and promote the integral formation of students.

The second specific objective is based on providing teachers with information about gamification as a motivation strategy in the creation of significant experiences, after carrying out an analysis of the conception of the term gamification, its elements and its application in the educational environment, it has been possible to clearly and simply expose the elements of a gamified project and verify that this strategy is adequate to motivate students and generate significant and lasting learning in them. Finally, the third objective is met since an educational innovation proposal has been developed aimed at the students of the history subject, which has detailed activities on how to create a gamified project together with the teachers.

Finally, it can be pointed out that the proposed objectives have been achieved as long as it has been possible to design a proposal to work with teachers in accordance with the information presented in the theoretical framework on

gamification, this work is also of great interest and can serve as a reference. for the development of future research and projects in gamified experiences.

REFERENCES

- Bermudez. (October 5, 2018). National University of Valencia. Obtained from Being a teacher: beyond teaching content, transmitting learning experiences: <https://www.universidadviu.com/int/actualidad/nuestros-expertos/ser-docente-mas-alla-de-ensenar-contenidos-transmitir-experiences-of>
- Carrillo, M. (2009). Motivation and learning. *Otherness*, 23-24.
- Casanova, M. (1998). Educational evaluation manual. Basic school. Madrid: Wall.
- Caponetto, I., Earp, J., & Ott, M. (2014, October). Gamification and education: A literature review. In *European Conference on Games Based Learning* (Vol. 1, p. 50). Academic Conferences International Limited.
- Contreras, R., & Eguia, J. (2017). Gamification experiences in the classroom. InCom-UAB Publications, 7-8.
- Del Mundo, D. C. (2021). Project (G.O.A.L) Gamified Off-line Alternative Learning approach to grade 7 science. *Sapienza: International Journal of Interdisciplinary Studies*, 2(2), 46–54. <https://doi.org/10.51798/sijis.v2i2.99>
- Fidalgo, A. (January 2, 2020). Educational Innovation. Retrieved from <https://innovacioneducativa.wordpress.com/2020/01/02/que-es-una-tendencia-de-innovacion-educativa-y-cuales-han-sido-las-mas-populares-en-2019/>
- Fonseca, L. (2019). New strategies for teaching and learning from gamification, 52-53. Bogota.
- Hamari, J., Koivisto, J., & Sarsa, H. (2014, January). Does gamification work?--a literature review of empirical studies on gamification. In *2014 47th Hawaii international conference on system sciences* (pp. 3025-3034). Ieee.
- Lerner, V. (1997). How we teach history. Teaching materials and their suitability for teachers and students. Mexico.
- Marqués, L. (August 6, 2012). Elements involved in the teaching and learning process. Ecuador.
- Neumer, E. to. (1981). Pedagogy. Havana: Books for education.
- Saleem, A. N., Noori, N. M., & Ozdamli, F. (2022). Gamification applications in E-learning: A literature review. *Technology, Knowledge and Learning*, 27(1), 139-159.
- Tapullima Mori, C., & Ramírez García, G. (2022). Procrastinación académica y bienestar psicológico en estudiantes universitarios durante las clases virtuales. *Sapienza: International Journal of Interdisciplinary Studies*, 3(1), 96–105. <https://doi.org/10.51798/sijis.v3i1.210>
- Vega, M. (2014). Scientific Life High School Science Bulletin No. 4, 2(4). Retrieved from What a good student needs: <https://repository.uaeh.edu.mx/revistas/index.php/prepa4/article/view/1898>.

Contribution of each author to the manuscript:

Task	% of contribution of each author				
	A1	A2	A3	A4	A5
A. theoretical and conceptual foundations and problematization:	20%	20%	20%	20%	20%
B. data research and statistical analysis:	20%	20%	20%	20%	20%
C. elaboration of figures and tables:	20%	20%	20%	20%	20%
D. drafting, reviewing and writing of the text:	20%	20%	20%	20%	20%
E. selection of bibliographical references	20%	20%	20%	20%	20%
F. Other (please indicate)	-	-	-	-	-

Indication of conflict of interest:

There is no conflict of interest

Source of funding

There is no source of funding

Acknowledgments

There is no acknowledgments.