Active Methodologies In The Virtual Learning Environment For Students Of A Public Educational Institution, Lima, 2022

By

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Abstract

This research aims to demonstrate that the application of active methodologies improves the use of virtual learning environments in a public educational institution, Lima, Lima, 2022. It is quantitative, with a quasi-experimental experimental design. With a population of 400 students and a sample of 50 students, applying a survey as an instrument, where the results indicated that students had a low level of autonomous learning strategies through the use of virtual learning environments. The application of the methodologies for which thirty learning sessions were executed with active methodologies considering: Learning under the case study, such methodology allowed reaching a high level in autonomous learning strategies in students.

Keywords: Autonomous learning, learning strategies, case studies, active methodology and virtual learning environments.

Introduction

Technological evolution has generated new opportunities and adaptive models, propitiating the creation of virtual educational environments in conventional scenarios. This space allows the student to learn the activities performed in the teaching-learning process, access appropriate and processing information, generating competencies from a virtual environment.

The support of sophisticated technological tools for advertising and content management, from the emergence of collective intelligence to the use of communication tools, has allowed interaction for discussion, reflection and knowledge construction (Martínez de la Cruz et al., 2015. & Chan, 2004).

It should be noted that information technologies in educational environments explain, justify and highlight the importance of their integration into the teaching and learning processes, giving rise to the culture of the digital society. In this regard, Cardoso (2003) argues that new technologies influence and modify the behavior of society; Bustos & Coll (2010) state that integrating information technologies and education has generated new learning and knowledge societies (Castells, 2001, 2006; Coll and Martí, 2001, cited in Bustos & Coll, 2010).

In this sense, technologies have made it possible to build new knowledge based on teaching and learning environments (Bustos and Coll, 2010; Martínez de la Cruz et al., 2015). Virtual learning environments have strengthened teaching environments based on technologies, considered as open scenarios that do not show restrictions, mentioning that closed environments for learning only allow the student to find everything needed to learn within a classroom in synchronous time. Virtual environments are open spaces that allow the construction of a virtual learning model that leads to the student's pace, through asynchronous communication, without restrictions (Martínez de la Cruz et al., 2015; Almirón and Porro, 2014).

In Peru, using virtual learning environments has generated resistance among the student population, often hindering the teacher-student relationship. Considering the recent Student Census Evaluation (ECE) at the end of 2018 enunciates results where 54.8% of the national population at the secondary level use information technologies, while 45.2% only use other means of information, being the characteristic problem of the lack of technological resources, which allows the digitization of texts. Likewise, due to its social relevance and integration with technology, it has been able to optimize the learning process, generating a model based on diverse methodologies where active agents seek to build their knowledge within the teaching-learning process.

This modality of virtual education establishes and narrows the distances for access to information, knowledge and others, autonomously establishing learning (Augusto & Varón, n.d.; Sanabria, n.d.). The COVID-19 pandemic forced millions of people to change routines and lifestyles, generating disruptive changes in their environments' economic, social and educational systems. Without waiting in the educational field, teachers were trained in using and managing technologies, allowing them to face the challenges of teaching through technological tools to manage the teaching-learning processes in the virtual modality.

In this sense, according to the problem presented, the research purpose would be: Analyze the active methodologies that promote the development and use of virtual learning environments of a Public Educational Institution in Lima in the year 2022. In this way, the general objective is: To study the active methodologies to improve the use of virtual learning environments in a Public Educational Institution, Lima, 2022, from which the specific objectives are described: (a) To visualize whether active methodologies that promote the development and use of virtual learning environments in the extension of autonomous learning in students of a Public Educational Institution, Lima, 2022; (b) To examine whether active methodologies promote the development and use of collaborative learning virtual learning environments of learning in students of a Public Educational Institution, Lima, 2022; (c) To explain if active methodologies promote the development and use of virtual learning environments in the conceptualization of autonomous learning in students of a Public Educational Institution, Lima, 2022.

This research arises from the need to strengthen the teaching-learning process, using the skills and management of technologies to obtain autonomous learning in students. Therefore, the study will not only design strategies based on active methodologies for the development of autonomous learning through virtual environments, but it will also try to improve it during the process, thus benefiting students in learning sustained in active methodologies considering: problem-based learning, project-based learning and learning under case studies, leading to an adequate performance in teaching students.

It is justified by providing theoretical foundations on active methodologies in virtual learning environments. Methodologically, it is justified because the instruments to be applied will be validated and supported by expert judgment, and their reliability will be achieved through the instrument's application. Regarding the practical justification, the results obtained will benefit a Public Educational Institution, Lima, 2022, since it will be possible to know the learning levels, as well as the levels of analysis of the learning process, and by having this diagnosis, it will be possible to design and offer preventive measures and practical solutions.

From the theoretical bases, virtual learning environments are considered a technological innovation in regular basic education, which strengthens the experience through the virtual space of a traditional training model to a virtual classroom, recreating the same spaces and operations (Adell, 2004). The design of an EVA allows for expressing quality virtual training experiences that contribute to significant learning in students. It also contributes to strengthening the necessary competencies for integrating ICT in their teaching practice, specifically in the virtual area, by designing and moderating the Virtual Learning Environment, making use of methodologies and activities focused on the teaching-learning process.

Thus, the pedagogical model of online training is centered on activities based on concepts and implementing an LMS. Mastering information and communication technologies (ICT) opens a range of opportunities to innovate, and renew methodological and innovative proposals in educational processes (Gisbert & Johnson, 2015; Silva, 2011 & Miranda, Guerra, Fabbri & López, 2010).

A virtual learning environment (EVA) facilitates pedagogical communication between the actors of the educational process, allowing their combination in various proportions, distributing educational materials in digital format (texts, images, audio, simulations, games, etc.), as well as making use of chat, forums, discussions and others, making their resources of great importance for the teaching-learning process, mainly in the use of academic, social networks and the strengthening of learning communities, allowing the potential and the tendency to accentuate further the opportunities and use of virtual groups (Robles and Sato, 2020).

It is worth mentioning that learning communities favor the training and collaboration among teachers, preparing them to face challenges (Expósito & Marsollier, 2020; Vaillant, 2017; Adell, Castellet & Pascual, 2004; Bonilla, 2016 & Marciniak & Gairín-Sallán, 2018). Education by integrating with technologies has strengthened the teaching-learning processes, seeking to develop an open system and permanent innovation with modern pedagogical approaches focused on autonomous and independent study, mediated by the dialogic action between teachers and students, assuming a comprehensive and integrated process of autonomous learning that involves the creation of a new culture for the critical construction of a context of reality and knowledge (Rodríguez Andino & Barragán Sánchez, 2017).

Likewise, a knowledge environment allows the distribution of digital content and seeks the student to manipulate the information in creative, attractive and collaborative ways. This new learning paradigm can generate feedback and interaction between the students and the facilitator through the dynamics that synchronously generate a collaborative work environment, either by videoconference or chat or asynchronously by e-mail, discussion forums or distribution lists (Universidad Autónoma Metropolitana Unidad Iztapalapa, n.d.). Coll and Martí (2001) affirm that ICT in the field of school education outline a double entry, the first one allows technologies to count on their characteristics in order to promote learning; the second one incorporates Technologies in education, allowing to behave a substantial

modification in teaching and learning environments. Formal education environments have transformed a key factor for the emergence of new virtual or online scenarios within a social framework for incorporating ICTs in the digital society (Castells, 2006; Lévy, 2007). Not to mention that the range of uses of these technologies, in its criterion of technological resource in its synchronous or asynchronous communication, focuses the implicit or explicit educational purposes and objectives of learning and teaching on which they are based (Bustos & Coll, 2010).

Material And Methods

The work carried out has a quasi-experimental design, which aims to demonstrate the influence of active methodologies to improve the use of virtual learning environments in the students of a public educational institution, Lima, 2022. For this purpose, a search and selection of studies were carried out, based on a systematic qualitative review, and distributed as follows: 1st Phase. Selection of databases and areas of study:

a)   Selection of the database: A search of the articles indexed in the SCOPUS database was projected. SCIELO and other sources. In the first search, 569 scientific articles were found. 2nd Phase. Journal selection was applied with the filter of years of publication from 2017 to 2021 51 scientific articles were found. Then the language filter was applied to choose Spanish and filtered to Latin American countries, obtaining 15 scientific articles. 3rd Phase. The criteria for selecting articles in the databases was to consider articles related to the objective and the thematic axes: technological tools and teaching-learning. The keywords considered were: education, learning, teaching, students, and ICT. This search selection reduced the result to 10 articles. To perform the search equation, keywords combined with Boolean operators were used, resulting in the following: Technological Tools OR Teaching OR learning AND Academic Performance students OR Education NOT achievement. Using the filter, one scientific article was found. Using AND AND AND OR OR, 91 articles were found, and by filtering using journals, 45 articles were obtained; for the search, Scopus was entered, the title of the article was entered, and one article was found.

Exclusion criteria:
-    Articles that are books or theses
-    Items older than 10 years
-    Articles whose adjectives do not match the subject matter
-    Articles for which not all information can be viewed

Inclusion Criteria:
1.   Articles related to the objective of the study.
2.   Scientific and literature review articles

In this way, the analysis of the information, which supports the context of active methodologies in the virtual learning environment in students of a Public Educational Institution, Lima, 2022, has been carried out, taking into account important studies of the context of the learning process.

Results

The research shows that the results have allowed to process and contrast it, which has allowed to find realities in the educational sector, which has generated disagreement in the educational sector.
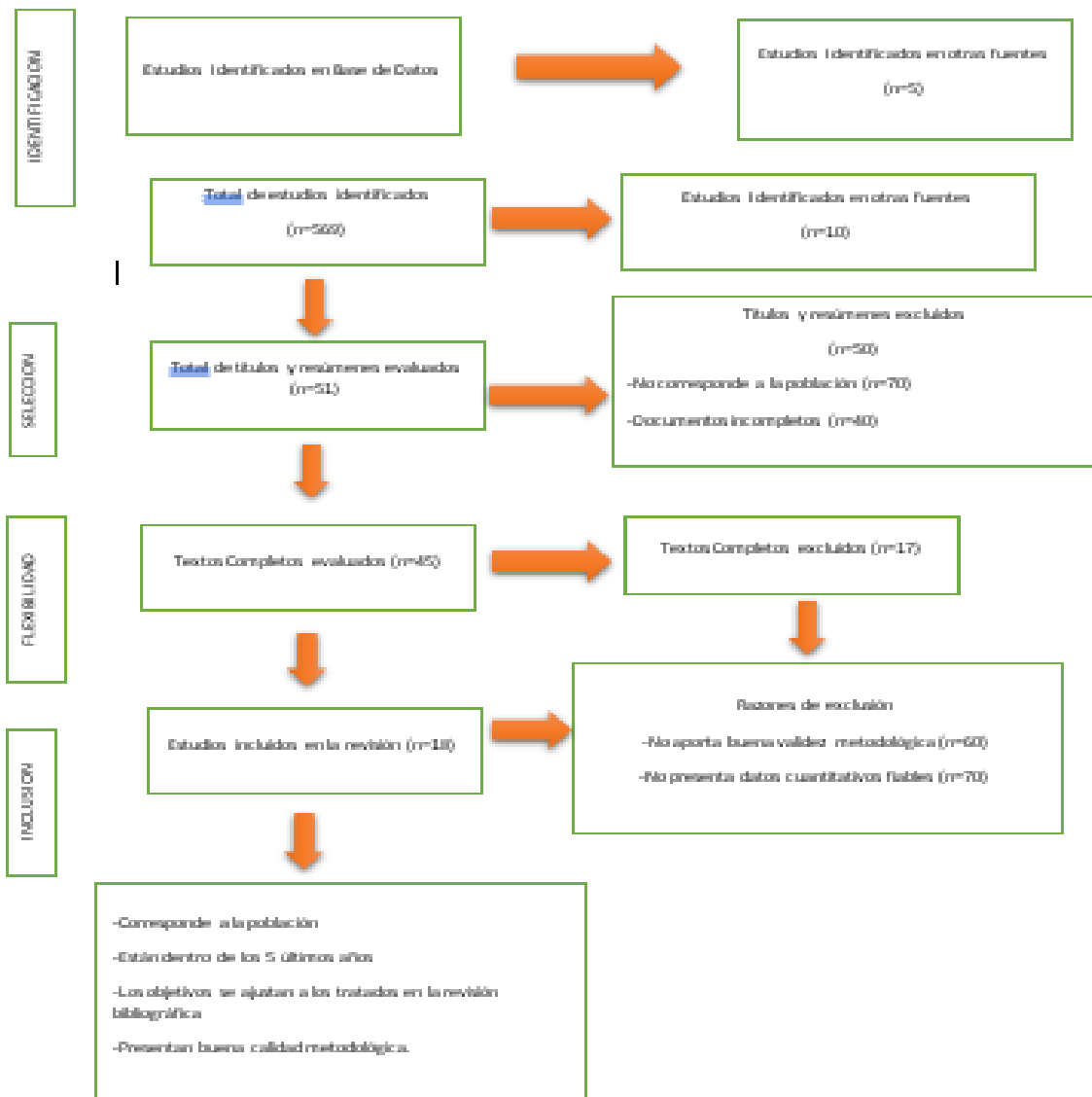
Flow Chart

Figure 1. *Flowchart*

Table 1. *Number of Sources Included and Excluded*

Database	Including	Excluded
Scopus	9	100
SciELO	4	269
Other sources	5	20
Total	18	389

Source: *Prepared by the author*

Table 2. *Selection of Included and Excluded Items*

Nº	Base de datos	Autores	Título del artículo	País	Año	Inclusión
1	Scopus	Wladimir Paredes-Parada	Brecha en el uso de tecnologías de la información y comunicación (TIC) básicas y modernas entre estudiantes y docentes en universidades ecuatorianas	Ecuador	2018	Está orientado al objetivo
2	Scopus	Gilberto Mejía Salazar	La aplicación de las TIC en los procesos de enseñanza aprendizaje en estudiantes de nivel medio superior en Tepic, Nayarit	México	2020	Está orientado al objetivo
3	Scopus	Clara Lila Bobadilla Asenjo. Clara Galán Pizarro. Martha Mercedes Vásquez Vásquez	Las tecnologías de la información y comunicación como herramienta pedagógica para el docente	Perú	2020	Está orientado al objetivo
4	Scopus	Blas Yoel Juanes Giraud. Omar Ricardo Munévar Mesa. Henry Cándelo Blandón	La virtualidad en la educación. Aspectos claves para la continuidad de la enseñanza en tiempos de pandemia	Ecuador	2020	Está orientado al objetivo
5	Dialnet	Wladimir Camargo–Romero. Eliana Ruiz–Martínez; Ramón Abello	Implementación de las herramientas tecnológicas como estrategia pedagógica	Colombia	2018	Está orientado al objetivo
6	Dialnet	Flores Tena, M.J., Ortega Navas, M.C. & Sánchez Fuster, M.C	Las nuevas tecnologías como estrategias innovadoras de enseñanza-aprendizaje en la era digital	España	2020	Está orientado al objetivo
7	Scopus	Leonela Yajaira Granda Asencio, Oswaldo Enrique Espinoza Freire, Sofil Esteban Mayon Espinoza	Las TICs como herramientas didácticas del proceso de enseñanza-aprendizaje	Ecuador	2019	Está orientado al objetivo
Nº	Base de datos	Autores	Título del artículo	País	Año	Inclusión
8	SCOPUS. Docentes 2 0.com	Carlos Henry Sandoval	La Educación en Tiempo del Covid-19 Herramientas TIC: El Nuevo Rol Docente en el Fortalecimiento del Proceso Enseñanza Aprendizaje de las Prácticas Educativa Innovadoras	Colombia	2020	Esta ordenado orientado al objetivo
9	Dialnet	Eva Lisbeth Cedeño Romero, Marcos Fernando Pazmiño Campuzano, Patricio Alfredo Vallejo Valdivieso	Formación virtual del profesorado para mejorar la calidad del aprendizaje	Ecuador	2019	Esta ordenado orientado al objetivo
10	Dialnet	Silvia Inés Plaza-Burgos, Herminia Hernández-Fernández, Karina Liliana Mendoza-Bravo	Caracterización de las TIC durante el proceso enseñanza-aprendizaje	Ecuador	2020	Esta ordenado orientado al objetivo

11	Scielo	Jessel Martínez-Garcés, Jacqueline Garcés-Fuenmayor	Competencias digitales docentes y el reto de la educación virtual derivado de la covid-19	Colombia	2020	Esta ordenado orientado al objetivo
12	Scielo	Enrique Javier Macias Arias, Jhonny Antonio López Cisneros Germán, Temístocles Ramos León, Fabián Enrique Lozada Armendáriz	LOS ENTORNOS VIRTUALES COMO NUEVOS ESCENARIOS DE APRENDIZAJE: EL MANEJO DE PLATAFORMAS ONLINE EN EL CONTEXTO ACADÉMICO.	Ecuador	2020	Esta ordenado orientado al objetivo
13	Scielo	María Luisa Arancibia Muñoz, Julio Cabero Almenara, Ismael Valdivia Zamorano	Estudio comparativo entre docentes y estudiantes sobre aceptación y uso de tecnologías con fines educativos en el contexto chileno	México	2019	Esta ordenado orientado al objetivo
14	Dialnet	María Nicolasa Tocalo Becerra	El docente y el uso de herramientas tecnológicas de enseñanza-aprendizaje en la Educación Básica Ecuatoriana	Ecuador	2017	Esta ordenado orientado al objetivo
15	Dialnet	Concepción Sánchez, Marisela Jiménez Bobadilla	Impacto del uso de las herramientas tecnológicas en los docentes de educación primaria en época del COVID-19	Ecuador	2020	Esta ordenado orientado al objetivo
16	Scielo	Floralba del Rocío Aguilar Gordón	Vista de Reflexiones sobre la filosofía de la tecnología en los procesos educativos	Ecuador	2020	Esta ordenado orientado al objetivo
	Scielo	Blas Joel Juárez	La virtualidad en la educación. Aspectos claves para la continuidad de la enseñanza en tiempos de Pandemia.			Esta ordenado orientado al objetivo
18	Latindex	Luis Sánchez Palacios	Impacto del Aula Virtual en el Proceso de Aprendizaje de los Estudiantes de Bachillerato General	Ecuador	2020	Esta ordenado orientado al objetivo

Source: *Own elaboration*

Discussion

30.43% of the inquiries in education learning have 3 out of 7 that demonstrate the interrelation with the other subcategories. While 65.22% of the subcategory online learning presents 6 out of 15 investigations of interrelation with the other subcategories. Thus, 34.78% represents the subcategory of psychological health, with 4 of 8 illustrations showing interrelation with the other subcategories. When examining the results, it was located that education and learning, online learning and psychological health are determinants of habituation teachers' processes in the coronavirus environment. Related to education and learning, as well as their interaction with teacher habituation, is important to the school's paradigm shift to make teaching for all a teaching for relevance and pertinence (Ramrathan, 2020). However, online education and learning do not only establish the performance of ICT, which seeks a new paradigm within the context of education and learning. This will require a conceptual and philosophical rethinking of education and learning between teachers and students (Zhu & Liu, 2020). Despite the learnings and experiences acquired in the technological and educational lot within the coronavirus, the findings of an analysis developed in Indonesia stimulate the need to address the barriers of online learning and maximize its benefits for global education in the future (Mailizar et al., 2020). The barriers to online learning, such as the need to amplify the boutique of opportunities for teachers, internalize learning classes as a flexible and effective source in education, enabling learners' entry to educational materials simply, instantaneously and without geographical parameters. Not sparing that such obstacles to online learning have allowed a comparative analysis carried out in the United Kingdom, in coordination with Australia, Belgium, Cyprus, Ireland and the Netherlands, which found that the digital use gap involves providing a correct entry to technology and a compelling entry to experience the functioning of ICT, significantly to boost interactivity in education and learning (Hall et al., 2020). According to this initiative, two needs are shown: quality connectivity and training in the mastery of ICT, an essential factor for online learning. In both cases, it allows

material and human resources that can change the needs into opportunities for the optimization and positioning of online learning. However, the use of educational tactics linked to the teaching-learning process adapts to a new model, which despite the purchasing restrictions, parents and students who find it impossible to get the technologies that demand online learning, fast internet, not having pcs of medium or high range, equipped with updated programs for online learning as Zoom, Meet, Blackboard, among others, and, instead, resort to the use of media such as tablets or cell phones capable as an emerging output. However, it must be admitted that not all actors of online learning have the same ways of connectivity is determinant to reach everyone from methodological planning focused on the particular modalities of these actors.

Conclusions

The adaptation function has allowed the teacher to strengthen and manage their capabilities for the entry and operation of ICT for educational purposes, but this habituation was pragmatic because the triumph of online learning allows strategic integration, didactically and objectively.

The teacher's habituation has demanded that he/she becomes aware of the benefits and disadvantages of online learning and design models to prevent situations arising from the process, whether it is time performance, limitations in connectivity, learner discipline, evaluation, the absence or excess of teacher-student, student-student interactivity, economic and technological restrictions, among others.

The teacher has had to covenant to the union excess that implied training intensively to modify or improve learning strategies in education, without having too much experience in this way, conditioning himself to the context of reality, even with inconveniences that led him to generalized psychological stress without a background of the pedagogical exercise.

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