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REVIEW ARTICLE

Autonomous learning in distance education in psychopedagogy students during COVID-19: a systematic review

Aprendizaje autónomo en la educación a distancia en estudiantes de Psicopedagogía durante la COVID-19: una revisión sistemática

Aprendizagem autônoma na educação a distância em estudantes de Psicopedagogia durante a COVID-19: uma revisão sistemática

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ABSTRACT

Introduction: during COVID-19, distance education was an opportunity to practice self-learning in health through the use of electronic resources, with the dynamism and promotion of self-taught learning through the use of ICT. **Objective:** to assess, through a systematic review, the behavior of autonomous learning in Psychopedagogy students during the COVID-19 pandemic. **Method:** a systematic review was carried out on publications between the years 2020-2022, where 767 articles were identified in Scopus, 64 records in SciELO and 759 in Google Scholar, after processing a sample of 52 articles remained. The following were collected: title, year, type of article, context, journal, indexing, topic, comment, and possible use in the article, bibliographic reference and DOI. Bibliographic references were processed using the Mendeley bibliographic manager. **Results:** the growing research act was highlighted about the methodological strategies of autonomy in learning in basic education and with aspirations to carry out health studies, during the COVID-19 pandemic. The country with the most academic productions on autonomous learning in basic education was Peru with four, followed by Ecuador with three scientific productions linked to health; Research from other latitudes was also found. **Conclusions:** autonomous learning is a current priority, essential to respond to the demands of a changing and complex society. In Latin American countries, there was growing research interest in autonomous learning in basic education and they aspired to carry out health studies during the COVID-19 pandemic.

Keywords: autonomous learning; COVID-19; long distance education

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RESUMEN

Introducción:durante la COVID-19, la educación a distancia fue una oportunidad para el ejercicio del autoaprendizaje en salud mediante el uso de recursos electrónicos, con el dinamismo e impulso del aprendizaje autodidacta mediante el uso de las TIC.**Objetivo:**valorar a través de una revisión sistemática el comportamiento del aprendizaje autónomo en estudiantes de Psicopedagogía durante la pandemia por la COVID-19.**Método:** se realizó una revisión sistemática en publicaciones entre los años 2020-2022, donde se identificaron 767 artículos en Scopus, 64 registros en SciELO y 759 en Google Scholar, luego de su procesamiento quedó una muestra de52 artículos. Fueron recopilados: título, año, tipo de artículo, contexto, revista, indexación, tema, comentario, posible uso en el artículo, referencia bibliográfica y DOI. Las referencias bibliográficas se procesaron mediante el gestor bibliográfico Mendeley. **Resultados:** sedstacó el creciente acto investigativo acerca de las estrategias metodológicas de la autonomía en los aprendizajes en educación básica y con aspiraciones a efectuar estudios en salud,durante la pandemia por la COVID-19. El país con más producciones académicas sobre aprendizaje autónomo en educación básica fue Perú con cuatro, seguido de Ecuador con tres producciones científicasvinculadas a salud; también se encontraron investigaciones de otras latitudes.**Conclusiones:** el aprendizaje autónomo es una prioridad de vigencia actual, indispensable para responder a las demandas de una sociedad cambiante y compleja. En los países de Latinoamérica hubo creciente interés investigativo sobre aprendizaje autónomo en educación básica y que aspiraron a efectuar estudios en saluddurante la pandemia por la COVID-19.

Palabras clave:aprendizaje autónomo;COVID-19; educación a distancia

RESUMO

Introdução: durante a COVID-19, a educação a distância foi uma oportunidade para praticar a autoaprendizagem em saúde através do uso de recursos eletrônicos, com a dinamização e promoção da aprendizagem autodidata através do uso das TIC. **Objetivo:** avaliar, por meio de uma revisão sistemática, o comportamento da aprendizagem autônoma em estudantes de Psicopedagogia durante a pandemia da COVID-19. **Método:** foi realizada uma revisão sistemática sobre publicações entre os anos de 2020 a 2022, onde foram identificados 767 artigos na Scopus, 64 registros na SciELO e 759 no Google Acadêmico, após processamento permaneceu uma amostra de 52 artigos. Foram coletados: título, ano, tipo de artigo, contexto, periódico, indexação, tema, comentário, possível uso no artigo, referência bibliográfica e DOI. As referências bibliográficas foram processadas utilizando o gerenciador bibliográfico Mendeley. **Resultados:** destacou-se a crescente atuação de pesquisa sobre as estratégias metodológicas de autonomia na aprendizagem na educação básica e com aspirações à realização de estudos em saúde, durante a pandemia de COVID-19. O país com mais produções acadêmicas sobre aprendizagem autônoma na educação básica foi o Peru com quatro, seguido pelo Equador com três produções científicas ligadas à saúde; Pesquisas de outras latitudes também foram encontradas. **Conclusões:** a aprendizagem autónoma é uma prioridade atual, essencial para responder às exigências de uma sociedade complexa e em mudança. Nos países latino-americanos, havia um crescente interesse de investigação na aprendizagem autónoma no ensino básico e aspiravam a realizar estudos de saúde durante a pandemia da COVID-19.

Palavras-chave: aprendizagem autônoma; COVID 19; educação a distância

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INTRODUCTION

Due to the pandemic, among the few important aspects that it brought, the strengthening and promotion of autonomous learning in health is considered one of them, because at that juncture it was the most relevant learning and consideration at that time, which caused students to learn by their own means.

Autonomous learning was the most relevant at that time, and the circumstances of the pandemic generated that even being in a health emergency situation, such learning was promoted for the benefit of all students and in the health area.

Making students autonomous is an aspiration in the 21st century; to the detriment of this situation is the lack of an integrated system to support the monitoring and evaluation of self-learning in many educational institutions, according to RaluyMislang.[1]

The changes in space and time habits, added to the use of technological tools, developed in students with aspirations to study in health an interest in refining their metacognitive abilities and supported their autonomous learning in the service of others.[2,3]

In the pandemic context, remote education was an opportunity for the exercise of self-learning in health through the use of electronic resources,[4] with the dynamism and impulse of self-taught learning through the use of ICT[5] and, at the same time, it revealed the need to incorporate the construction of computer-based knowledge in accordance with the current technological challenges in the school curriculum and the importance of the interaction between student and teacher.[6]

In this sense, Enríquez and Hernández[7] affirm that fostering autonomous learning in students favors the development of the following dimensions: social, affective-emotional, cognitive, meta-cognitive and action-oriented; in addition, it helps in the practice of self-regulatory actions essential for self-learning.[8]

On the other hand, BartoloméPrudencio[9] maintains that the educational service provided during the pandemic made it possible to appreciate the significant relationship between autonomous learning in health and formative evaluation. Likewise, Cabero-Almenara[10] and Henriques, et al.[11] affirm that some difficulties to promote self-learning during the pandemic were the low level of digital competences of teachers, lack of connectivity and technological resources.

According to Cunha, et al.[12] autonomous learning is nourished by the theoretical contributions of self-regulation, characterized by the interaction of metacognitive and motivational processes comprising the phases: 1: Planning, where the student strategically establishes his objectives and motivates himself according to his interests; 2: Execution, comprising metacognitive and motivational strategies; and 3: Self-reflection, where self-evaluation of the process is carried out, analyzing favorable or limiting actions.

One of the decisive strategies to generate autonomous learning during the pandemic was self-regulation,[8,12,13,14,15,16] for which it is necessary to promote it from an early age.[17,18] In this sense, it has also meant the revaluation of the teaching role as pedagogical accompanier[7] and manager of autonomous learning, committed and trained.[19,20] with a culture of self-evaluation and reflection of the pedagogical strategies linked to the promotion of autonomy.[21] in autonomous learning during the COVID-19 pandemic for the benefit of students and specifically in health students.

By virtue of what has been expressed, the following questions are formulated: What are the scientific contributions of strategies developed for the achievement of autonomous learning in health students? What are the methodological strategies developed during remote education and what technological resources were used in autonomous learning during the pandemic by COVID-19 for the benefit of all students and specifically health students?

Autonomous learning in remote education during the pandemic by COVID-19: A systematic review, refers to a research process that involved a review, verification, organization and control of information related to autonomous learning in health, that is: the learning promoted because of the mentioned pandemic, constituting autonomous students, responsible and with a sense of growth and development of the learning conditions circumscribed to the virtual environment.

The objective of this systematic research is: to evaluate through a systematic review the behavior of autonomous learning in students of Psychopedagogy during the pandemic due to COVID-19.

METHOD

The present study focuses on the qualitative methodology supported by the hermeneutic Sanchez Molina, et al.[22] in which the social actors (authors of the documents reviewed) contribute significant reflections in reference to a particular topic; for its purpose it is of a basic type since it helps to know the problem under study based on documentary sources.

The collection and selection of articles was carried out by means of a systematic search according to the subject of study in Scopus, SciELO and Google Scholar databases, through the following search equations: "Autonomous learning strategies" AND/OR "remote education", "autonomous learning strategies" AND/OR "self-regulated learning", "autonomous learning" AND/OR "remote education" and "autonomous learning" AND/OR "virtual education".

The information was filtered considering inclusion and exclusion criteria, such as articles in English and Spanish, open access, social sciences, original articles in final publication and review stage, as well as some doctoral theses published between the years 2020 to 2022.

A total of 767 articles were identified in Scopus, 64 in SciELO and 759 in Google Scholar; after the filtering process, a total of 83 articles remained, of which 31 were excluded because they belonged to higher education or were not related to the research topic, leaving a sample of 52 articles to be analyzed, shown in Table 1.

Table1. Number of articles reviewed by date of publication

Database	Year of issue			Total items
	2020	2021	2022	
Scopus	7	16	11	34
SciELO	3	3	1	7
Google	3	7	1	11
Total	**13**	**26**	**13**	**52**

A bibliographic review of the selected articles was carried out to learn about the methodological strategies of autonomous learning and the technological resources used in remote education in students of basic education and with aspirations to carry out health studies.

The information found was systematized by means of an analysis matrix in Excel format, which delimited fundamental aspects such as: title, year, type of article, context, journal, indexation, topic, comment, possible use in the article, bibliographic reference and the link or DOI for its respective location; in addition, the bibliographic references were processed by means of the bibliographic manager Mendeley.

RESULTS

A compilation of academic productions referring to autonomous learning was obtained; the information is specified in terms of methodological strategies used in remote education in students of basic education and with aspirations to carry out health studies. (Table 2)

Table 2 Scientific evidence on autonomous learning identifying author, year, country, database and findings

N°	Author/year	Country	Database	Find
01	Raluy&Mislang(2022)[1]	Japan	Scopus	Strategy: At the classroom level, students set and shared learning goals and strategies. Outside the classroom, using Google documents, teachers monitored the achievement of objectives and provided advice as needed.The use of logbooks encouraged autonomy and fostered student-teacher dialogue.Technological resources: Google documents. Classroom
02	Fabra-Brell&Roig-Vila (2022)[23]	Spain	Scopus	Strategy: the inverted classroom favors student autonomy, allowing the teacher to develop innovative, creative and active learning activities; the use of videos as a motivational resource is fundamental.

03	Cunha, *et al.*(2021)[12]	Portugal	Scopus	Strategy: Online learning. Reading of stories and delivery of printed letters with activities to work autonomously to elementary school students without digital resources, community participation was engaged. Self-regulatory strategies: Cyclical model, Planning, Execution and Evaluation. Technological resources: Internet and broadcasting.
04	Maru, *et al.*(2021)[2]	Indonesia	Scopus	Strategy: Manual tasks and practices. Online homework. Learning journal. The study plan does not favor autonomous learning. Technological resources: Digital platforms, smartphones, computers, tablets. Zoom, Google Classroom, Vox-vote and Blue jeans, web pages and YouTube.
05	Henriques, *et al.*(2021)[11]	Portugal	Scopus	Strategy: Digital technologies mediated the teaching-learning process
06	Chávez (2021)[24]	Peru	Google Scholar	Strategy: Development of videos. Inverted Classroom Technological resources: YouTube
07	Mažgon, *etal.*(2021)[25]	Lithuania and Slovenia	Scopus	Strategy: Teachers shared online educational material through videoconferences and sent school activities by e-mail. Technological resources: Use of online tools Moodle and Zoom. Use of TAMO electronic agenda and Messenger.
08	Shamir-Inbal(2021)[26]	Israel	Scopus	Strategy: Videoconferences. Contests. Formation of learning groups. Technological resources: Kahoot, YouTube, WhatsApp, phone calls, Google forms, Zoom.
09	Molina y Pulido(2021)[27]	Spain	Scopus	Strategy: The uses of telephones and ICTs have been welcomed for their multiple advantages in improving autonomous learning and training competent students. Technological resources: Classroom, online education, video call interviews.
10	Rossini, *et al.*(2021)[28]	Brazil	Scopus	Strategy: 1. the inverted classroom, a strategy that allows for self-reflection of what has been learned. 2. project-based learning according to the context. 3. problem-centered learning promotes personal responsibility and critical thinking. 4. Gamification helps self-learning. 5. Comics or short video clips. 6. Collaborative writing tools. Technological resources: Videos, games, blogs, audio files, YouTube.
11	Aparicio-Gómez &Ostos-Ortiz(2021)[29]	Colombia	Google Scholar	Strategy: designthinking facilitates problem solving; teach back to learn through dialogue. Flipped learning, gamification and social networks.
12	Montenegro (2021)[30]	Costa Rica	Scopus	Strategy: Learning at home. Autonomous didactic guides. Technological resources: Online platform: Microsoft Teams, WhatsApp, television, radio.
13	Salirrosas Navarro (2021) [31]	Peru	SciELO	Digital strategy: I learn at home. Technological resources: Web, television, radio, WhatsApp.

14	Solís, O B. (2021)[32]	Not specified	Google Scholar	Strategy: Interactive virtual classroom. Technological resources: ICT, virtual platforms.
15	Valverde-González (2021)[33]	Ecuador	Google Scholar	Strategies: E-learning, Tele-education. Technological resources: Messaging applications, calls and video calls. WhatsApp, Zoom, Telegram.
16	Peinado (2020)[34]	Mexico	Scopus	Strategies: Promotion of critical-reflective thinking, admitting students to direct and control what they learn, incentive of learning for life and use of metacognitive skills. Technological resources: email, Skype, telephone, WhatsApp, social networks, Google Forms, Google Drive.
17	Leiva, *et al.* (2020)[19]	Peru	Google Scholar	Strategies: Learning experiences and self-explanatory activities. Technological resources: Platforms that allow autonomous learning: Classroom, Edmodo, Moodle and Schoology.
18	Aguilar Gordón, 2020)[35]	Ecuador	Scielo	Technological resources: Free interactive digital applications: Zoom, Classroom, virtual whiteboards, Genially, To, My digital and Kahoot.
19	Padilla, *et al.*(2020)[36]	Ecuador	Scopus	Strategy: Highlights the effectiveness of editing tutorials. Technological resources: Youtube, computer, cell phone.
20	Ülker (2020)[37]	Kosovo	Scopus	Strategy: Online meetings through the use of platforms, video transmission, conferences via television and YouTube. Technological resources: Internet, Turkish virtual platform EBA.
21	Rueda-Gómez (2020)[38]	Colombia	Google Scholar	Strategy: Khan Academy, a digital platform that facilitates asynchronous self-learning in the area of mathematics and optimizes the achievement of learning levels. Technological resources: Computer, cell phone and internet.
22	Maliza Muñoz y Medina León [39]	Ecuador	Google Scholar	Strategy: Moodle platform. It allows working from a constructivist point of view, with facility to work synchronously and asynchronously. Promotes responsible and self-regulated participation. Technological resources: Internet, cell phone, computer.

Note: Results of the 52 authors according to countries.

It can be observed that the country with the most academic productions on autonomous learning in basic education is Peru (n=4), followed by Ecuador with three scientific productions, Spain and Portugal with two studies respectively, and with one contribution each from Mexico, Israel, Kosovo, Costa Rica, Indonesia, Lithuania-Slovenia, Japan, Brazil and Colombia. It does not specify the place of origin (n=1), being notorious that in Latin American countries there is a growing research interest in this important subject.

DISCUSSION

The promotion of autonomous learning in early, primary and secondary education depends on several factors such as commitment, knowledge, self-evaluative culture, pedagogical accompaniment, democratic practices and teacher's experience;[30] factors that in relation to the Sociocultural Theory coincide with the role of mediator of the teacher[19] and guide the achievement of autonomy.[15]

The results of the present study highlight the growing research on the methodological strategies of autonomy in learning in basic education and with aspirations to carry out studies in health, during the Covid-19 pandemic, highlighting self-regulation,[12,34] through which students establish learning purposes, select strategies, manage space-time, materials, systematize information, work in teams, evaluate performances in a critical and reflective manner.

The above mentioned agrees with the cyclical model of Zimmerman (Alhazbi&Hasan)(8), (Sutarni, et al.)[14] who consider it a decisive strategy for school success; which is incongruent for Raluy&Mislang,[1] because despite the wide knowledge of its value by educational actors, there are still many educational institutions that do not have a comprehensive system to support the actions of monitoring and evaluation of autonomous learning, which affects students who wish to study in health areas.

A good strategy is the inverted classroom (Rossini, etal.),[28]which encourages the active, reflective and responsible role of the student; online learning through videoconferencing(13) has also been used, leading to the improvement of the digital capabilities of teachers and students with the intention of specializing in health.

However, according to Aguilar,[35] student participation has been limited by problems of access, mainly in Latin America, which affects the development of autonomous performance, noting inequalities and the few opportunities for education in developing countries.[12]

CONCLUSIONS

It is demonstrated that autonomous learning is a priority of current relevance, indispensable to respond to the demands of a changing and complex society. It is notorious that in Latin American countries there is a growing research interest in this important topic. The findings reveal that in the interest of studying the benefits of autonomous learning, there are vast academic contributions referred to this subject of study, but with a focus of attention at university level, unlike those found in initial, primary and secondary education (with aspirations to carry out studies in health), which constitutes a propitious field for research; therefore, it is advisable to deepen research on autonomous learning strategies in the health area.

The pedagogical applications of technological resources constituted elements of learning mediation during the COVID-19 pandemic. The promotion of autonomous learning in basic education depends on several factors such as commitment, knowledge, self-evaluative culture, pedagogical support, democratic practices and teacher experience.

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