Virtual education in teaching strategies:

A systematic review

La educación virtual en las estrategias de enseñanza: Revisión sistemática

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Abstract

It explains about the strategies used in a virtual or distance education and the difficulties it generates. The objective of the study is to describe the teaching strategies in a virtual education with the purpose of proposing ideas that support the improvement of teaching quality in this modality. A review was made of the main theories that support it and a systematic review methodology and the prism technique of various scientific articles on the subject, which allows to recognize the strengths and weaknesses, as well as to contribute with strategies to address the identified problems. The results show a pedagogical approach with a diversity of strategies, forms and formats of content distribution as an opportunity to shorten distances in the enrichment of the teaching-learning process. The research on teaching strategies in virtuality is the impact that the teacher's innovation will have on the mediating process that corresponds to the achievement of an effective teaching.

Keywords: Virtual education, teaching strategies

Resumen

Explica acerca de las estrategias empleadas en una educación virtual o a distancia y las dificultades que genera. El objetivo del estudio es describir las estrategias de enseñanza en una educación virtual con el propósito de plantear ideas que apoyen a mejorar la calidad de enseñanza en esta modalidad. Se hizo una revisión a las principales teorías que le otorgan soporte y se hace una metodología de revisión sistemática y la técnica prisma de diversos artículos científicos referentes al tema, que permite reconocer las fortalezas y debilidades como también de contribuir con estrategias para enfrentar la problemática identificada. Los resultados muestran un enfoque pedagógico con diversidad de estrategias, formas y formatos de distribución de contenidos como una oportunidad de acortar distancias en el enriquecimiento del proceso enseñanza aprendizaje. La investigación sobre estrategias de enseñanza en la virtualidad, es, el impacto que va a tener la innovación del docente en el proceso mediador que le corresponde para el logro de una enseñanza eficaz.

Palabras clave: Educación virtual, estrategias de enseñanza

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Introduction

Throughout the world, the e-learning model promotes exchanges between teachers, students, researchers and experts in all fields. ICTs are seen as a tool, but not as a goal, since they continue to be applied in the usual teaching without advances in learning innovation. In virtual teaching, the desired innovations are not always created, since there are educators who transfer the daily pedagogical guides to cyberspace despite the potential offered by ICT; leaving the digital objects and the educational baggage in brief compendiums of unidirectional transmission and without causing any interest for the beneficiary. Technology should be recognized as a strategy to satisfy the insufficiencies and demands of education[3].

Translated with www.DeepL.com/Translator (free version) We note that new procedures around educational processes have occurred primarily in Latin America where digital literacy is still an open issue for governments. Therefore, it should be considered as an initiative to humanize the educational actors of the system and society, to favor the imparting of new knowledge to students from different social classes, building empathy to understand that the vast majority does not have access to technological tools and even less to manipulate them[4].

The use of research and communication technologies in Peru helps to improve access to education and human development. However, there are populations that, due to lack of connectivity, do not take full advantage of these opportunities. Education in recent times has caused changes in its functionality and performance, being virtual education one of

the most significant. It is concluded that this reality requires from the actors of education not only a change of attitude and receptivity, but also an innovation of their types of education and state policies[17-18].

The digitization of critical changes in universities has special preponderance for education understood as an active method. This research touches the subject of virtualization in continuing education, from experts in education, virtual spaces of teaching and learning, modality tendencies in theoretical potions of the distance education program and the result of analysis in teacher training. It is also proposed to make a study of the main approaches of the authors to reach a judgment of the potential of the virtual Physical Education area to face the onslaught of COVID19[10-12].

En una sociedad establecida en la ilustración, con las innovaciones tecnologías de la información y la comunicación, las TICs y la proliferación de métodos de apoyo a la enseñanza, los enfoques conductuales aún están en desarrollo, solo llevando a cabo la transferencia de viejas estrategias tradicionales al nuevo contexto educativo se logrará el cambio; el argumento básico mencionado en este trabajo es la descripción de estrategias pedagógicas innovadoras basadas principalmente en el sector educativo para mejorar el entorno virtual de aprendizaje de EVA[3].

Digital learning tools are developed as a didactic means in education, to demonstrate the teaching-learning impacts they will have through the use of technological tools that complement the training of teachers and students. Then it corresponds the use of technological tools to support teaching strategies, an action that allows to take full advantage of Virtual Learning Objects in the student's training path[2].

Teachers face a rapid and paradigm change, with the application of novel didactic strategies, supported by various virtual aids. Virtualization acts as an extension of the live classroom, relying especially on long-distance communication between the representatives of change, using educational media to deploy tasks in new ways and spaces, where students manage knowledge, therefore, it should be seen as a proposal to close gaps, enrich the teaching process and enable the implementation of projects to strengthen and establish cooperation between all actors[20].

The achievements ratify the importance of guiding students, proposing communication and interaction mechanisms and applying study techniques, such as their interaction with information and communication technologies. The skills vary at their own pace, to demonstrate the benefits of blended learning, integrating technology and digital media with traditional activities[8-13].

Strategies used by teachers in the delineation and implementation of higher education areas are identified, to propose meaningful learning in virtual learning environments: (a) feedback through synchronous and asynchronous communication; (b) the strategies used by teachers to motivate their students are recognized as an intuitive process, not as a consequence of an intentional and anticipated design; (c) the motivational strategies used by teachers that involve the use of phrases or images to motivate them to work on the content of the subject. This requires the deepening of established actions and the will of educators who mark innovation in the use of teaching methods and media and with scientific and competent advances[6-9].

Some of the most successful methods are: continuous and interactive feedback, multisensory pedagogical materials, knowing about students' difficulties and promoting active learning. From the above, it is defined that the development of good pedagogical practices in multimedia environments relies more on pedagogical techniques than on the technological aids of virtual teaching, so that teachers who consider themselves confident in their performance, turn to their curriculum and experience[19].

Methodology

A systematic review of the scientific literature was carried out based on the adaptation of the PRISMA

The objective is to propose a variety of learning and participatory modes that aim to better adapt and meet the needs of educational institutions and today's society. Furthermore, it needs to add to these modalities student-centered strategies that allow a better acquisition and verification of learning. The strategy in the present context is not seen as a separate process leading to the award of a mark but as a process to be performed continuously and systematically. Virtual environments thus moved from traditional assessment to a more personalized assessment, using different tools to engage participants in a way that should evaluate their own learning and that of others.

Technical competence will consider strategies to develop leadership, human resources and an academic community that is proficient in e-learning capabilities. Leadership is essential in the transition. It should include the preparation of teachers, supervisors, educational technologists, educators and technical personnel in the field of telecommunications, who will form groups to develop program activities.

Review process

The review of the digital repository Redalyc was developed, for the search and download of scientific articles using the name "virtual education in students" and "teaching strategies" having as a result and available 25 of which, were filtered and useful 08 published from 2017 to 2021.

It was also reviewed in Scielo indexed journals using the same keywords, for the search and download of scientific articles using the name "virtual education in students" and "teaching strategies" obtaining 15 articles remaining useful after filtering 06, all in Spanish.

The exploration was done in the Dialnet database using the keywords "virtual education in students" and "teaching strategies" as in the others, obtaining 17 articles, all in Spanish,

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which were filtered and found to be useful in my research, all in Spanish.

We proceeded to the revision in the Worldwide Sciencie database with the keywords "virtual education in students" and "teaching strategies" and that after being filtered and being useful in the research was 1.

Selection process

Inclusion and exclusion criteria

In the first part of article selection, the inclusion criteria were defined as: original scientific articles in Spanish-language indexed journals published from 2010 to 2021 referring to "virtual education" and "teaching strategies" describing the concepts, importance, benefits and evaluation as an innovative education.

Then the exclusion criterion was taken into account that they did not correspond to the type of literature referring to the topic addressed and that they were duplicated articles and in other cases incomplete in their constitution.

Results

The total result of research in the data platform was made with 66 scientific articles published between 2010 and 2021: Redalyc 25 articles, Scielo 15 articles, Scopus 1 article, Dialnet 17 articles, Mendeley 07 articles and World Sciencie 1 article. With this result, we proceeded to elaborate the first filter of exclusion for duplicity and in the second part on exclusion for not corresponding to the subject treated and of interest in my research. The final result was 20 articles dealing with definitions, importance, benefits and evaluation.

The 20 articles selected, according to the database, are classified as follows: Redalyc (40%) 8 articles; Scielo (30%) 6 articles; Dialnet (25%) 5 articles and Worldwide Sciencie (5%) 1.

The years of publication to which the scientific articles belong are variants and are comprised between the years 2017 to 2021, according to the following detail.

Bar chart, of the selected scientific articles according to the year of publication.

Finally, the presentation of the particularities of the selected sources will be displayed in the table with the scientific articles found.

Figure 1. Bar chart, of the selected scientific articles according to the year of publication.
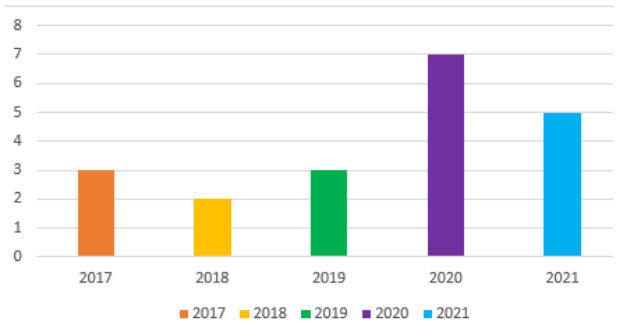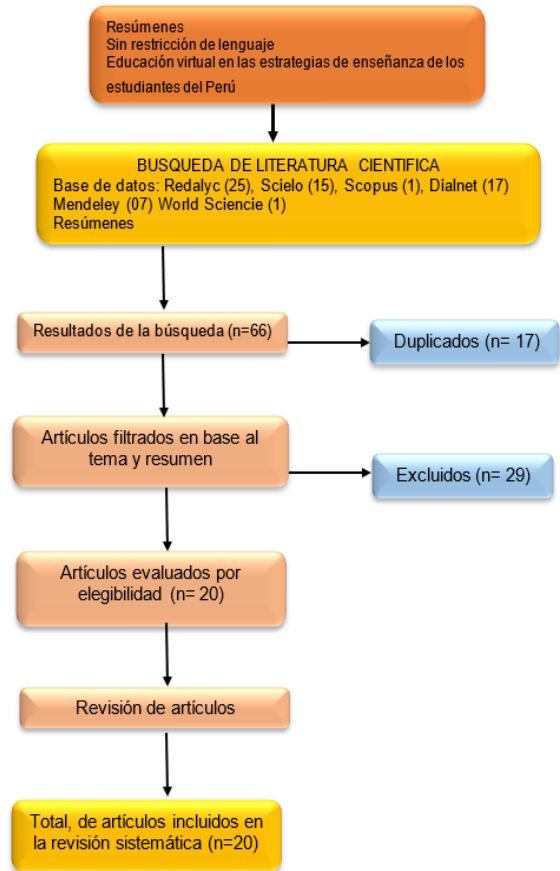
Continente	Países	N° de artículos
América del Sur	Ecuador	4
	Venezuela	2
	Perú	1
	Colombia	1
	Brasil	1
	Chile	1
América del Norte	México	5
	Cuba	3
	Estados Unidos	1
Europa	España	1

BIBLIOMETRIC TABLE

N°	BASE DE DATOS	AÑO	REVISTA	TITULO	AUTOR	PAIS	ENFOQUE
01	Redalyc	2017		La educación a distancia en entornos virtuales de enseñanza aprendizaje. Reflexiones didácticas.	Lima Montenegro, Sylvia; Fernández Nodarse, Francisco Alberto	Cuba	Cualitativa
02	Redalyc	2017		Estrategias de autorregulación en contextos virtuales de aprendizaje	Berridi Ramírez, Rebeca; Martínez Guerrero, José I.	México	Cualitativa
03	Redalyc	2017		Trabajo colaborativo y estrategias de aprendizaje en entornos virtuales en jóvenes universitarios	Rodríguez Zamora, René; Espinoza Núñez, Leonor Antonia	México	Cuantitativo
04	Dialnet	2018		Innovación docente basada en el empleo de objetos virtuales de aprendizaje de Lengua Española	Idania Hernández Domínguez Ronal Tamayo Cuenca Annys Davami Mora	Cuba	Cuantitativo
05	Redalyc	2018		Enseñar como un "acto de amor" con métodos de enseñanzaaprendizaje no tradicionales en los entornos virtuales	Maldonado-Torres, Sonia; Araujo, Victoria; Bonton, Carlos.	EE.UU.	Cualitativa
06	Scielo	2019		Estrategias disposicionales y aprendizajes significativos en el aula virtual	Marcela Duarte Danitza Elfi Montalvo Apolín Dora Elia Valdes Lozano	México	Cualitativo
07	Dialnet	2019		Aprendizaje autónomo significativo en ambientes virtuales blended learning	Carlos Stalin Jaramillo Terán Darwin E. Jaramillo Villacel	Ecuador	Cualitativa
08	Dialnet	2019		Objetos Virtuales de Aprendizaje como estrategia didáctica de enseñanza aprendizaje en la educación superior tecnológica	Sandra Lucrecia Carrillo Ríos Franklin Geovanny Tigre Ortega Edith Elena Tubón Núñez Diego Sebastián Sánchez Villegas	Ecuador	Cuantitativo
09	Scielo	2020		Estrategias didácticas para la virtualización del proceso enseñanza aprendizaje en tiempos de COVID-19	María Niurka Vialart Vidal	Cuba	Cualitativo
10	Dialnet	2020		Articulación entre los estilos de aprendizaje y las estrategias de enseñanza en la educación superior	Amalfi De La Cruz Herrera Valdez Sindy Patricia Cardona Puello Alexander Javier Osorio Beleño	Colombia	Mixto
11	Redalyc	2020		Bosque semántico: ¿educación/ enseñanza/aprendizaje a distancia, virtual, en línea, digital, eLearning…?	García Aretio, Lorenzo	España	Cualitativo
12	Redalyc	2020		Educación virtual: factores que influyen en su expansión en América Latina	VARAS-MEZA, Héctor; SUAREZ-AMAYA, Wendolin; LOPEZ-VALENZUELA, Carolina; VALDESMONTECINOS, Michel	Venezuela	Cualitativa
13	Dialnet	2020		Estrategias pedagógicas innovadoras en entornos virtuales de aprendizaje	Patricia Gabriela Chong-Baque I Concepción Elizabeth Marcillo-García	Ecuador	Cualitativa
14	Scielo	2020		Por una Educación Física virtual en tiempos de COVID	Richar Jacobo Posso Pacheco Javier Marcelo Otañez Enríquez Susana Paz Viteri Norma Amabilia Ortiz Bravo Luis Fernando Xavier Núñez Sotomayor	Brasil	Cualitativa
15	Redalyc	2020		Estrategias de mediación tecnopedagógicas en los ambientes virtuales de aprendizaje	Ramírez Hernández, Moramay; Cortés Palma, Elizabeth; Díaz Alva, Angelina	México	Mixto
16	World wide Science	2020		Enseñanza remota y redes sociales: estrategias y desafíos para conformar comunidades de aprendizaje – Ecuador	David Alejandro Salas Bustos	Ecuador	Cualitativa
17	Redalyc	2021		Educación a distancia: transformación de los aprendizajes	Cobarrubias Hernández, Liliana Yonué.	Venezuela	Cualitativa
18	Scielo	2021		Rendimiento académico y factores educativos de estudiantes del programa de educación en entorno virtual. Influencia de variables docentes	Magaly M. Quiñones-Negrete Ana M. Martín-Cuadrado Carmen R. Coloma-Manrique	Chile	Cuantitativa
19	Scielo	2021		Eficacia de los objetos virtuales para el aprendizaje en el uso de estrategias de lectura de estudiantes de distritos del Perú con restricciones en conectividad y equipamiento - caso Villa Rica	Jorge Ernesto Torres Obleas Daniela Medina Coronado	Perú	Mixto
20	Scielo	2021		Modelos de enseñanza sobre buenas prácticas docentes en las aulas virtuales	Miriam Iliana Véliz Salazar[1] Victoria Eugenia Gutiérrez Marfileño	México	Cualitativa

Discussion

Within the systematic review of the articles in the different databases, it can be seen that in the last two years the research topic is quite broad due to the context experienced, so it is important to talk about virtual education and the different strategies adopted by teachers to be an effective mediator, to make their sessions more dynamic and participatory to achieve meaningful learning.

Virtual education is considered as a non-effective alternative applying traditional teaching, seeing ICT as an end, taking traditional pedagogy to cyberspace using technological tools as simple complementary elements. Our interest is to confront these statements, since they were given in a different context to the one we live in, today with the advances in technology and literacy in the use of digital tools, virtual education is one of the most relevant and effective innovations seeking the transformation of a new educational model for the transfer of knowledge. Therefore, we can indicate virtual education as a didactic dialogue where the teacher is an effective mediator[3,4,7,16-18].

Seeing ourselves as a humanity established in knowledge, the proliferation of learning support with the new tools of inquiry and communication, I agree with the statements that indicate that when virtual tools and objects are developed as didactic strategies in education, it is to innovate and achieve a significant impact in this new modality with the implementation of a new design in the different areas of education. This also depends on the willingness of teachers to innovate in identifying self-regulatory strategies to analyze learning progress in virtual environments and motivating the achievement of students in meaningful, autonomous and collaborative learning by exposing them to a virtual environment as a teaching tool[2,5-14].

Also indicate good pedagogical practices as a result of the implementation of a good didactic strategy based on their study and experience. To guide students by establishing mechanisms of communication and interaction applying innovative methods according to technology and digital tools, providing opportunities for the development of their skills, so that they assume responsibilities in organizing their work and at their own pace and ability to achieve their goals[8,13,19].

Conclusions

There are stages of change in the context of actors and education, some motivated by the benefits of new ICT, while others driven by a demanding dynamism. Prior to this, teachers must efficiently innovate virtualized teaching and learning techniques.

The described innovation strategies should be considered by teachers to unlink traditional teaching methods, for students who provide educational resources through the new digital tools and then used in evaluation of either a summary or an essay, in an innovative space where cognitive skills

are to solve problems through the development of projects that respond to current needs.

Finding effectiveness in EVA requires a reflective teaching practice, an active and engaged student body, where the need to belong, connect, compete, succeed and enjoy is paramount. Students should be willing to achieve skills such as autonomy, order, cooperation and reflection; that is, at the core of the projection are highly interactive individual or group activities that achieve a parallel approach between the learning objectives and such inadequacies.

The importance for the teacher to assume a critical attitude, open and aware of change in order to be updated and encouraged to use tools that adapt to different learning scenarios.

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