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The digital competences of early childhood educators

Las competencias digitales de las educadoras de la primera infancia

As competências digitais dos educadores de infância

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ABSTRACT
The development of digital skills in early childhood educators is a highly topical topic; above all, if one takes into account all the changes that have occurred in today's society and the improvement of the early childhood curriculum for which they are prepared. Hence, the need to develop digital skills in educators to more adequately face the emerging challenges in their profession from working with children from the earliest ages of child development so that these educators can contribute to making the goal a reality. initial and preschool education; achieve the maximum possible comprehensive development of each of the children, which is why this article aimed to socialize an improvement strategy aimed at the development of digital skills of early childhood educators that required the use of theoretical methods such as the historical-logical, the analytical-synthetic and the inductive-deductive, which made possible the theoretical foundation of the overcoming strategy; as well as the empirical ones: the survey and the observation, to know the level of development of the digital competences of the educators who participated in the investigation. The main result was precisely the improvement strategy and the methodological suggestions for its implementation. Its application in practice evidenced favorable transformations in the level of development of the competition under analysis; thus, reaffirming its feasibility and, above all, the relevance of training its skills.

Keywords: Digital skills; educator; early childhood.

RESUMEN

El desarrollo de las competencias digitales en las educadoras de la primera infancia constituye una temática de gran actualidad; sobre todo, si se tiene en cuenta todos los cambios que han ocurrido en la sociedad actual y el perfeccionamiento del currículo de la primera infancia para el que se preparan. De ahí, la necesidad de desarrollar competencias digitales en las educadoras para afrontar de manera más adecuada los retos emergentes en su profesión a partir del trabajo con los niños desde las primeras edades del desarrollo infantil con el fin que dichas educadoras puedan contribuir hacer realidad el fin de la educación inicial y preescolar; lograr el máximo desarrollo integral posible de cada uno de los niños, es por ello que, este artículo tuvo como objetivo socializar una estrategia de superación dirigida al desarrollo de las competencias digitales de las educadoras de la primera infancia que exigió el empleo de métodos teóricos como el histórico-lógico, el analítico-sintético y el inductivo-deductivo, los que hicieron posible la fundamentación teórica de la estrategia de superación; así como los empíricos: la encuesta y la observación, para conocer el nivel de desarrollo de las competencias digitales de las educadoras que participaron en la investigación. El principal resultado lo constituyó, precisamente, la estrategia de superación y las sugerencias metodológicas para su implementación. Su aplicación en la práctica evidenció transformaciones favorables en el nivel de desarrollo de la competencia objeto de análisis; reafirmándose así su factibilidad y, sobre todo, la pertinencia de la capacitación de sus competencias.

Palabras Clave: Competencias digitales; educación; primera infancia.

RESUMO

O desenvolvimento de habilidades digitais em educadores da primeira infância é um tema altamente atual; sobretudo, se levarmos em consideração todas as mudanças ocorridas na sociedade atual e o aperfeiçoamento do currículo da primeira infância para o qual estão preparados. Daí a necessidade de desenvolver competências digitais nos educadores para enfrentarem de forma mais adequada os desafios emergentes na sua profissão a partir do trabalho com crianças desde as primeiras idades do desenvolvimento infantil, para que estes educadores possam contribuir para a concretização do objetivo educação inicial e pré-escolar; alcançar o máximo desenvolvimento integral possível de cada uma das crianças, razão pela qual este artigo teve como objetivo socializar uma estratégia de aprimoramento voltada para o desenvolvimento de habilidades digitais de educadores infantis que exigia o uso de métodos teóricos como o histórico-lógico, o analítico -sintético e o indutivo-dedutivo, que possibilitaram a fundamentação teórica da estratégia de superação; bem como os empíricos: o levantamento e a observação, para conhecer o nível de desenvolvimento das competências digitais dos educadores que participaram da pesquisa. O principal resultado foi justamente a estratégia de melhoria e as sugestões metodológicas para sua implementação. Sua aplicação na prática evidenciou transformações favoráveis no nível de desenvolvimento da competição em análise; reafirmando assim a sua viabilidade e, sobretudo, a pertinência da formação das suas competências.

Palavras-chave: Competências digitais; Educação; primeira infancia.

INTRODUCTION

The technological evolution that the world currently has and the traditional form of education no longer seems to be in tune with the demands of today's society, requires adjustments so that educators include technologies in their practices developing digital skills that make a difference having an impact positive in the development of the educational process.

In this sense, it focuses on the digital skills that early childhood educators must have in the course of the educational process of children, even when not all of them have the necessary resources with the required quality and level of relevance, in addition to the lack of motivation. and training, if they have the necessary contribution conditions for the development of their skills in this regard, educational institutions, according to their cultural and technological particularities, assume the new challenges in educational improvement for their integration into new technologies.

It is important to emphasize the role of the educator in her performance in order to optimize her main function as facilitator of the quality educational process, for which her strategies and pedagogical resources must be based on the appropriation and integration of digital tools that offer the use of ICT in educational planning. (Cabero and Romero, 2020)

By keeping in mind, the synthetic analytical method, these works related to the subject are reviewed, it is verified that the virtual modality has been a challenge to early childhood education, for this reason the need for great changes in educational processes and modes arises. of action of the educators of these ages, so it is necessary to constantly update knowledge in the performance of digital skills in order to complement other spaces more conducive to virtuality, keeping in mind the usefulness of digital tools.

At present, information and communication technologies (ICT) in the educational context are subject to review because an educator needs the necessary skills to deal with this technological change, that is, he is trained to use, manage and subsequent implementation in different activities of the educational process this means being competent, being a 21st century educator

In this framework of ideas, educators need a transformation in what corresponds to professional updating, in this sense, digital skills imply knowledge of skills on the use of information technologies, which allows educators to impart activities and other educational procedures in a different, efficient and dynamic way, taking into account the characteristics of the children (García-Ávila, 2017). These skills are the door to a totally new world, to a new way of interacting with society, educators are closely related to this digital growth as they are subjected to a new change in world news.

Digital skills not only facilitate the way to validate the new potential associated with technology and the challenges it poses, but it is also necessary to be able to interact dynamically in a new society (Aguirre-Aguilar & Ruiz-Méndez, 2012), thus being able to provide children with the ability to create their own learning. A teacher must always be technologically prepared and efficiently possess knowledge and skills with which productive teaching can be provided in the classroom. (Duque-Bedoya, 2016)

In early childhood education, it is essential to integrate the actions of the family, educators and agents to guarantee the development of a quality process where the child participates and is a protagonist in the development of activities and processes, linked to the needs of society in all its aspects.

The improvement of the educators refers to the acquisition of knowledge as well as the development of skills in order to be able to

respond adequately to the responsibilities within a specific work space. In this sense, the performance of digital skills is focused on the use of ICT in an active and innovative way with which the educator is in the duty of using a variety of tools to provide adequate and comprehensive quality education, always focusing on the learning and needs that each child requires.

The use of these competencies conditions the development of abilities and skills that each educator should acquire efficiently, in which the creation of various content, information, digital didactic applications, and diversity of material based on multimedia content is applied or considered necessary. teaching methodology, developing these skills based on digital skills will not only be of great help to educators but will also contribute significantly to the creation of their own learning and to the students.

In the same way, it focuses on the teaching work, who must always be obliged to constantly improve, only in this way will they be able to provide a quality education since being a guide in an educational and initial training process implies commitment; Being a competent educator today necessarily demands the use of digital knowledge in which the educator has excellent skills, guaranteeing lasting learning based on active and dynamic teaching using technology, only in this way will a better change in education be ensured.

Referring to a digital competence mentions a growth process where in this case it infers the educator based on her educational work, allows her to improve and perform better, thus allowing her to have a good educational role within her community and therefore Therefore exalt your satisfaction and confidence knowing that you will be developing a positive impact in the face of a changing society. This new evolution is closely linked to an improvement and advance in technology and the creation of

electronic devices (Levano et al., 2019), on the other hand, digital competences in the information system and digital competence are structured into three large blocks called dimensions:

a) Technological fluency: Aspects related to understanding, use of technological devices and tools are involved, it also refers to the development of educators in virtual environments to work interactively.

b) Learning and Knowledge: Aspects related to information management strategies, the use of digital environments to work collaboratively in teaching-learning activities, linked to the improvement of a constructivist, creative and innovative.

c) Digital citizenship: refers to aspects related to knowledge of digital identity, as well as the valuation of intellectual property.

The objective of this work is to socialize an improvement strategy aimed at the development of digital skills of early childhood educators.

MATERIALS AND METHODS

In the research that supports this article, the 32 teachers of the "Futuros Cosmonautas" kindergarten in the municipality of Pinar del Río were taken as a sample, for the assessment of the development achieved by the educators in terms of digital skills, for which the following theoretical, methodological and attitudinal indicators were taken into account in the identification and proposal of the solution to problems related to the execution of digital competences.

In the stage of exploration of reality, the search for normative documents of the institution and the Preschool Education

career was carried out based on the documentary analysis method, to the following documents: Professional Model, Overcoming Strategy of the Department of Preschool Education, Plan of Individual development, methodological strategy of the children's circle, such allowed to verify orientations to build the desired state on digital competences and the expression of the indicators of the competent mode of action.

An interview and survey were applied to the sample of educators, obtaining opinions about their digital skills in the educational field. On the other hand, it was necessary to resort to the analysis of the product of the activity and observation as empirical methods; those that made it possible to deepen the study of the level of development of digital skills.

For the processing of the information resulting from the diagnosis and the implementation of the didactic strategy, descriptive statistics were used. On the other hand, methodological triangulation was used to achieve greater objectivity and credibility of the analysis of the information obtained from the application of the empirical methods described above.

RESULTS

The results of the diagnosis of the level of development of digital skills in early childhood educators allowed us to assess as a possible way of solving the problem raised, the design of an improvement strategy, by assuming, as an object to evaluate the development of the digital competences, theoretical, methodological and attitudinal indicators were specified that derive from the assumed theoretical positions.

The introduction of the article reflects the essential knowledge to achieve digital competences. The statistical processing of the survey applied to the sample of educators was carried out, whose objective was to assess how early childhood educators develop digital skills, contributing to the development of the early childhood educational process and contributing to the integral development of children at these ages, the answers to some questions were analyzed.

Regarding the second question of this observation about highlighting the importance of everyone participating 2 for 5.8%, Not all teachers emphasize the participation of all children and that they achieve, in addition to interaction, adequate communication about what they do, question 3 in terms of developing general actions for children in which different games are involved, only 4 for 11.7%, in 4, for the development of specific actions for all children who are presented in a differentiated way according to the needs 3 for 8.82%, however 8 educators representing 23.5% in question 5 were able to link the activities of the software content with the natural environment. In the interview with the educators, it was found that they have deficiencies in terms of the use of digital devices to access information and carry out a better management of it, only 1 educator is capable of creating and exchanging digital content, communicating and collaborating. The interview carried out allows us to know that 100% of the educators declare the pedagogical and social relevance of the topic, expressing their willingness to participate in improvement activities in this regard, arguing their impact on the improvement of the curriculum and professional performance and favor the modeling of ways professional performance according to the role of the teacher aimed at digital skills. For their part, the managers interviewed (4) recognize the insufficiencies in the direction of professional improvement towards digital skills, especially current social problems as a permanent need, educational changes in society are related to a number of factors in early

childhood. The main organizational forms of improvement have been associated with face-to-face courses and delving into digital competence, involving the entire educational process and each of the dimensions of development.

100% of the interviewed educators recognize the need to surpass early childhood educators on digital skills due to the influence they exert on the education of children of these ages, guiding them from the educational process from the direction and digital execution, which facilitates the tasks of daily life, allowing you to more adequately face the emerging challenges of the profession and adequately prepare yourself in, for and beyond the knowledge society

The eight experts interviewed consider it pertinent for educators to update the preparation on digital skills, suggest the need to introduce virtualization transformations in the first, which has as principles that it develops under a high convergence and technological integration, which is encourage interaction and communication between all the actors in the process that is developed under conditions of flexibility (curricular, technological, temporal and organizational space and human resources). They also refer to the need for educators to have digital skills for the systematic use of virtual environments in educational processes. They also refer to the need for educators today to have a group of digital skills that favor their performance, such is the case that it is not only the use of ICT is essential in the exercise of educational practice, but also when delving into the specific contents of the dimensions.

The results of the methodological triangulation allowed the identification of the following regularities, from the analyzed study plans, the digital competence of the educators has not been conceived as content in teaching, therefore, the lack of

competence for the use of ICT tools was identified.

In the study plans, the look at current social problems, contextualized in the Cuban reality that is oriented from educational theory and practice, is insufficient.

Limitations were found in the theoretical, methodological and attitudinal preparation of the educators to achieve digital competences in the development and operation of the institution in terms of communicating and participating in digital sites through the Internet.

There is little directionality in professional improvement towards the preparation of educators on current social problems that need to be addressed from permanent training, as is the case of digital skills. In the organizational forms of professional development where educators participate, there is little presence of ICT-related specialists, who can contribute to updating work policies and procedures related to digital skills, particularly in content related to the first childhood, as well as the forms of overcoming are developed in the modality of face-to-face study without taking advantage of others.

Among the didactic components used in the organizational forms of professional improvement, the traditional ones continue to prevail, the potentialities of the methods that favor collaborative learning are not exploited and the media do not take advantage of the technological resources, as much as possible, from work. methodological, the intentionality of the preparation of educators towards issues related to digital skills has been insufficient

Digital competences have not been sufficiently addressed, since the professional improvement of early childhood educators, if one takes into consideration that digital competences are the set of skills, abilities

and attitudes to develop in order to incorporate digital technologies into their practice and professional development since they allow adapting to new needs by accessing the development of an active and realistic attitude towards technology.

DISCUSSION

The results obtained from the application of research methods and the review of the bibliography on the subject, confirmed the need for early childhood educators to update theoretical, methodological and attitudinal knowledge on digital skills that contribute to the educational process of early childhood, through professional improvement, as a way to update, perfect, and contextualize their preparation.

Regarding professional improvement, it is essential to take into account that it is a process that is developed through relationships of a social nature, with the application of methods, which takes into account the objectives of the pedagogical activity and the achievement of a result with a purpose. in the professional, institutional and social improvement achieved, attention to the education of their labor competence and full communication and individual satisfaction. (Añorga and Díaz, 2002)

One of the findings of the study is that up to now digital skills have not been an explicit part of the initial training curricula, nor has it been intended from the direction of professional improvement towards early childhood educators, so it is evident the need to overcome them in this sense so that they favor their performance, not only is the use of ICT essential in the exercise of their educational practice but also to delve into the specific contents of early childhood.

The theory and practice on the particularities of digital competence in the educational process, which they develop with early childhood educators, and these in the exercise of their profession, can deploy throughout their professional life to develop in their educational work of Appropriate way, pesto allows to face knowledge, procedures, ways and ways of teaching, activities, aspects and circumstances that arise in the educational task, which lead to the development of the educational process to achieve the proposed objectives Professional improvement, as a process of social education, pays to offer answers to the demands of society, one of them being digital skills, which is why it becomes a challenge for early childhood education by expanding, updating and giving new meaning to theoretical-methodological knowledge and attitudes. inherent to professional performance.

The process of professional improvement projects its results towards the social context, since to the extent that the educators also transform the educational process and all their social environment in which they interact; that is to say, a change takes place, as a consequence of the constant interrelationships that take place in the socialization of the professional.

Professional improvement favors the development of those who participate and is reflected in the personal, work, family, professional and social spheres, all of which reinforces the criterion that improvement contributes to empowering the teacher in his professional performance and for life, it locates him in a position from knowing, knowing how to do and knowing how to be, with which he is in better conditions to instruct and educate others, either in the educational institution itself, or in the dissimilar contexts where he participates. (Aveiga et al., 2018).

Directing professional improvement towards digital competence is crucial for the role of the educator, since the competences are

developed at each educational level, digital competences cover many spheres of human action, in fact they have transformed the way of interacting, the way of appreciating the reality in children's institutions.

Professional improvement contributes to the transformation of social practice so that, in advance by improving the preparation of early childhood educators, the knowledge acquired can be transmitted, actively, in the educational process that they develop with the children of the early childhood; from knowledge, to educate the system of educational influences, in order to minimize the emergence of activities that can be considered as digital skills.

The foregoing indicates the necessary participation of sectors in society through the search for pedagogical and didactic tools relevant to the needs of the context where it is essential to achieve interaction between educators, children and the institution, as well as the constant development of each of its content resources.

The perspective to assume the most transcendental positions about the digital competences that educators must handle is closely related to the support that said competences are inherent to their training and professional qualification, which must be adjusted according to the level of education. in which they are. (Álvarez et al., 2017; Durán et al., 2016).

The conception of a competitive teacher in relation to ICTs must be assumed in a position of greater importance, for which the brief conception that circumscribes it to the development of competences of a technical nature must be overcome. (Durán et al., 2016).

The effect of the use of new technologies has generated new mechanisms of interactivity in society, which by default are transforming the role and functionality of university institutions, whose relative inertia was characteristic. There is no doubt that this effect has brought and will continue to generate more and mechanisms that will revolutionize the classical concepts of the interaction approach in the world. Based on the perspectives that are continuously presented in the technological field in relation to the higher education sector, García and Martín (2016) mentioned that there is currently a consensus whose extension encompasses vast sectors in society by which it is conceived that Teachers must already possess a series of necessary digital competences in order to exploit the greatest amount of pedagogical capacities in relation to new technologies oriented to professional training, structuring of novel curricular approaches and brand new trends in relation to the intricate field of evaluation. of learning under this aspect.

A proposal for an educational model by competencies for early childhood training, under which a series of changes are structured, adopting new didactic schemes such as: predisposition to develop attitudes that make it possible to channel new skills; but in an effective and efficient way by having techniques and tools in accordance with the specialty to be developed; development of digital skills inherent to new interactivity platforms and where the empowerment of the learner is something tangible in the multiple forms of interactivity that are developed within the digitization of learning processes, is essential in the current context (Marzal and Cruz , 2018), a criterion with which it coincides and which corroborates the importance of the investigation. Now, if the subject is seen from the social perspective, digital competence must be assumed as part of the individual's right, which in its essence is more than a mere technical appreciation since its field of action and development in the social transcript goes beyond beyond the field of technology management and technology administration from the academic landscape.

Taking into account that collaborative learning is the fundamental strategy of current approaches to teacher professional development and its essence is that educators study, share experiences, analyze and investigate together about their pedagogical practices in a specific institutional and social context when assuming the Collaborative learning in professional improvement allows, through the interaction between its members, to achieve greater commitment, individual and collective responsibility, the ability to learn from the experiences of others, which improve the conception of what is learned.

The above signifies the responsibility that early childhood educators have, with the improvement of their preparation on theoretical-methodological knowledge and the training and development of skills and abilities for basic digital skills, since the challenge of those who educate is to become an innovator. .) The innovative teacher faces educational changes effectively, applies Information Technology and Communication. (Guerrero and Prieto, 2020)

Educating in anticipation requires a correct direction of professional improvement that anticipates the emergence of problems.

It is essential to start from a direction of professional improvement that promotes the proactive and creative appropriation of a general, scientific-technical culture and provides teachers with strategies to think, act, and continuously improve themselves in the context of their social-labor relationships, which constitutes a challenge to postgraduate didactics. (Aveiga et al., 2018)

Therefore, in the direction of the overcoming process, it is necessary to consider the preventive nature that the process itself acquires, by allowing one to anticipate, in a creative and wise way, the difficulties that may appear, to prepare beforehand, to educate in anticipation; This requires starting

from precise diagnoses of the real needs of teachers, both from knowledge and from the possibilities of assuming improvement, taking into account personal motivation, responsibility, even elements of a cultural, economic and social nature, contributing to form in advance the knowledge, skills and attitudes that need to be perfected for a professional performance in accordance with their role and with contemporary social demands.

In order for professional improvement to acquire a proactive nature, it is necessary to have diagnosis as an ally. In this regard, Santiesteban et al. (2020) state that "the objective of professional improvement... takes into account for its projection and realization the diagnosis..., as well as the needs of the professional in order to resolve the demands of the context" (p. 58).

It is necessary to diagnose in advance what demands the environment in which we operate has and design organizational ways of overcoming, innovative and

creative, where distance education and the use of Information and Communication Technologies (ICT) are promoted, so that teachers access their improvement, depending on their time, their motivation, while developing their skills with educational technologies, issues of order in the world and in Cuba.

Bernaza et al. (2020) state that "it is essential to use the technological tools that are currently available to enhance the development of postgraduate activities and Distance Education" (p. 18).

It can be seen in recent decades that important research studies have been introduced related to the transformations in terms of the virtualization of teaching in all educational systems, which is why it is a great need for educators to have digital skills for the successful implementation of the new

models (Pitch Herrera & Benítez Cárdena, 2018) (Pitch Herrera & Ruíz Ortiz 2020).

Professional improvement becomes the ideal way to improve the preparation of teachers for pedagogical careers, contextualizing it towards educational prevention on child labor, which must take into account elements addressed such as intersectoriality, interdisciplinarity and collaborative learning; in addition to the organizational forms being planned and organized taking into account the various modalities of study and the use of educational technologies and technological resources, since these favor the motivation, creativity and self-programming of the teacher for their own learning.

The process of professional improvement acquires a proactive character to the extent that it favors being prepared before the emergence of the problem, allowing education to be the main axis of the challenges of a global and interactive society that uses technological devices and applications, directly or indirectly influencing in all aspects of life and that learning occurs in any context changes the perspective of educators because today more than ever, a responsible and informed citizenry about the functioning of the digital world is necessary. The relevance of the study lies in its correspondence with the transformations that are carried out in the Third Improvement of Early Childhood Education, narrows the university-educational practice relationship and contributes to the formation of attitudes such as sensitization and awareness with a problem. that affects the integral formation of the new generations, in addition to contributing to the improvement of the professional, human and social performance of the early childhood educator. At a social level, the development of digital skills is directed towards a social phenomenon at a global level, increasingly moving towards the search for self-management learning, with the use of virtual environments and the intensive use of technology.

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