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The digital portfolio as a self-regulatory tool in university students with educational needs: a systematic review

El portafolio digital como herramienta autorreguladora en estudiantes universitarios con necesidades educativas: una revisión sistemática

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ABSTRACT

How to teach my university students with some educational needs? The objectives of this research are to be able to analyze the use of the digital portfolio as a resource linked to self-regulated learning by university teachers; and also review the experience and satisfaction of students with educational needs regarding the use of this tool.
A systematic review of the literature is carried out through the PRISMA statement and the Checklist for Qualitative Research was used for the methodological work. To know the state of the art, 18 articles extracted from the SCOPUS and WOS databases were worked on, comprising a temporal variability between the years 2018 and 2022. The results obtained are positive regarding the impact on students, since it is a tool that encourages Self-regulated learning, on the other hand, enriches the teaching experience and reduces barriers inside and outside the classroom. Both teacher and student reflections encourage its use, mentioning that it provides self-reflection, self-efficacy, autonomy and also helps continuity in the achievement of teaching-learning objectives. It is concluded that these findings coincide with previous research, showing that students with educational needs can benefit from using the digital portfolio as a means to overcome barriers in their educational process. By way of discussion, important challenges are identified, such

as experience, training, and constant teaching planning, thus demonstrating the bidirectional potential of this tool to enrich both teaching and learning in inclusive classrooms.

RESUMEN

Palabras clave:
Técnicas Educativas, Aprendizaje Autorregulado, Portafolio Digital, Educación Superior Inclusiva y Necesidades Educativas.

¿Cómo enseñar a mis estudiantes universitarios con alguna necesidad educativa? los objetivos para esta investigación son el poder analizar la utilización del portafolio digital como recurso vinculado al aprendizaje autorregulado por parte de los docentes universitarios; y también revisar la experiencia y satisfacción de los estudiantes con necesidades educativas con respecto al uso de esta herramienta.

Se realiza una revisión sistemática de la bibliografía a través de la declaración PRISMA y se utilizó el Checklist for Qualitative Research para el trabajo metodológico. Para conocer el estado del arte se trabajó 18 artículos extraídos de las bases de datos SCOPUS y WOS, comprendiendo una variabilidad temporal entre los años 2018 y 2022. Los resultados obtenidos son positivos respecto al impacto en los estudiantes, ya que es una herramienta que fomenta el aprendizaje autorregulado, por otro lado, enriquece la experiencia docente y disminuye barreras dentro y fuera del aula. Tanto las reflexiones docentes como de los estudiantes, propician su uso, al mencionar que entrega autorreflexión, autoeficacia, autonomía y además ayuda a la continuidad en el logro de los objetivos de enseñanza – aprendizaje. Se concluye que estos hallazgos coinciden con investigaciones previas, evidenciando que los estudiantes con necesidades educativas pueden beneficiarse al utilizar el portafolio digital como un medio para superar barreras en su proceso educativo. A modo de discusión se identifican desafíos importantes, como la experiencia, capacitación y planificación docente constante, demostrando así el potencial bidireccional de esta herramienta para enriquecer tanto la enseñanza como el aprendizaje en aulas inclusivas.

Introduction

How do I teach my students? This is one of the questions that every teacher asks himself when preparing his classes, both because of the practical and theoretical implications that this question raises. Fernandez et al. (2021) point out that teaching-learning methodologies comprise a set of strategic decisions that teachers make with the purpose of guiding instruction, seeking to optimize the learning process of students in the contemporary educational context. The Universitat Politècnica de Catalunya (2023), also considers the spatial (on-site or off-site) and temporal (synchronous or asynchronous) dimensions, which allow the design of learning experiences adapted to different educational contexts and specific needs.

How teachers teach has been described for many years by various theories, movements and currents. Martínez and Ríoperez (2023) mention two types of educational models: conventional (traditional) and non-conventional (innovative). Beatty (2019), points out that the traditional educational model focuses primarily on the transmission of information from teacher to student, leaving little room for student participation and critique. In addition, a passive view of the student is observed, similar to the metaphor of the "empty glass", in which knowledge is poured without encouraging the active construction of knowledge by the student. The non-conventional model seeks a break and constant modification of mental schemas for the construction of new reflections, new concepts and learning, mixing and using previous learning with new learning (meaningful learning). For this reason, it is imperative to open new paths in the teaching of learning along more constructivist lines, where the role of the teacher is that of mediator and not as the sole object of teaching (Dávila, 2000).

Ruggeri et al. (2019), highlight how non-conventional educational models, such as self-regulated learning, enhance students' ability to manage their own learning process. These approaches allow a more effective adaptation to the conditions of the environment and a deeper interaction with the contents, promoting reflection and the meaningful construction of knowledge. In the current educational context, there is constant talk of meaningful learning, in this direction it is worth indicating that for this learning to be generated, it is necessary to have will and skills, so it is thought that pedagogy should direct students to be more aware of the learning to be achieved, to be much more strategic and to direct their motivation towards valuable and lasting goals.

Today we live in the midst of a «digital revolution» that has permeated not only our daily lives, but also the social and educational environment, creating both opportunities and challenges. Information overload and the psychological effects of this digitalization are some of the problems we are facing, as the excess of stimuli and technological dependence are redefining our relationships and behaviors (Álvarez et al., 2021). Education and learning, in this case, do not escape the impact of technology due to its transversal and transdisciplinary nature, i.e., it is present whether we want it or not, whether we accept it or not, whether we are aware of it or not, in all areas of life and is superimposed on all processes of mediation and articulation (Rodriguez et al. 2017, p. 7).

Cuellar (2018) mentions that, the learning method linked to Information and Communication Technologies (ICT) generates motivation, interest, desire to participate and willingness in students to attend class and learn where as an effect an outstanding improvement at academic and disciplinary level is evidenced. Thus, Barberà and Badia (2023) point out that synchronous and asynchronous technologies allow students and teachers to connect in different spaces and at different times, facilitating flexible and collaborative learning. However, they also warn that these tools require specific competencies in their use, which poses challenges for optimizing educational interaction in these environments.

ICTs "are the main lever of unprecedented transformations in the contemporary world" (Carneiro et al. 2021, p. 15), which is why it is essential to know how to use ICT in the teaching and learning process. One example is how most institutions currently have a virtual platform, which allows various activities, such as forums, quizzes, uploading homework, among other activities, which can be part of the creation of the so-called digital portfolios.

The digital portfolio according to Moreno-Fernández and Moreno-Crespo (2017) is a great management and evaluation tool that can be used for countless academic and professional activities, so say Sartor-Harada et al. (2023) when they mention that it allows the dynamization of relevant learning of future graduates as global citizens. Cheng et al. (2018), mentions that the portfolio promotes a student-centered approach, enhances self-reflection and active monitoring of the learning process. On the other hand, Gómez-Zermeño et al. (2019) mention that, the use of the digital portfolio encourages active interaction among participants, promoting collaborative learning and strengthening teamwork. In addition, they emphasize that these spaces allow teachers to assume a guiding role, facilitating the connection between theory and practice in an adaptive manner according to the needs of the students. Thus, the digital portfolio stands out because it promotes the development of reflective thinking in contexts such as interculturality and contributes to comprehensive online training (Tipán et al., 2021).

Thus, teachers must consider the question of how their students can learn better, considering that their classrooms contain students with educational needs, therefore, we must speak of total inclusion in the classroom, which implies making viable the entry, progress, performance and graduation of all students. Thus, the big question is: how to do it if they are all so diverse? "attention to diversity is at the basis of comprehensive education and all diversity involves addressing personal educational needs" (Bausela, 2018, p. 183). González-Rivera et al. (2021) emphasize that self-regulated learning implies an active-constructive approach where students assume a leading role in setting goals, monitoring and regulating their cognitive and emotional processes, adapting them to the educational context. This approach fosters holistic student development by aligning cognitive skills with the emotional and affective needs of learning.

For the exploration of these studies, a systematic review was chosen, since this way it is possible to obtain rigorous, exhaustive and reliable results, for transparency, for its focus on delimited questions, in addition to the evidence in data and in a multidisciplinary way, thus two objectives are outlined:

a) To analyze the use of the digital portfolio as a resource linked to self-regulated learning by teachers practicing in Inclusive higher education.

b) To review the experience and satisfaction of university students with educational needs regarding the use of the digital portfolio as a self-regulatory resource.

Similarly, the following research questions are posed based on the objectives described above:

a) how do teachers practicing in Inclusive higher education use the digital portfolio as a resource to foster self-regulated learning?
b) what is the experience and level of satisfaction of university students with educational needs regarding the use of the digital portfolio as a resource for self-regulated learning?

This study starts from a literature review conducted by Salazar and Arevalo (2018) in which nearly 80 documents were analyzed to describe the results around the concept of portfolio, the identification of its types and its use as a learning tool in higher education.

The methodology used for the study was based on documentary research for the collection of information, processing and presentation of results. It was found that the concept of portfolio is polysemic, given the contexts and pedagogical moments in which it is used. Several types of portfolios were identified, each with its own characteristics and uses. Regarding the use of the portfolio as a learning tool in higher education, benefits are mainly highlighted, for example, it helps to improve critical reflection, responsibility, planning of educational tasks, didactic advances and teacher training. On the other hand, Rivera and Lindín (2023) mention the main threats or weaknesses of the digital portfolio: that its use may face significant limitations, such as the lack of adequate technical training for students and teachers, which hinders its effective integration in the classroom. In addition, inequality in access to devices and connectivity, for them, remains a major barrier to ensuring equity in their implementation. Therefore, it is necessary to carry out a systematic review of the current literature on the use of portfolios in university teachers, but who have students with educational needs in their classrooms, in order to know and analyze the implications, scope, needs and state of the art of this topic.

Method

In order to provide answers to the questions formulated and to achieve the research objectives, a systematic literature review was carried out, which, as stated by Delaney and Tamás (2022), is a structured and reproducible process to identify, evaluate and synthesize relevant studies on a specific research question.

The following systematic review is carried out with the purpose of analyzing the use of the digital portfolio as a self-regulatory learning resource in teachers working in

inclusive higher education, having in their classrooms students with educational needs, thus knowing their experience and levels of satisfaction with its use.

Protocol and Records

This study complies with the guidelines for scientific systematic reviews in the PRISMA Statement (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*), which, as stated by Barrios et al. (2021), provides guidance on how to inform the use of automation tools in various steps of the review process, such as searching, study selection, data collection, assessment, and study synthesis for conducting systematic reviews and meta-analyses.

Procedure

For the construction of this study, two databases of bibliographic references were consulted. One of them was SCOPUS, a bibliographic database launched in 2004, of abstracts and citations of scientific journal articles; and the second was *Web of Science* (WOS), a platform of the company *Clarivate Analytics* formed by a large collection of bibliographic databases.

We searched for scientific articles published between 2018 and 2022, inclusive, the search was conducted between July to October 2022.

Search Strategies

To organize and structure the search, logical operators such as "OR", "AND", "ALL" and "LIMIT-TO" were used to effectively combine and delimit the terms, ensuring that the results were relevant and specific to the study objectives.

The final search key used to obtain the preliminary results prior to **SCOPUS** purging was: (ALL ("digital portfolio")) OR (ALL ("educational needs")) OR (ALL ("self-regulated learning")) AND (LIMIT-TO (OA , "all")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2020) OR LIMIT-TO (PUBYEAR, 2019) OR LIMIT-TO (PUBYEAR, 2018)) AND (LIMIT-TO (LANGUAGE, "Spanish") OR LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SUBJAREA, "SOCI") OR LIMIT-TO (SUBJAREA, "PSYC")) AND (LIMIT-TO (EXACTKEYWORD, "Higher Education")). On the other hand, for **WOS**, it was used: (ALL=(digital portfolio) AND (ALL=(higher education)AND (ALL=(personal educational needs).

The inclusion criteria were: the language «English or Spanish» to facilitate the understanding of the contents for the researcher. On the other hand, the educational level was filtered, and only studies referring to higher education were considered. On the other hand, only documents with free access and available for consultation were used. For the

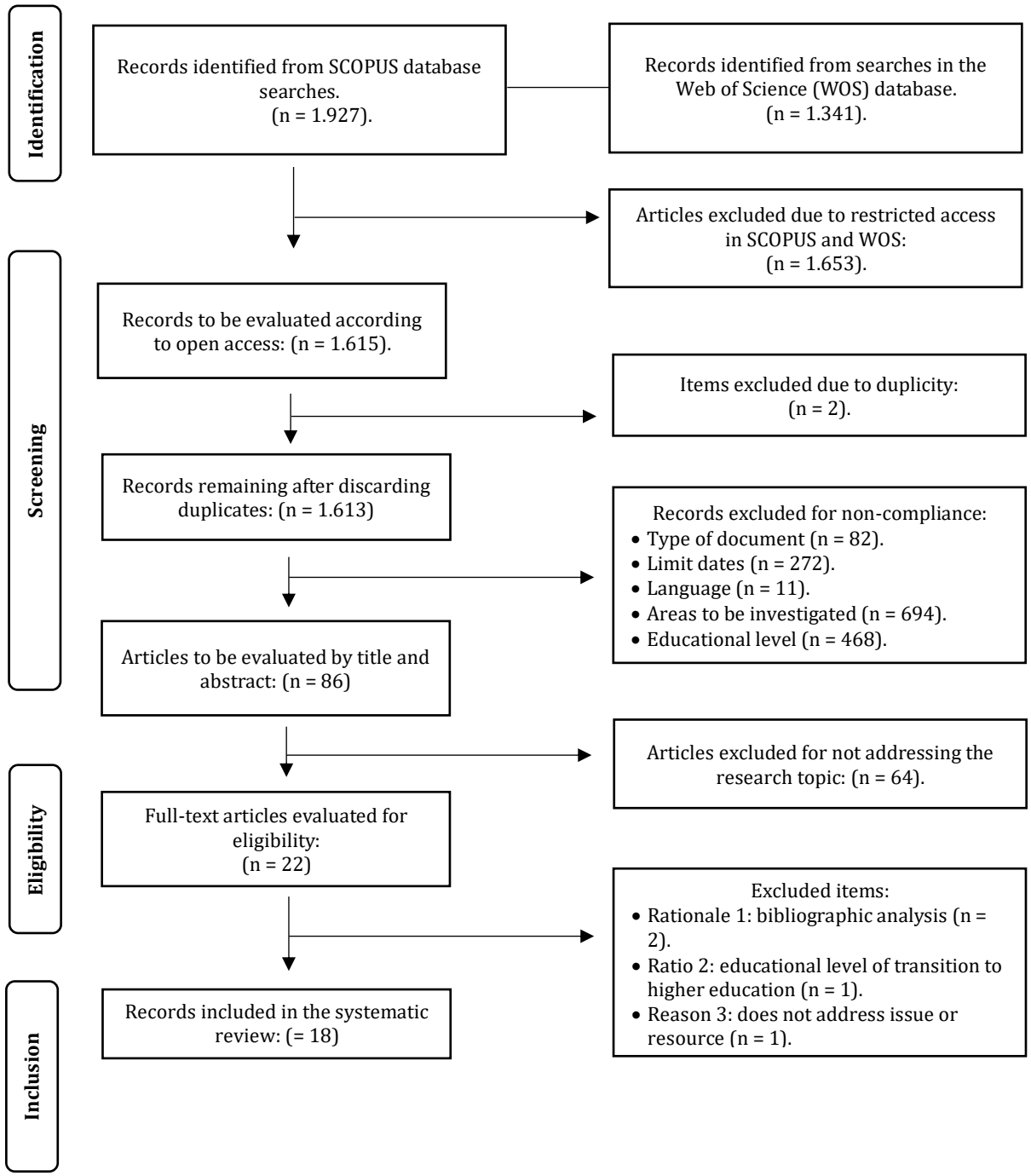
subject area only journal articles were selected. Experimental studies or case studies with quantitative, qualitative or mixed analyses were included.

For exclusion criteria, publications in languages not mentioned above, articles pertaining to primary or secondary education stages are declared. Documents with restricted access or not available for consultation were also excluded, as well as articles belonging to other areas of study. Conference or seminar proceedings, books or book chapters or other publications were excluded. Theoretical studies, reviews of perception, repeated articles and studies developed at the undergraduate or technical level were discarded.

Selection of Studies

A search of the articles with the key words was started; 1,927 results were obtained in SCOPUS and 1,341 in WOS. Records were eliminated due to duplicity, and inclusion and exclusion filters were performed leaving a total of 86 articles, leaving 56 for SCOPUS and 30 WOS. After this, the results were downloaded in an Excel spreadsheet. In this way, after the identification and screening phase, a more detailed review of the titles and abstracts that constitute the articles is carried out in more detail, selecting 22 in total, 18 for SCOPUS and 4 WOS for their complete reading and final selection according to the established objectives. As can be seen in Figure 1, the final result after the process generates a total of 18 items for detailed review and analysis.

Figure 1.
PRISMA flow chart of the systematic review.



Note. Own elaboration (2023), adapted from Page et al. (2021, p. 796).

Data Analysis

In order to organize and arrange the information in a structured manner during the review and analysis of the selected articles, a database was developed to systematize the relevant data. This database includes information such as study title, author(s), year, place of publication, sample, objective, methodology and main results of the study.

Evaluation of Methodological Quality

To guarantee the objectivity of methodological rigor and reliability, the critical evaluation of the selected studies was carried out through a system of external peer review. Each reviewer worked independently to review the studies following a predefined checklist and clear criteria, which allowed key aspects of each study to be examined. Subsequently, the evaluators discussed their ratings to identify possible discrepancies, which were resolved through discussion and consensus.

In the development of the methodological review of the studies, the 18 articles were evaluated with the Joanna Briggs Institute's *Checklist for Qualitative Research* for use in systematic reviews (Lockwood and Tricco, 2020), which is intended to assess the methodological quality of papers and determine the extent to which a study has addressed the possibility of bias in its design, conduct, and analysis. It should be noted that the 18 articles selected for this systematic review have satisfactorily met the criteria established in this list, such as: philosophical and methodological congruence, research question and objectives, methods for collecting information, representation and analysis of data, interpretation of the results, cultural location of the researcher and his influence, adequate representation of the participants, level of ethics and conclusions of the research.

Results

Descriptive Analysis of the Literature

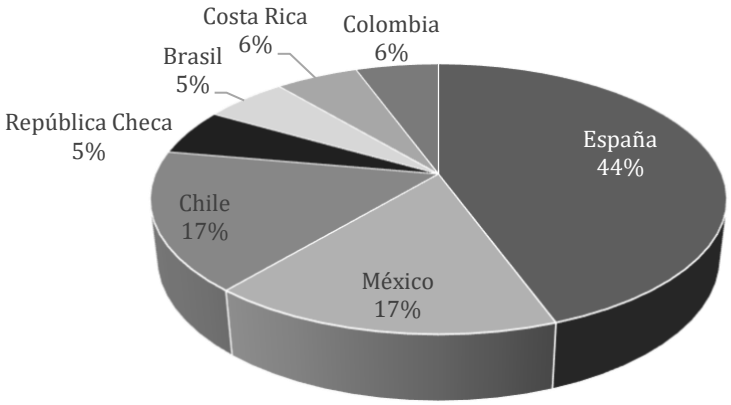
In the bibliographic search process carried out in the SCOPUS database, 56 articles were registered (65.12% of the total), and 30 articles (34.88%) for the WOS platform. A total of 86 articles were reviewed by title and abstract. The articles discarded for complete reading were those that did not comply with the subject matter (60.93%) and others were rejected because they were not directly related to the objective of the study (39.07%).

Of the 18 articles selected for review and analysis in full, the prominence of the time frame between 2020 and 2022 stands out, as it corresponds to 77.77%. According to the geographical reference, see Figure 2, it should be noted that 50% of the research comes from Europe and the other 50% from America. In Europe, publications in Spain 88.88% and the Czech Republic 11.11% stand out, while in the Americas, 33.33% are from Mexico, 11.11% from Costa Rica, 33.33% from Chile, 11.11% from Brazil and 11.11%

from Colombia. If we stop to reinforce the international perspective, these articles explore how technologies, including the digital portfolio, are integrated into modern educational contexts, promoting dialogue, inclusion and pedagogical innovation. It can also be seen how Spain, according to the screening carried out, has more studies on the subject developed.

Figure 2

Distribution of studies according to country of origin.



Note: own elaboration (2024).

On the other hand, analyzing data referring to the methodology used, 72.22% of the articles have a qualitative approach, while 27.77% are quantitative in nature. There are experimental, quasi-experimental, descriptive, predictive or correlational studies. On the other hand, in terms of the data collection instruments used, it can be said that questionnaires and surveys predominated, while the least used techniques were observation protocols, interviews and case studies.

Turning our attention to the objectives pursued for this systematic review, 72.22% of the articles reviewed note positive aspects about the useof the digital portfolio, among these results it is highlighted that: promotes reflection and continuous learning, develops digital skills, facilitates the monitoring of learning and develops digital skills, on the other hand, 88.88% report results aimed at their satisfaction or experience that students have about this resource, being also positive and favorable about its implementation. Thus, these results have significant implications for the design of pedagogical tools and university policies. On the one hand, they confirm the effectiveness of the digital portfolio as a resource to foster student self-regulation and satisfaction. On the other hand, they reveal the need to develop more inclusive research that addresses how these tools can be customized for students with educational needs, promoting true equity in the classroom, since a limited focus is observed within the studies analyzed and this could indicate a tendency in the literature towards prioritizing the general satisfaction of the student

body, leaving aside more specific and fundamental issues related to educational inclusion. This bias raises questions about current research priorities and their alignment with the real needs of university environments.

Digital Portfolio as a Self-regulatory Resource

The digital portfolio is an ICT tool used in the context of higher education to improve the principles of learning; this is a premise found in 22.22% (N=4) of the research. On the other hand, self-regulation refers to an individual's ability to control and manage his or her own thoughts, emotions and behaviors. Students who are effective in self-regulation can analyze task requirements, set productive goals, and select, adapt, or invent strategies to achieve their goals, these reflections could be established in 55.55% of the articles reviewed (N=10).

Through the studies consulted, the digital portfolio proves to be a resource that demands students to achieve a reflection on their work developed, in addition this practice calls for self-evaluation of each of the processes involved in its construction and establishes a relationship of autonomy in their daily work involving them in their teaching and learning process in an active and innovative way solving the problems involved (Cordeiro and Urbanetz, 2020; Gutiérrez et al., 2022; Roco and Barberà, 2022).

It is also evidenced by Kimova et al. (2022) that self-regulation is especially important in online learning, where the use of the portfolio could be established, since students must manage their own time and motivation to learn. In the study conducted by Tur et al. (2021) found that certain digital resources, such as infographics, rubrics and gamified quizzes, can have a significant impact on different phases of self-regulated learning.

The research in this review concludes that the use of the digital portfolio has proven to be beneficial, for example: allowing students to present their thought processes and enrich them through the exchange of ideas with peers and teachers (Rodriguez et al., 2022), on the other hand, it enhances the selection and organization of work in a critical and careful manner, evaluating the quality of their production and the learning strategies used (Cordeiro and Urbanetz, 2020). However, from a more critical point of view, its effective implementation requires adequate support and continuous training for students and teachers (Roco and Barberà, 2022). This limitation in technical quality poses a great challenge, since, if the student or teacher does not have advanced skills in design or use of this tool, the portfolio may lack visual appeal or functionality. On the other hand, among the weaknesses is the initial learning curve, especially for users with little technological experience, which can make implementation and management difficult.

Teachers' Response to the Use of Digital Portfolios in Higher Education

Teachers have observed that the implementation of the digital portfolio leads to meaningful participation in a virtual platform, increases students' awareness of their own learning, and improves teaching methodology and support (Gutierrez et al., 2022). This

is why, in the context of online learning, the teacher's role in promoting self-regulation is even more crucial, as students must make their own decisions about what materials to review, when and how much to study, and what strategies to modify to achieve their academic goals (Carrasco-Saez et al., 2021; Gaeta et al., 2021; González et al., 2021; Sáez et al., 2022; Vargas-Cubero and Villalobos-Torres, 2019).

In this sense, 44.44% (N=8) of the analyzed articles corroborate that teachers can facilitate the development of self-regulation skills in students by designing and implementing a digital portfolio. Vargas-Cubero and Villalobos-Torres (2019) conducted a study that contemplated 38 teachers in Costa Rica, here they stated that they were able to better guide students with this resource and follow them up together having a fluid communication with them.

In addition, Fernandez et al. (2022) have observed in their study conducted with 104 active university professors from the Faculty of Education of the Autonomous Community of Castilla - La Mancha in Spain, that the age of the teaching staff can be an important factor when facing technological challenges. They argue that younger teachers tend to be more proficient with technology. Thus, Carrasco-Saez et al. (2021) mention a project called DIPRO 2.0 in Chile, which includes activities of a digital portfolio for teacher training in ICT, these activities were useful to help teachers integrate digital technologies into their teaching practices and thus facilitate students' self-regulated learning.

In summary, self-regulatory tools, such as the digital portfolio, can be a valuable part of a teacher's pedagogical toolbox, helping students to take a more active and conscious role, as endorsed by García-Pérez et al. (2019).

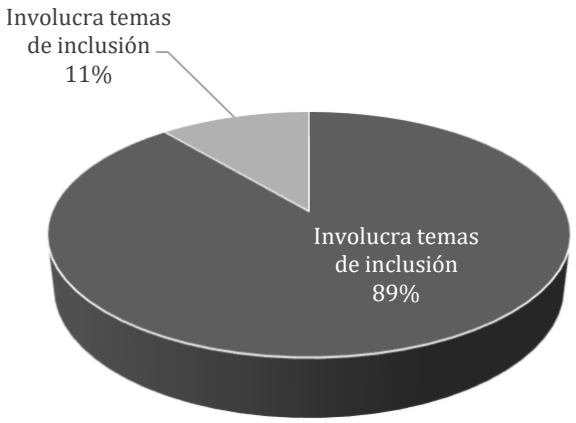
Finally, Vargas-Cubero and Villalobos-Torres (2019) suggest that more research is needed to address concerns about the possibility that in the digital portfolio, assignments may be copied by peers, as well as optimally correcting students' errors or omissions in their assignments. On the other hand, the lack of uniformity in the criteria stands out, since without clear guidelines, portfolios can vary significantly in structure and content, making it difficult to evaluate or compare them.

Experience and Satisfaction of Students with ~~Personal~~ Educational Needs in the Use of the Digital Portfolio

As shown in Figure 3, only 11.11% of the studies analyzed (N=2) focus their object of study on issues associated with educational needs, focusing exclusively on concepts such as «disability» or «inclusive education». This finding reveals a worrying absence of research addressing other more specific dimensions, such as socioemotional, cultural or technological supports. This may be due to the fact that current definitions are framed within traditional categories, which limits the exploration of emerging needs in an educational environment that increasingly demands diversified approaches.

Figure 3

Number of studies involving inclusion issues.



Note: own elaboration (2024).

Among the findings of the study conducted by Fernández et al. (2022) in Spain, revealed a major limitation, which is the low level of digital training of university faculty regarding support for students with disabilities. This study is aimed at visually impaired students, who face problems of access to information in the university environment. That is why a great challenge is posed, which is the use of the digital portfolio as a resource and inclusive for the implementation of this in any classroom.

Sampedro and Maldonado (2018) conclude in their study that Web 2.0 tools (all incorporated in a digital portfolio) play a relevant role as teaching resources, highlighting as a benefit that they favor the values of inclusive education, by promoting accessibility and planning, thus increasing the degree of equity among all students.

One of the successful cases of its implementation was the study carried out by Rodríguez et al. (2022) who conducted a study with 108 students, despite not having records of having students with educational needs, it is mentioned that the digital portfolio had a positive impact on the development of student learning, as they mentioned having enjoyed its implementation and believed that it gave them meaning in their professional development and practices. These results are consistent with the findings found by Lerma-Noriega et al. (2020), since in their study they were able to visualize more benefits, demonstrating that students value the feedback from both peers and teachers, in addition to causing curiosity and interest and decided to continue working with this tool, obtaining high levels of satisfaction.

There are two studies that carried out interventions with a control group and an experimental group. One of them was in Colombia, where Martínez-Sarmiento and Gaeta (2018) mention, as a success case that, the 38 students in the experimental group obtained better levels of satisfaction, with respect to the control group, in most of the study variables: task orientation, liking for the subject, learning strategies, use of technological resources, study time and perception of teacher support in learning tasks;

on the other hand, Carezo et al. (2018) is their study conducted, they also confirm that their experimental group of 167 students, showed a statistically significant improvement in the knowledge of these strategies.

It should be noted that higher education institutions are immersed in technology-mediated teaching and learning processes, with the aim of leaving no one behind. Thus, it is highlighted that the practical implication is that the digital training of teachers should be linked not only to the improvement of these processes, but also to their transformation, in order to respond effectively to the diversity of students and facilitate their full inclusion (Fernández et al., 2022; Sampedro and Maldonado, 2018).

It is essential that educational institutions do not limit themselves only to creating teacher training plans, but that these should be integrated into a more critical vision committed to inclusion and equity in the use of technologies, deepening adaptive pedagogical approaches that respond to the particularities of students with disabilities or educational needs, only then will it be possible to comply with the policies that demand universities more committed to inclusion (Fernandez et al., 2022). In this context, the challenge is to apply public policies that facilitate access to ICTs and implement strategies that allow universities to take advantage of access to the web to expand their educational services, solve didactic problems such as the high level of failure and thus raise the quality of their services (Aguilar et al., 2020).

Discussion and Conclusions

This research is based on one of the most relevant and little addressed issues in the educational field: the challenge of guaranteeing a teaching-learning process that is both effective and inclusive for all students. This approach responds to the growing need to adapt pedagogical practices to the diversity of educational needs, promoting an equitable and accessible educational model that considers the heterogeneity inherent in contemporary educational environments.

The results of the present systematic bibliographic review were based on the 18 studies selected in order to be able to respond to the objectives and questions posed. Thus, it can be concluded that, according to the first objective, which was to analyze the use of the digital portfolio as a resource linked to self-regulated learning by teachers working in higher education, it was found that this tool is a valuable resource to support self-regulation and personalization of how I learn. It is a versatile didactic resource that promotes active learning on the part of students. On the other hand, it manages to help in goal setting, self-efficacy, self-reflection and awareness. It is a facilitator of the monitoring of the teaching-learning process. Among the benefits we can add that it is dynamic, calls for order, provides greater freedom and confidence to the students, since they can visualize the continuity in the achievement of the objectives, providing autonomy and allowing self-evaluation.

The second objective of this research was to review the experience and satisfaction of higher education students with educational needs regarding the use of the digital

portfolio as a self-regulatory resource. This analysis revealed an important limitation in the existing literature, since few studies comprehensively address the intersection of three fundamental concepts: "digital portfolio", "self-regulated learning" and "educational needs". Most existing work focuses on the concept of "disability" or the general notion of "inclusion," without exploring more deeply how these digital tools can specifically serve these students, beyond traditional disability-focused approaches. This limited focus underscores a significant gap in current research, as the academic field seems to overlook the potential of digital portfolios to foster self-regulated learning in broader contexts of educational needs.

Thus, it can be stated on the basis of the studies reviewed that, iCT play a fundamental role in the promotion of inclusive education, and in this case the digital portfolio is used as a facilitating tool in the access to information, promoting the participation of all students, in an autonomous and self-reflective way, in order to support their academic progress. In addition, ICT and its resources (including the digital portfolio) help to adapt educational systems to the needs and diversities of individuals and contexts, which is essential for inclusive education. Therefore, studies show that it is absolutely feasible to use the digital portfolio in students with educational needs, in all the diversity that it implies, since it can provide dynamism when it is proposed by the teacher, virtually involving those who do not participate in class, giving them a voice, time for autonomous development y promoting equity in the classroom.

Despite the many benefits of the digital portfolio that have been reviewed, its use is not without threats and weaknesses that must be considered. Among the main threats are risks related to information security and privacy, since inadequate management can expose personal or professional data to unauthorized access. Likewise, dependence on technology and Internet connection may limit its use in contexts with insufficient resources or infrastructure problems. On the other hand, among the weaknesses are students and teachers with little technological and design experience, which may hinder its implementation and management. In addition, keeping the portfolio up to date requires time and effort, which can be a challenge for those without adequate planning or commitment.

Thus, the results obtained corroborate that equity in the classroom is a fundamental principle of inclusive education. Refers to ensuring that all students have equal opportunities to learn and participate in educational activities, regardless of their abilities, backgrounds, or personal circumstances circumstances (Sampedro and Maldonado, 2018). Inclusion is a fundamental concept in higher education that refers to ensuring that all students, regardless of their abilities, disabilities, ethnic, linguistic, religious, gender or other backgrounds, have equal opportunities to participate fully in learning. Inclusion implies eliminating barriers to learning and guaranteeing the presence, participation and achievement of all students in education (Fernández et al., 2022). Thus, the academic community must reflect on how to integrate the use of digital technologies in a more dynamic approach, which is not limited to curative or compensatory responses for students with disabilities, but also enhances the capabilities of all students, including those that have to do with their self-regulation and management

of their own learning processes. This not only improves educational accessibility, but also promotes more meaningful and autonomous learning, capable of adapting to the changing needs of the 21st century.

Despite the progress that has been made in the use of digital portfolios in education, there is still an urgent need, as a gap identified in the review, for the development of digital portfolio matrices specifically designed to be inclusive. As evidenced by the results of the study, the effective implementation of these tools cannot be limited to their superficial adoption; it requires an integral accompaniment that considers the context and the diverse needs of the students and the training of teachers in their use. However, it is noted that many of the studies reviewed tend to focus more on the overall effectiveness of digital portfolios, leaving aside specific strategies that could facilitate their inclusive use, which limits the applicability of these resources in diverse settings. In this sense, the lines of action for future research are to explore more deeply how these instruments can be adapted to the needs of students with educational needs, those who face socioeconomic barriers, or those who require differentiated pedagogical approaches, to ensure an equitable and effective integration of all students in the teaching-learning process.

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