Digital Narratives as Innovative didactic strategies for Initial Education teachers

Narrativas innovadoras para las docentes de educación inicial digitales como estrategias didácticas

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Abstract

The current situation demands that children from very early ages assume impressive educational challenges, technology has become essential in the teaching-learning process. This research work is based on the need to incorporate digital narratives as learning strategies in early childhood education, taking into account that teachers today have been beset by new challenges, as a result of the current situation caused by a post-pandemic. The present work synthesizes the process of creating a proposal framed within the new digital logics of teaching. In the following, we will present 1) a theoretical synthesis that covers the most relevant aspects that support the proposal within the framework of digital narratives and Storytelling, 2) the methodology used, which adopts a mixed paradigm of qualitative-

quantitative character shown in the data collection in a delimited sample with the teachers of the Learning Network Nº1, as well as an interview with the Director of the Education District 04D01 San Pedro de Huaca-Tulcán; 4) the results obtained determine that teachers do not apply digital narratives in the teaching-learning process. Thus, to conclude, the creation of a Storytelling Web page (Viviendo el ayer) is highlighted, which consists of tools for the creation of digital narratives and access to the material created for use by teachers. In addition, this page is considered an easy, eye-catching instrument, and through it we intend to generate emotions that provide rewarding experiences to children.

Keywords
Meaningful learning, innovative strategies, legends, digital storytelling

Resumen
La situación actual demanda que los niños desde edades muy tempranas asuman retos educativos impresionantes, la tecnología se ha vuelto imprescindible dentro del proceso de enseñanza-aprendizaje. El presente trabajo de investigación parte de la necesidad de incorporar las narrativas digitales como estrategias de aprendizaje en los niños de educación inicial tomando en cuenta que el docente en la actualidad se ha visto acechado por nuevos retos, producto de la situación actual que se vive a causa de una postpandemia. El presente trabajo sintetiza el proceso de creación de una propuesta enmarcada dentro de las nuevas lógicas digitales de enseñanza. En lo sucesivo se presentarán 1) una síntesis teórica que abarca los aspectos más relevantes que sustentan la propuesta dentro del marco de las narrativas digitales y el *Storytelling*, 2) la metodología empleada, que acoge un paradigma mixto de carácter cualicuantitativo que se muestra en la recolección de datos en una muestra delimitada con las docentes de la Red de Aprendizaje Nº1, así como una entrevista al Director del Distrito de Educación 04D01 San Pedro de Huaca-Tulcán; 4) los resultados obtenidos determinan que los docentes no aplican las narrativas digitales en el proceso de enseñanza-aprendizaje. De tal forma, para concluir, se destaca la creación de una página *Web Storytelling* (Viviendo el ayer) que consta de herramientas para la creación de narrativas digitales y el acceso al material creado para la utilización por los docentes. Además, esta página se considera un instrumento fácil, llamativo, y por medio de este se pretende generar emociones que briden experiencias gratificantes a los niños.

Palabras clave
Aprendizaje significativo, estrategias innovadoras, leyendas, narrativas digitales.

1. Introduction

The present research work is framed within the research line "educational innovation" and subline "learning" in the thesis work of (García-Mera, 2021). The changes that have occurred in the educational system at national and international level due to covid 19 have been taken into account. At present we live a post-pandemic scenario, so the proposed topic aims to complement the teaching and learning process in early education through the use of innovative technological tools such as digital narratives to obtain interest in an active and striking way in students.

The relevance of the research carried out is oriented to the role that teachers acquire in early ages as entities that intervene and influence directly in the development of children,

for this reason, it is essential to take into account the application of new strategies to capture and maintain their interest in the face of the sustained construction of deeper learning processes. Hence the importance of processes that stimulate sensory development at the personal, family and social levels. For educational theorists such as Hermann-Acosta, 2015, this is achieved through the integration of textual, sound and visual languages with a marked interval character. It is in this same line in which the new Information and Communication Technologies (ICT) move within the framework of initial education; as Hermann indicates, radio, cinema and television (to which it is worth adding devices such as smartphones) constitute not only means of cultural representation, but also make possible mechanisms to educate audiences (Hermann Acosta, 2015).

Therefore, the objectives pursued in the research presented here are oriented to contribute to the development of innovative strategies in teaching processes, through the implementation of tools oriented to digital narratives in early education levels.

This document is structured as follows: the development contains the theoretical foundation; the methodology describes each step carried out in the research; the results and discussion present an analysis of the measurements found both from the point of view of the teacher and the consultation; the proposal determines the use of the web tool Storytellying as a solution strategy to the given problem. Finally, conclusions are presented that summarize the findings, as well as possible future lines of research.

2. Development
2.1 Theoretical framework

What are digital narratives?

Gallego-Torres points out that the first referential orientations for the study of digital narratives are related to audiovisual and multimedia narratives; the link made with education goes along the line of the role that these changes in narrative structures transform, also the ways in which education builds learning-teaching strategies (Gallego-Torres, 2017). This process, according to Hermann-Acosta argues can be understood as the integrated aggregate of both visual and sound languages, so that these can give possibilities of interaction with the user. Within this dynamic, the role played by technological media for the transmission of information goes far beyond, to the point of being able to mold consciences, and to "educate them" (Hermann-Acosta, 2015). Avilés-Dinarte, for his part, adds that, within this framework, the potentialities of storytelling are amplified even more, giving way to students of the skills and knowledge they have to be able to tell stories (Avilés-Dinarte, 2011).

The story then becomes a vehicle that encourages and stimulates the creative process and substantially improves the learning processes, as it allows a closer link between the apprehension of knowledge and the everyday life in which the subject develops; he adds that this is not restricted only to language and communication, or literature, in fact, it concerns the individual's own ability to tell stories (Cela- Ranilla et al., 2017). In recent years, education has undergone a marked shift from a traditional trend that places special emphasis on the development of competencies both at a formal logical-mathematical level and at a cognitive level; towards the promotion of the holistic development of different types of intelligence and particular emphasis on those in which the individual shows greater affinity. The inclusion of digital narratives is oriented precisely towards the latter trend.

According to Pujol 1999, this process is part of a restructuring of the methodological planning methods of formal and institutional instruction. There is, he continues, a close relationship between the transition to the increasingly widespread use of digital narratives in educational processes and the construction of metacognition by the subjects who are part of such processes, leaving behind evaluation methods based on rote learning or reactive components, but now there is a greater emphasis on problem solving, project development and innovation (Pujol, 1999).

However, it is necessary to take into account the learning process itself that involves the inclusion of digital narratives in a context of transition as described above; any educational process that involves the use or assistance of interactive tools based on the web, or multimedia applications is entirely useful as long as the teacher is able to use it properly and take advantage of all its possibilities; otherwise, it could cause the opposite effect. This also applies to the case of students, although, as Pujol details, these tools are increasingly oriented towards their use being intuitive and allowing the development of the student's capacities in creative and cognitive terms. Montaña-Cristancho also adds that education, using the tools at its disposal, must be able to train students with the ability to analyze, search and solve problems; therefore, the teacher must be able to stimulate, even in the initial phase, the analysis and reflective capacity of students (Montaña-Cristancho, 2016)

This is precisely one of the main differences of methodologically structured education for current times in relation to traditional education, based on behaviorism and with harmful patterns for students: tendency towards the inferiorization of the student, glorification of discipline and obedience, tendency towards constant correction and the restrictive capacity of the teacher.

Martínez-Migueléz (2006) adds to these "behaviors that are detrimental the very evident tendency to label children as motorically handicapped, starting from the ideological and paradigmatic anachronisms of the teacher himself" (p. 25). As indicated by Pujol 1999 and emphasized by Leví-Orta 2015) at the time, and Hermann-Acosta 2015), the new ICTs are a fundamental part of the transition that education is undergoing since the transition to the 21st century; the naturalization of the use of the Internet in everyday social life can become an invaluable ally for education if the aspects that involve the use of interactive tools oriented to the construction of digital narratives are taken into consideration. The emergence of new demands for the formation of competent human beings with the criteria of cognitive and psychosocial development of contemporary society, as well as with the ability to adapt that accelerated change in an interconnected world requires, are fundamental axes for education aimed at stimulating holistic skills from its initial stages, starting from tools such as digital narratives.

2.1.1 Types of Digital Narrative
According to Montaña-Cristancho (2016) there are 4 types of digital narratives to consider within the field of Internet and ICT communication:

> Multimedia: Merging different types of content. Hypertext: Use links to redirect to new information. Hypermedia: The user interacts with the audiovisual content but also contributes to its construction. Transmedia: Using several tools with a single narrative and in a synchronous way (p. 58).

What tools can be used to make use of digital narratives in education? Cassany 2012 recognizes the potential that new ICTs have to exponentially develop educational processes, but also draws attention to the growing need for teachers to also take a leading

role in the learning processes and mastery of these tools so that they can be of better use and benefit from them; the fundamental contribution of digital narratives in this process still depends largely on teachers, as mediators, being able to adapt to the necessary changes (Cassany, 2012).

Some of the most interesting proposals for the development of learning processes aided by digital narratives are meaningful learning, experiential learning and certain existing contributions in non-formal education.

This process, as may be evident, is not mechanical, nor does it obey a passive assimilation of knowledge with the help of narrative constructions; rather, it is composed of three unavoidable aspects (Rosales-López, 2009) previous knowledge, experience and new knowledge. In addition, Ausubelian meaningful learning suggests that the use of conceptual schemes and cognitive anchors should also be taken into consideration in order to move from the abstraction that knowledge in itself implies to the concrete level of everyday life.

2.1.2 Innovative Teaching Strategies
In order to understand the development of children's learning processes, it is not enough to try to understand the subject itself (in this case, the child entering early education); it is also important to take into account all the biopsycho-socio-cultural variables that are part of the development of the child's life; the characterization of the individual's social life is closely linked to the ability of subjects to attend to the changes that arise within their social environment, as well as to the understanding of their own biological changes and how these impact on their surroundings.
In this context, pedagogical practice seeks meaningful learning to ensure that the knowledge acquired in educational spaces can be used in the circumstances of the child's daily life.

2.1.3 Problem-based learning
Problem-based learning (PBL) is understood to be an extremely powerful didactic strategy for developing a learning process centered on the investigation and reflexivity that students can have according to the requirements of the subject; instead of being a restrictive tutor, the teacher becomes a guide for the student, who must focus his or her abilities on proposing possible solutions to the problem posed by the teacher. The student must resort to the concepts he has been learning to articulate a plausible solution to the problem, giving way to diverse and non-static scenarios that allow him to develop a better reflexivity on the concepts learned based on his own reasoning and creative capacity.

2.1.4 E-learning
It is the teaching through digital instruments and other consumer electronic devices such as computers, smartphones, tablets, among others. These are part of the educational paradigm known as virtual teaching/learning or E-learning, in it are condensed much of the education strategies oriented to non-face-to-face contexts and methods of capturing interest that go beyond traditional strategies (Cool, 2016).

2.1.5 ICT in early education
As previously stated, the dependence of education at different levels on Information and Communication Technologies is undeniable, and using it properly, it can result in an invaluable aid for the development of learning strategies oriented to the holistic development of students' capabilities. (Hermann-Acosta, 2015).

2.1.6 Meaningful Learning

The epistemological basis of experience-based education is based on the contributions of authors such as John Dewey and Kurt Lewin, who conceived that the educational act had to be related not only to the understanding of how the teaching-learning processes take place, but also to establish how the educational sphere should be articulated with the psychological and social spheres and in this route how theory is articulated to experience and vice versa.

Meaningful learning, or as it is also known, learning based on reception, consists of stimulating the student to restructure certain sets of information in such a way that it can be integrated into his cognition; the objective with this process is that the student himself has the capacity to reorganize or change these sets of data in such a way that he finds the existing or non-existent relationships between them. Kolb would be one of the first to articulate meaningful learning to digital narratives, taking as a fundamental point the absences of learning based on the exclusive stimulus to cognition (Kolb and Kolb, 2005).

3. Methods and Materials

The research presented here takes its empirical basis from the results obtained in the Learning Network N-1 of Tulcán with early education teachers and with the interest in the application of digital narratives. For this, it was necessary to opt for a mixed approach, that is, with both qualitative aspects based on reflections based on interviews and theoretical analysis; and quantitative aspects, obtained through the processing of interview data.

In this sense, the research was descriptive and field-based, as it proceeded to collect theoretical and field information to analyze the current situation and justify the need for the implementation of digital narratives in early childhood education. The techniques used were a survey of early education teachers and a qualitative interview with an expert in education.

According to Hernández-Sampieri et al. (2010) when "the target population is less than fifty (50) individuals, the sample is constituted by the population as a whole" (p. 112); in that sense, given that the target population is constituted by the first group of teachers N°1 of the Learning Network of the education district 04D01 of San Pedro de Huaca, Tulcán, the entire group was chosen as the sample for the collection of information. The type of sampling used is homogeneous non-probabilistic.

To determine the level of reliability of the data collection instrument, the reliability coefficient known as Cronbach's α was used, where $\alpha = 0.72$. This shows that the instrument is reliable.

4. Results and discusión

In response to the research question: in what way do digital narratives contribute as the main cause of ignorance as an innovative teaching strategy for early education teachers? Different answers are presented: the study sample is of 24 teachers of the Learning Network N°1 of early education in the city of Tulcán of which 91.6% of them consider that it is necessary to include digital narratives, because they contribute in a creative way in the development of learning environments while 8.3% consider that it is not necessary. About this, it is determined that, as in this city, in other parts of the country and the world, it is important to readapt the different processes in the educational field returning to a "new normality" that leaves the post-pandemic. This can be corroborated by the impressions of

Óscar Villarreal, Director of Education of District 04D01 San Pedro de Huaca-Tulcán, considered the main district authority on education in the study area, and his criteria regarding the way in which education is being carried out in the current context, and the strategies that can be used to face the new challenges are very much in line with what was seen previously with the teachers surveyed.

In relation to the item that says what is the importance of digital narratives in education and how can the teaching-learning processes be understood and improved? It leads to reflect on the incorporation of narrative including creative processes, employing audiovisual media as strategies that improve the teaching-learning process (Hermann-Acosta and Pérez -Garcías, 2019).

Figure 1 shows that 91.6% of teachers consider that it is important to implement digital narratives in resources and 8.3% consider that it is not. That is, despite the lack of knowledge of these tools, it is relevant to apply them in virtual education. On the other hand, 96.1% of the teachers consider that it is important for the teacher to implement the best didactic strategies with their students, while 3.9% do not. This shows that almost all respondents agree on the constant innovation of educational processes.
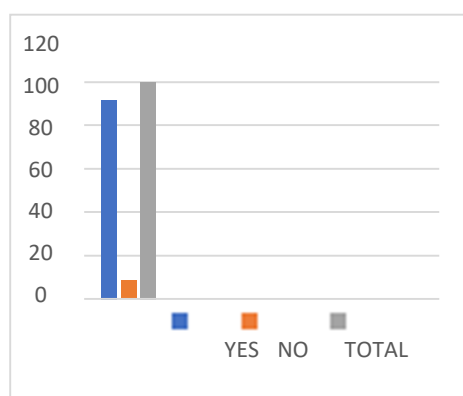

Figure 1. Do you think it is important to implement digital narratives in resources? Source: (Survey to Early Childhood Education teachers, 2020))

In relation to the item that says in what way can innovative didactic strategies be applied in a digital context during the teaching-learning process, it agrees with Coll (2016) who states that "teaching by means of digital tools, among others, are part of virtual teaching or E-lerning; in it a large part of non-face-to-face education strategies are condensed with methods of interest beyond traditional strategies" (p. 37).

Consequently, 29.1% are familiar with digital narratives, while 70% are not. Likewise, 25% know the components of the subgenre of digital narratives, while 75% do not. This demonstrates the need to formulate strategies to develop pedagogy focused on virtual education with innovative didactics and oriented to digital narratives, 70.8% of early education teachers strongly agree while 24.1% agree on the need to update strategies for early education. The constant search for innovation in education is necessary for most of them and would allow generating initiatives for this updating.

On the other hand, in the interview, the need for a comprehensive reformulation of the educational processes, taking as a starting point the new normality in order to adopt pertinent strategies in educational development and benefit their skills, was detailed.
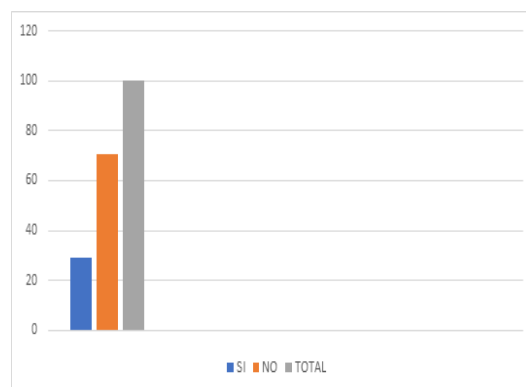
Figure 2. Do you know what digital narratives consist of? Source: (Survey to early childhood education teachers, 2020)

Of the 91.6% of teachers consider it necessary to include digital narratives to facilitate learning in the context of the pandemic, while 8.3% consider that it is not necessary. In a context where education has moved from a face-to-face majority to virtuality, the implementation of digital narratives is essential.
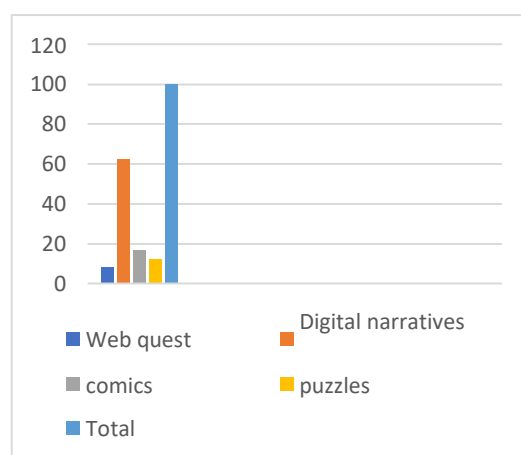

Figure 3. Which of the following didactic strategies do you think should be applied in early childhood education? Source: Survey of early education teachers, 2020.

Finally, in response to the last question, is it necessary to implement a web page oriented to the development of digital narratives as an innovative strategy that can be used by early childhood education teachers? The creation of a page that provides useful multimedia tools, simple, intuitive and of great audiovisual impact of the narration of legends from the province of Carchi with necessary adaptations to capture the interest of early childhood education students generating a significant learning process is proposed.

In the results obtained, 87.5% of the surveyed population, consider that they would use digital narratives to create a legend, 8.3% a puzzle and 4.1% a drawing. At the same time, 75% of the teachers surveyed consider that the legend enhances children's beliefs, cultural identity and oral tradition. 16.6 % only cultural identity, 4.1 % beliefs and 4.1 % oral tradition. This demonstrates the interest in rescuing cultural and identity values in order to strengthen these aspects from the initial levels. It is also evident from the results obtained that there is a marked predisposition to recognize digital narratives as an extremely valid and necessary instrument for the development of innovative strategies for early childhood education. In addition to the fact that, despite there is an evident intention

to apply them to their particular teaching processes, it is also clearly shown the scarce specific training within such strategies so that they can effectively develop the teaching-learning process.

In addition, one of the interviewees considers that virtual teaching should be improved and the web page initiative would be an appropriate resource that would allow maintaining interactive contact between teachers and students in order to achieve meaningful experiences in children; the same can be said of cultural identity, which is reflected, in the best of cases, only in texts that often remain dead letters without any meaning for children. Therefore, digital narratives become an elementary resource for education, so it is important that early childhood education teachers know them and implement them in the classes with the children.

5. Proposed solution

The web tool Storytellying: living yesterday is part of the implementation of an innovative didactic strategy that includes both teachers and students of early education of the Learning Network N°1 of the Education District 04D01 San Pedro de Huaca-Tulcán. The tool was developed to allow guided, intuitive and easy-to-use access. The key element proposed for the development of a more adequate teaching and learning process consists in the implementation of multimedia web tools combined with Storytelling; in other words, the use of digital narratives is promoted as an innovative didactic strategy.

Since the results obtained suggest that there is a significant gap in terms of knowledge and implementation of digital narratives within the teaching and learning processes, it was imperative to make a proposal aimed at developing projects oriented to the illustrative and results-oriented inclusion of digital narratives in academic processes; with which it was considered not only relevant, but also necessary the strategic intervention with the teachers of the Learning Network No. 1. The website provides useful, easy to use, intuitive and high-impact multimedia tools that teachers can use to create or use the already structured narratives; the user has these two options and in either of them will be able to ensure an effective response from students.

The web page is currently available for use, which means that it is now possible to access its environment and use the different tools that have been made available for this purpose. It should be noted that in the initial phase of implementation of the strategy, it has been oriented, above all, to teachers who are members of the Learning Network N°1 of the Education District 04D01 San Pedro de Huaca-Tulcán[1].

In addition, teachers participated in induction meetings on the platform, in which informative talks were given on its objectives, operation, dynamics and available tools. The platform contains hyperlinks to support videos and resources for payment at the time of applying the narratives with the students, as well as opening a space for doubts and concerns about the platform.

The results obtained in the initial application phase of the project are that the web page is an authentically useful tool for the teachers of the Learning Network N°1 of the Education District 04D01 San Pedro de Huaca-Tulcán. Through the web page, it is expected to

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[1] Link to the website https://mers21tef.wixsite.com/storytellingva This is free to view and use all the material found on it.

consolidate the implementation of innovative didactic strategies in the teaching and learning processes for early education students. It is hoped that academic processes will be strengthened in a context in which dependence on digital tools has increased considerably; that the conservation of the community's identity values will be promoted through the transmission of local legends. In addition, it allows to bring students closer to their own creative and academic development process.

6. Conclusions

The study showed that teachers were unaware of innovative didactic strategies, which are fundamental for the teaching-learning process of early childhood education students, strengthening the skills that are desirable at this level. It is imperative the need to create innovative educational strategies that make use of existing tools to improve teaching and learning processes. In the particular case under study, it is concluded that digital narratives are a solid resource from which to initiate such processes. Digital narratives in early education generate expectations and interest in children, so it is considered an ideal resource for teachers.

It is evident that through the application of the instrument, all early education teachers agree that it is important to apply innovative didactic strategies in the teaching-learning process with children. Although there is a low level of knowledge on the subject, in general it can be seen that there is approval by teachers for the adoption of digital tools for the development of strategies oriented to digital narratives, which consolidates the relevance of the project presented. The website "Storytelling living from yesterday" created with organized and relevant information about digital narratives will facilitate the use and application of this tool within the teaching-learning process for early childhood education teachers; it marks the essential beginning in order to achieve the objective.

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