

REVIEW

## Gamification and development of social skills in education

### Gamificación y desarrollo de habilidades sociales en la educación

Aaron Samuel Bracho Mosquera<sup>1</sup>  , Nancy Rosillo Suárez<sup>2</sup>  , María Teresa De Jesús De La Paz Rosales<sup>3</sup>  , Rogelio Buelna-Sánchez<sup>3</sup>  , Mario Pedro Rodríguez Vásquez<sup>4</sup>  , Bertha Silvana Vera Barrios<sup>5</sup>  , Rafael Romero-Carazas<sup>6</sup>  , Juan Richar Villacorta Guzmán<sup>6</sup>  , Rita Liss Ramos Perez<sup>1</sup>  , Rene Isaac Bracho Rivera<sup>1</sup>  , Milagros Andrea Bracho Rivera<sup>1</sup>  , Cynthia Michel Olguín-Martínez<sup>3</sup>  , Denisse Viridiana Velarde-Osuna<sup>3</sup>  , Daniel Omar Nieves-Lizárraga<sup>3</sup>  , Elizabeth del Carmen Ormaza Esmeraldas<sup>7</sup>  , César Carbache Mora<sup>5</sup>  , Aida Maygualida Rodríguez-Álvarez<sup>8</sup>  , Amarelys Román-Mireles<sup>9</sup>  , José Gregorio Mora-Barajas<sup>10</sup>  

<sup>1</sup>Universidad de Panamá. Panamá.

<sup>2</sup>Universidad Técnica de Manabí. Ecuador.

<sup>3</sup>Universidad Autónoma de Sinaloa. México.

<sup>4</sup>Universidad de Brasilia. Brasil.

<sup>5</sup>Universidad Autónoma de Nuevo León. México.

<sup>6</sup>Escuela Militar de Ingeniería. Bolivia.

<sup>7</sup>Universidad Laica “Eloy Alfaro de Manabí”. Ecuador.

<sup>8</sup>Universidad Católica Andrés Bello, Gerencia y Evaluación Educativa. Venezuela.

<sup>9</sup>Universidad de Carabobo. Venezuela.

<sup>10</sup>Universidad Nacional Experimental Politécnica “Antonio José de Sucre”. Barquisimeto, Venezuela.

**Cite as:** Bracho Mosquera AS, Rosillo Suárez N, De La Paz Rosales MTJ, Buelna-Sánchez R, Rodríguez Vásquez MP, Vera Barrios BS, et al. Gamification and development of social skills in education. *Salud Integral y Comunitaria*. 2024; 2:58. <https://doi.org/10.62486/sic202458>

**Submitted:** 01-12-2023

**Revised:** 13-02-2024

**Accepted:** 22-03-2024

**Published:** 23-03-2024

**Editor:** Prof. Dr. Javier González Argote 

#### ABSTRACT

**Introduction:** gamification refers to techniques used in game design but used in other areas, not related to games, to promote the motivations of individuals.

**Objective:** characterize the effects of gamification on the development of social skills in education.

**Method:** a review of the bibliography was carried out using articles rescued from databases such as SciELO, Dialnet, Scopus, Researchgate, recovering a total of 16 reference articles from available literature related to the topic in question, included in the time frame. between 2019 and 2024.

**Results:** this method makes the educational process become a meaningful experience based on factors such as motivation and social identification through play. Gamification is related to the development of skills, motivation and commitment. Furthermore, it does promote different social competencies in a more or less homogeneous way, generating in people more autonomy and a skill that is very necessary for their future.

**Conclusions:** gamification constitutes an effective tool in the teaching and learning process by consolidating knowledge, social skills, as well as various capacities because it increases motivation in personal development activities, increases the degree of commitment, increases the acquisition of social skills since offers immediate feedback and opportunities for experimentation.

**Keywords:** Gamification; Social skills; Education; Didactic Learning.

#### RESUMEN

**Introducción:** la gamificación se refiere a técnicas empleadas en el diseño de juegos pero que se utilizan en otros ámbitos, no relacionados con juegos, para promover las motivaciones de los individuos.

**Objetivo:** caracterizar los efectos de la gamificación en el desarrollo de habilidades sociales en la educación.

**Método:** se realizó una revisión de la bibliografía mediante los artículos rescatados desde las bases de datos como SciELO, Dialnet, Scopus, Researchgate, recuperándose un total de 16 artículos referenciales de literatura disponible relacionados con el tema en cuestión, comprendidos en el marco de tiempo entre el 2019 y 2024.

**Resultados:** este método hace que el proceso educativo se convierta en una experiencia significativa fundamentada en factores como la motivación y la identificación social a través del juego. La gamificación está relacionada con el desarrollo de habilidades, la motivación y el compromiso, además, sí fomenta de forma más o menos homogénea las diferentes competencias sociales, generando en las personas más autonomía y una destreza muy necesaria para su futuro.

**Conclusiones:** la gamificación constituye una herramienta eficaz en el proceso de enseñanza y aprendizaje al consolidar conocimientos, habilidades sociales, así como diversas capacidades pues aumenta la motivación en actividades de desarrollo personal, aumenta el grado de compromiso, aumenta la adquisición de habilidades sociales ya que ofrece retroalimentación inmediata y oportunidades de experimentación.

**Palabras clave:** Gamificación; Habilidades Sociales; Educación; Aprendizaje Didáctico.

## INTRODUCTION

The idea of introducing game structures to most anodyne activities is familiar. However, it has practically always been used in contexts such as education or business in order to make these activities more attractive. However, it has only been in the last few years that the concept has been subjected to academic study.<sup>(1)</sup>

Interest in issues related to games within educational processes dates back to numerous proposals that have emerged since the 1960s and their applicability in different disciplines: military, health, social sciences, and engineering.<sup>(2)</sup>

The achievement of goals through games has been present since ancient times, although it was not until well into the 21st century that gamification was introduced.

The 21st century is when gamification began to be understood in its current sense of incorporating elements of game design in non-game contexts. Although the term gamification has its origins in time immemorial, in which people sought to achieve goals through games, nowadays, this technique has become one of the most widely used in this global and digital society. From a deterministic perspective, gamification allows results to be obtained according to the objectives set, thanks to three fundamental factors: the creation of a user experience based on the game, the achievement of challenges, and reward and growth.<sup>(3)</sup>

Current trends and concerns increasingly demand intervention of teachers and institutions when it comes to innovating in emerging methodologies that try to incorporate in their classes strategies that increase motivation and commitment to providing all possible tools and resources that favor the autonomous and meaningful learning of their students. However, there is an alternative to improve the aspects mentioned above: gamification. This guarantees the assimilation of knowledge by children due to its teaching model, which can provide immediate feedback in the event of a wrong answer. In this way, evaluation goes from being a factor of measuring knowledge in students to a mutual knowledge construction based on knowing, knowing how to be, and knowing how to do, so it is understood that it is not about grading but about learning.<sup>(4)</sup>

The term gamification was coined by the British computer game programmer Nick Pelling as early as 2002. However, it was not until 2008 that the term gamification appeared in the English-speaking world, and it became popular in the second half of 2010.<sup>(5)</sup>

It is important to consider that gamification should not only be conceived as a means to influence people's behavior, but as a tool to enrich the experience of individuals; in this sense, we must understand their internal and external motivations and adjust gamification according to such findings.<sup>(6)</sup>

The consolidation of the use of simulation or games as teaching tools is the result of a long trajectory. This evolution has gone from an initial purely playful character through a more functional approach to becoming a consolidated teaching strategy, which allows for more meaningful learning.<sup>(7)</sup>

The game as a construction of knowledge requires committed teachers with a different attitude; it demands teachers who abandon traditional approaches, which worked at the time; today, we need creative, proactive, and innovative professionals who assume new realities that postmodernity presents today to impact the integral development of students. He expresses that education professionals occupy a privileged place because they are the ones who accompany the teaching process.<sup>(8)</sup>

The objective of this review article is to characterize the effects of gamification on the development of social skills in education.

## METHODS

A review of the available literature was carried out using the synthetic and historical-logical analytical methods by means of articles rescued from databases such as SciELO, Dialnet, Scopus, and Researchgate, recovering a total of 16 referential articles of available literature related to the topic in question, comprised in the time frame between 2019 and 2024. Filters were used to select articles in English and Spanish. The terms "Gamification," "Social Skills," "Education," and "Didactic Learning" were used as keywords in the article.

## RESULTS

Romero Martín et al.<sup>(9)</sup> in his study, presents a proposal for the improvement of healthy habits in primary education through gamification with results that have shown an improvement both in the performance of physical activity outside the classroom and in the increase of healthy foods during recess time. Both aspects are positive and improve the initial position. Play is an essential activity for the development of human beings, and we consider it a main tool for pedagogy and education.

It is necessary to promote the creation of networked learning ecosystems, which combine virtual and face-to-face scenarios where it is possible to carry out activities in favor of multidisciplinary training based on collaborative spaces. In order for education to fulfill its objective of transforming realities, empowering talents, and forming citizens who will shape future societies, it is necessary to turn educational spaces into places conducive to developing a wide range of competencies, skills, and knowledge.<sup>(10)</sup>

Gamification in the pedagogical field seeks to overcome the principles of traditional education by establishing new learning parameters; it seeks to turn the educational process into a meaningful experience based on factors such as motivation and social identification through the game in order to achieve greater commitment to the part of students to learning. Adapting educational methodologies to the reality of today's society is one of the challenges facing today's schools in order to adapt teaching-learning processes to the characteristics, needs, and interests of the new generations.<sup>(8)</sup>

After an exhaustive analysis of the literature related to gamification, the attention paid to its ability to be an effective strategy for achieving objectives in various situations stands out. However, gamification has been revealed to be a tool with great potential to stimulate motivation and enhance participation. To achieve optimal performance, the game elements must be thoroughly adapted to the purposes and requirements of those involved.<sup>(6)</sup>

Aroca Serrano R,<sup>11</sup> comments that for gamification to be successful, the games must offer rewards that involve students in learning and that are adaptable to be carried out both individually and in groups in the classroom.

Gamification is a creative and multidisciplinary technique, which also offers a series of substantial advantages for today's society, such as, for example, the possibility of acquiring through games the skills demanded by a society that is increasingly aware of fundamental issues such as gender equality, environmental conservation or community development.<sup>(3)</sup>

De Los Ríos Berjillos et al.<sup>(7)</sup> states that the cultural traits of millennials, the development of technology, and the change in the conception of the training process of students, driven by the European Higher Education Area, have been determining factors in the development and evolution of games in university teaching. Gamification is related to the development of skills, motivation, and commitment.

Current times, marked by scientific and technical development, demand personalities who possess attributes such as argumentation, reflection, and critical skills, which is why it is necessary for educational institutions to constantly update and improve curricula and try to incorporate methodologies into classroom processes focused on the student's activity as the main manager and responsible for his learning in order to enhance and make the most of his skills as a subject of learning.<sup>(12)</sup>

Fernández Arias et al.<sup>(3)</sup> observed, in their study, a predominant region in which the majority of gamification elements foster between 22-34 social competencies. The vast majority of gamification elements facilitate more than 50 % of the social competencies. Similarly, it is observed that the dispersion of the sample is small. There is, therefore, a predominant region of gamification elements in terms of the high number of social competencies they enhance and a small number of gamification elements that enhance a low number of social competencies. The different gamification elements more or less homogeneously foster different social competencies.

Candel et al.<sup>(13)</sup> in their study surveyed a sample of 116 participants studying for a degree in Primary Education at a private Spanish university; the students positively valued the inclusion of this type of gamification strategy in the subject of Social Sciences, so it can be considered that the application of gamification and video games favors the development of an initial training of future Primary Education teachers more adapted to the current reality.

Reina et al.<sup>(4)</sup> indicate in their results that gamification processes in basic education allow the construction of social skills in students, promote motivation to learn, commitment, and socialization through interactivity and interaction, which makes the educational activity more motivating and stimulating for students, and also

generates more autonomy in students, a very necessary skill for their future.

Gamification is the use of digital games in the teaching-learning process, which facilitates the acquisition of content and the development of meta-competences. This method motivates students by mobilizing cognitive structures for the acquisition of new knowledge, incorporating it quickly and lastingly, developing collaborative attitudes, and optimizing autonomous learning. The transcendence of gamification and inverted classroom in the teaching of Social Sciences is given in the response as a technological innovation alternative to traditional, reproductive, and memoiristic methodologies, through which teaching and learning strategies can be implemented that facilitate creativity, reflection, argumentation, criticality and cognitive independence of students as a result of meaningful learning.<sup>(12)</sup>

On the other hand, Reyes Cabrera et al.<sup>(14)</sup> show that the behaviors identified in their study were specifically two: motivation and teamwork. Regarding the former, motivation was expressed in terms of self-determination to do the activities proposed in the chapters rather than to fulfill the objective of the course or the score to be obtained. In the case of teamwork, the students stated that the way the course was designed allowed for more intense collaborative work, whose commitment was reflected in the delivery of quality products and the desire for more meaningful learning.

Ramos Morales et al.<sup>(15)</sup> showed in their study that when gamification was related to social skills, it was determined that 33 % of the students developed them at high levels, while 37 % were at medium levels. A significant 30 % were at low levels. It also concluded that gamification is not independent of the level of students' social skills. Gamification and the dimensions of social skills are related to communication and decision-making.

Cabrera Quiroz<sup>(16)</sup> shows in her results that gamification is a strategy that directly promotes the social skills of conflict resolution and assertive communication in the participants. Thus, it is concluded that gamification as a methodological strategy is significant in generating behavioral change in students in an unfamiliar context and managing to develop social skills currently required in the labor market.

Zepeda Hurtado<sup>(10)</sup> shows in his results that the use of active strategies and their combination promote the development of soft skills, mainly interpersonal, self-control, and coping skills, while those that represent an area of opportunity are those related to decision-making, critical thinking, and communication. Likewise, the results indicate that knowledge, values, and attitudes were developed in a balanced way and that they were able to relate learning in multiple spaces, as well as autonomous learning.

Serious games and gamification are tools that allow participants to learn by doing through the use of technologies and elements that achieve friendly and motivating learning environments, which can even transcend education and impact organizational and social areas.<sup>(2)</sup>

## CONCLUSIONS

Gamification constitutes an effective tool in the teaching and learning process by consolidating knowledge, social skills, as well as diverse capacities, as it increases motivation in personal development activities, increases the degree of commitment, and increases the acquisition of social skills as it offers immediate feedback and opportunities for experimentation.

## BIBLIOGRAPHIC REFERENCES

1. Sánchez Silva Á, Lamonedá Prieto J. Hibridación de la gamificación, la educación física relacionada con la salud y el modelo integral de transición activa hacia la autonomía en la iniciación al crossfit en estudiantes de secundaria. Dialnet 2021.
2. Londoño Vásquez, LM, Rojas López, MDavid. De los juegos a la gamificación: propuesta de un modelo integrado. Edu y Educa 2020;23.
3. Fernández Arias P, Ordóñez Olmedo E, Vergara Rodríguez D, Gómez Vallecillo AI. La gamificación como técnica de adquisición de competencias sociales. Prisma Social: revista de investigación social 2020.
4. Reina E, Reina K, Reina C. Gamificación como elemento favorecedor para la Construcción de habilidades sociales en estudiantes de Educación Básica. Ciencia Latina Revista Científica Multidisciplinar 2023;7. [https://doi.org/10.37811/cl\\_rcm.v7i2.5868](https://doi.org/10.37811/cl_rcm.v7i2.5868).
5. Antón Lumbier I. El impacto de la influencia social y la gamificación en la actividad física mediante el uso de aplicaciones móviles de salud (mHealth). UPNA 2023.
6. Calderón Jaramillo JS, Loaiza Dávila LE. Los juegos de acción gamificados en las capacidades físicas condicionales de estudiantes de bachillerato. Polo de Conoc 2023;8.

7. De Los Ríos Berjillos A, Muñoz Ocaña Y, Castro González P, Arroyo Barrigüete J. Gamificación: estrategia compartida entre universidad, empresa y millennials. REDU 2019;17.

8. Liberio Ambuisaca XP. El uso de las técnicas de gamificación en el aula para desarrollar las habilidades cognitivas de los niños y niñas de 4 a 5 años de Educación Inicial. Conrado 2019;15.

9. Romero Martín A. Propuesta para la mejora de los hábitos saludables en Educación Primaria a través de la gamificación. UVA 2021.

10. Zepeda Hurtado ME, Cortés Ruiz JA, Cardoso Espinosa EO. Estrategias para el desarrollo de habilidades blandas a partir del aprendizaje basado en proyectos y gamificación. RIDE 2022;13.

11. Aroca Serrano R. Proyecto de innovación educativa a través de la gamificación: La aventura pirata. UCAM 2022.

12. Ordoñez Ocampo BP, Ochoa Romero ME, Erráez Alvarado JL, León González JL, Espinoza Freire EE, Ordoñez Ocampo BP, et al. Consideraciones sobre aula invertida y gamificación en el área de ciencias sociales. Revista Universidad y Sociedad 2021;13.

13. Candel EC, Núñez SS, Marchena IM. El uso de los Videojuegos y la Gamificación como material didáctico innovador para el aprendizaje de las Ciencias Sociales en la Educación Superior. EDMETIC 2022;11. <https://doi.org/10.21071/edmetic.v11i2.13663>.

14. Reyes Cabrera WR, Quiñonez Pech SH, Reyes Cabrera WR, Quiñonez Pech SH. Gamificación en la educación a distancia: experiencias en un modelo educativo universitario. Apertura (Guadalajara, Jal) 2020;12. <https://doi.org/10.32870/ap.v12n2.1849>.

15. Ramos Morales DV, Ríos Sánchez GO, Rivas Carrasco LI, Salazar Cabana JI, Pablo Huamani R. La gamificación como estrategia de enseñanza y las habilidades sociales en estudiantes del I semestre de la carrera de Enfermería de una universidad privada de Lima, durante el 2021-I. UTP 2021.

16. Cabrera Quiroz MYY, Falcón Urrutia P, Guevara Najarro MA, Saavedra Rossel KC. La gamificación como estrategia metodológica y su contribución en el desarrollo de las habilidades sociales en los estudiantes de un instituto privado de Lima en el contexto de Covid-19 durante el periodo 2020-I. UTP 2020.

#### FINANCING

The authors did not receive funding for the development of this research.

#### CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

#### AUTHORSHIP CONTRIBUTION

*Conceptualization:* Aaron Samuel Bracho Mosquera, Nancy Rosillo Suárez, María Teresa De Jesús De La Paz Rosales, Rogelio Buelna-Sánchez, Mario Pedro Rodríguez Vásquez, Bertha Silvana Vera Barrios, Rafael Romero-Carazas, Juan Richar Villacorta Guzmán, Rita Liss Ramos Perez, Rene Isaac Bracho Rivera, Milagros Andrea Bracho Rivera, Cynthia Michel Olguín-Martínez, Denisse Viridiana Velarde-Osuna, Daniel Omar Nieves-Lizárraga, Elizabeth del Carmen Ormaza Esmeraldas, César Carbache Mora, Aida Maygualida Rodríguez-Álvarez, Amarelys Román-Mireles, José Gregorio Mora-Barajas.

*Research:* Aaron Samuel Bracho Mosquera, Nancy Rosillo Suárez, María Teresa De Jesús De La Paz Rosales, Rogelio Buelna-Sánchez, Mario Pedro Rodríguez Vásquez, Bertha Silvana Vera Barrios, Rafael Romero-Carazas, Juan Richar Villacorta Guzmán, Rita Liss Ramos Perez, Rene Isaac Bracho Rivera, Milagros Andrea Bracho Rivera, Cynthia Michel Olguín-Martínez, Denisse Viridiana Velarde-Osuna, Daniel Omar Nieves-Lizárraga, Elizabeth del Carmen Ormaza Esmeraldas, César Carbache Mora, Aida Maygualida Rodríguez-Álvarez, Amarelys Román-Mireles, José Gregorio Mora-Barajas.

*Drafting - original draft:* Aaron Samuel Bracho Mosquera, Nancy Rosillo Suárez, María Teresa De Jesús De La Paz Rosales, Rogelio Buelna-Sánchez, Mario Pedro Rodríguez Vásquez, Bertha Silvana Vera Barrios, Rafael Romero-Carazas, Juan Richar Villacorta Guzmán, Rita Liss Ramos Perez, Rene Isaac Bracho Rivera, Milagros Andrea Bracho Rivera, Cynthia Michel Olguín-Martínez, Denisse Viridiana Velarde-Osuna, Daniel Omar Nieves-

Lizárraga, Elizabeth del Carmen Ormaza Esmeraldas, César Carbache Mora, Aida Maygualida Rodríguez-Álvarez, Amarelys Román-Mireles, José Gregorio Mora-Barajas.

*Writing - proofreading and editing:* Aaron Samuel Bracho Mosquera, Nancy Rosillo Suárez, María Teresa De Jesús De La Paz Rosales, Rogelio Buelna-Sánchez, Mario Pedro Rodríguez Vásquez, Bertha Silvana Vera Barrios, Rafael Romero-Carazas, Juan Richar Villacorta Guzmán, Rita Liss Ramos Perez, Rene Isaac Bracho Rivera, Milagros Andrea Bracho Rivera, Cynthia Michel Olguín-Martínez, Denisse Viridiana Velarde-Osuna, Daniel Omar Nieves-Lizárraga, Elizabeth del Carmen Ormaza Esmeraldas, César Carbache Mora, Aida Maygualida Rodríguez-Álvarez, Amarelys Román-Mireles, José Gregorio Mora-Barajas.