



Contributions of futures studies to education: A systematic review

Contribuciones de los estudios de futuros para la educación: Una revisión sistemática

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ABSTRACT

Futures studies offer a framework of ideas and guidelines that allow us to develop more productive images of the future and ways of working with it. Despite several efforts to translate this approach to different educational contexts, it is still a field under development. The main objective of this article is to present and discuss the latest international academic developments and contributions of futures studies to education. For this purpose, we conducted a systematic review of the literature using the Web of Science and Scopus databases. We considered articles published between 2012 and 2022. We started with 437 articles and after the application of the exclusion criteria, this number was reduced to 50 articles that were directly related to educational issues. The findings show that the literature included specific educational methodologies, a balance between theoretical and empirical publications, a focus on specialised journals and countries and that multidisciplinary in education was not common with subjects outside social sciences. Moreover, we found that the predictive approach and negative perspectives were not present. We conclude that futures literacy is a key element to bringing together ideas related to futures studies in education, that futures studies contribute to changing the way of working with and conceptualising the future in education, and that they promote transformative movements.

RESUMEN

Los estudios de futuros ofrecen un marco de ideas y disposiciones a partir de las cuales desarrollar imágenes más productivas del futuro y formas de trabajar con este. Aunque existen múltiples esfuerzos por trasladar estos planteamientos a diferentes ámbitos educativos, aún sigue siendo un campo por desarrollar. El objetivo central de este artículo es exponer y discutir los últimos avances y contribuciones académicas internacionales de estudios de futuros en educación. Para ello, se ha realizado una revisión sistemática de la literatura usando las bases de datos Web of Science y Scopus considerando artículos publicados entre 2012 y 2022. Se ha contado con una muestra inicial de 437 artículos que, al aplicar criterios de exclusión, se redujo a 50 que vinculaban directamente los estudios de futuros a temas educativos. Los hallazgos muestran que las publicaciones contienen propuestas educativas, que existe un equilibrio entre estudios teóricos y empíricos, que se concentran en revistas especializadas, en determinados países y que la multidisciplinariedad es limitada fuera de las Ciencias sociales. Asimismo, encontramos que el enfoque predictivo y las visiones negativas no tienen presencia. Se concluye que la alfabetización en futuros es un elemento clave para acercar las ideas de estudios de futuros al ámbito educativo, que los estudios de futuros contribuyen a cambiar las formas de trabajar y conceptualizar el futuro en educación y que promueven dinámicas transformadoras.

KEYWORDS | PALABRAS CLAVE

Future of education, futures studies, literacy, interdisciplinarity, communication, systematic review.

Educación para el futuro, estudios de futuros, alfabetización, interdisciplinariedad, comunicación, revisión sistemática.

1. Introduction

We are presently immersed in a pandemic of which we are not yet aware of the consequences. We are more frequently experiencing unexpected and devastating weather phenomena associated to climate deterioration. We observe, perplexed, how international tensions grow, and we are becoming aware that the triumph of a global liberal democracy has not been the “happy” ending of history announced by Fukuyama (2006). Different communication media are accountable for magnifying and even twisting these types of phenomena (Aguaded & Romero-Rodríguez, 2015), feeding the uneasiness that is established in a population that looks towards the future with uncertainty, fear, and impotence (Santisteban & Anguera, 2013).

Faced with this problem, futures studies offer a theoretical and practical framework on which we can develop images of the future that are alternate to those we find to be lacking in rigour or based on hopeless scenarios (Facer, 2016). Futures or Foresight studies propose a way to understand the question of time, in which the interest is not on predicting the future, but on playing with the multiple possibilities it offers¹ (Slaughter, 1996a; 1996b). They present a future that although unknown, is managed in an open, plural, and malleable manner (Bell, 2003). This means re-enforcing the idea that subjects are not passive when facing their destiny but have the capacity to act in the present. This human agency allows them to understand that their actions and thoughts can be oriented towards three types of futures: probable, possible, and preferable (Bell, 1998).

Futures studies have a long tradition and can be represented in various forms. Futures studies is the term that is commonly used to define the multi-disciplinary academic field centred on the study of images and aspects of the future (Marien, 2002). Nevertheless, as shown by Bell (2003) and Kuosa (2011), it is a complex field in which its objectives and purposes have evolved, and in which different epistemological traditions converge. Inayatullah (1998; 2007) distinguishes four traditions of futures studies, inviting us to work on them in a cross-sectional manner:

1) Predictive: it emerges from a determinist point of view of the universe, from which the future can be known/predicted. This perspective works with statistical tools of prediction, highlighting the use of the Delphi method.

2) Interpretive or cultural: it comes from a relativist view that is crystallized in constructivist and sociocultural planning. The interest is not centred on predicting, but on delving into the human condition, and understanding how the different elements and structures that compose it condition the views and possibilities of the future. The methodological tools that are underlined are the comparative study of narratives of the future and the futures scenarios.

3) Critical or post-structural: it assumes that neither predictions nor comparisons are possible, understanding that the future is always undefined. Any stable or agreed-upon prediction, representation, or concept, is problematic, seeking to open and debate any discourse about the future. It comes from methodological approaches such as deconstruction, the analysis of the critical discourse, or genealogy, to develop more specific methods for futures studies such as the causal layered analysis, or the futures triangle.

4) Anticipatory action or participation learning: the main idea of the future is that it is the fruit of deep participation and association. What is sought is the development of probable, possible, and preferable images that emerge from the needs and visions of a group. It could be said that this fourth approach emerges from the analysis of the previous two, from ideas coming from research-action and democratic-participative approaches. The methods are directed towards encouraging participation in the construction and analysis of collective futures, emphasizing a practical and collective character.

Multiple efforts have been made to transfer the ideas and guidelines of futures studies to different education contexts (Gough, 1990; Hicks, 2006; Hicks & Slaughter, 1998; Toffler, 1974). This is especially motivated by the conviction that education could be a way to transmit and assimilate futurist ideas, which can lead to the deep re-orientation and transformation of education, and by extension, of society and human relations, among which we find its relationship with the medium (Bodinet, 2016; Gee & Esteban-Guitar, 2019; Hicks, 2012). In essence, all education is about the future, either because it is oriented towards preparing students for a future at work, participation in social development, or attaining a full life. Education for the future seeks to operate on these three purposes of education, contributing to their

development in different ways, and paying close attention to the students' shaping of images about the future (Anguera & Santisteban, 2016). On the other hand, futures studies are a discipline or a group of ideas that provide theoretical, conceptual, and methodological tools that could be utilized in futures education.

A key element for understanding the relationship between education and futures studies is Futures Literacy. This is a relatively new and disputed concept (Miller et al., 2018). Futures literacy was recently recognized by the UNESCO (2020), as "the skill that allows people to better understand the role of the future in what they see and do", and just as with reading and writing, it is something that we can all do and should aspire to acquire. Therefore, it is about a new way to enrich the communication and educational process that comes from futures studies with which it shares the interest for developing more critical and creative ways to imagine, use, represent, and talk about the future and changes in general (Miller & Sandord, 2018). How, where, and when to acquire this skill are questions that are still unanswered (Bateman, 2012), where one of the objectives of the present study is to delve into this aspect.

As a summary, we propose five intersections between futures studies and education for the future or futures that emerge from the initial review of the literature:

1) Futures studies are not centred on predicting, nor is education about the future preparing us to be able to predict. There are different trends in futures studies that can crisscross. In general, what is sought is the study of multiple ideas and images about the future that allow us to create diverse scenarios or alternative narratives on which the students can reflect and prepare for what is yet to come.

2) Facing the future as open and predictable allows for a more hopeful approach that stimulates a positive disposition towards the future in the student and teacher. Thus, a future that, although complex and under construction, is presented as attractive and stimulating.

3) The present is a space for action, both individual and collective, in which to create thoughts and actions that will have an effect on the future. The education process oriented towards the future must prepare students to learn new ways to understand and act.

4) Futures studies are, in essence, multidisciplinary. Education for the future teaches students that the world, its problems, and its future solutions, are interconnected and cannot and should not be understood in isolated.

5) Futures literacy is presented as a key skill for futures studies. Its learning is still a matter of development and of interest for education research.

How to educate and why to educate for the future are matters that go beyond that which is purely school-related, and places us in a broader context. This is a matter of debate, which, just as the future, no futurist would keep closed. This article seeks to analyze this debate through a systematic review of the literature that links futures studies and education. For this, we will focus on the international scientific production in the last 10 years. Three objectives are posed:

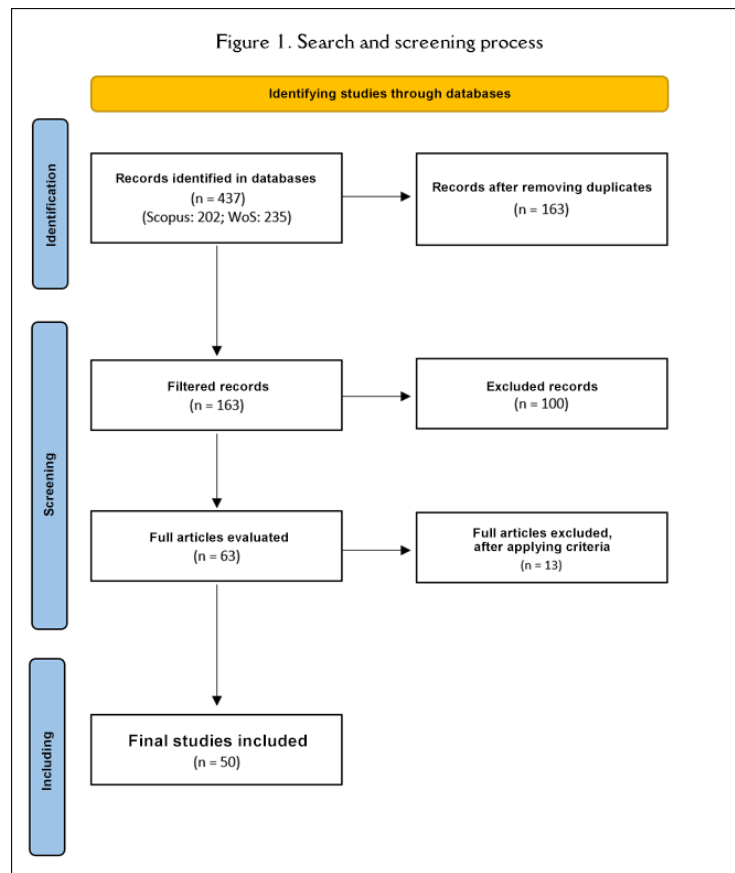
- Describing the characteristics of research on futures studies related to education.
- Exploring the concepts of futures studies related to education.
- Analyzing the contributions of futures studies to the area of education.

2. Method

For conducting the review, we utilized the PRISMA Declaration (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) (Moher et al., 2009; Page et al., 2021), one of the most utilized protocols in this type of study, which provides a checklist of the most important aspects to consider.

The keywords utilized for the search were "future studies", "futures studies", "future literacy" and "futures". The use of these terms was only considered in the English language, as it is a set standard in the search fields in any scientific journal, regardless of the source. These words serve to identify the articles that are directly related with futures studies. The selection of these words by the authors denotes their intention to place the work within this perspective. As an alternative, the concept "futures literacy" was included, as it is also a term that is directly associated with futures studies, especially in studies associated with education subjects. These words were included in their singular and plural forms, given that both forms can appear. As the Boolean operator to connect the words, we utilized "or", as the use of one concept

does not exclude the other, but instead enriches the search. As for the databases selected, these were the Web of Science and Scopus databases, as they include the highest-impact journals in the area of science, thus covering almost all the works that could potentially be analyzed. For both databases, the search was performed in the Keywords field (disregarding the search in the Abstract field, given the polysemy of the expression), considering the period from 2012 to 2022 (both included), thus encompassing a margin that was sufficiently broad and up-to-date. To make the search more specific, the type of publication was limited to articles, and in the case of the Scopus search, the exclusion criterion utilized was journals that were not part of the social sciences field.



With the application of these criteria, 202 articles were initially found in Scopus, and 235 in the Web of Science, for a total of 437 articles. These records were imported in a systematic review management software program Rayyan, which allows searching for duplicates and the articles' classification. After the screening for repeats, a total of 163 articles were selected, which were later one by one examined manually to discard those that did not have a direct link with any education-related subject, with a total of 100 records excluded. When the copying of information started, another 13 works were identified as non-compliant, due to various causes. Thus, a total of 50 articles were found, meeting the requirements of being publications indexed in any of the two reference document databases mentioned, published in the last ten years, and in which futures studies were connected with education. Figure 1 shows the search and screening protocol followed, according to the PRISMA model (Moher et al., 2009). Likewise, the compliance with the checklist from the model was verified, aspects that are described through the present work.

The 50 articles selected were read, analyzed, and categorized by the authors considering the objectives, questions, and categories described in Table 1 (<https://doi.org/10.6084/m9.figshare.19222785>), in which we can find the links between these aspects. For their further review, the information was introduced

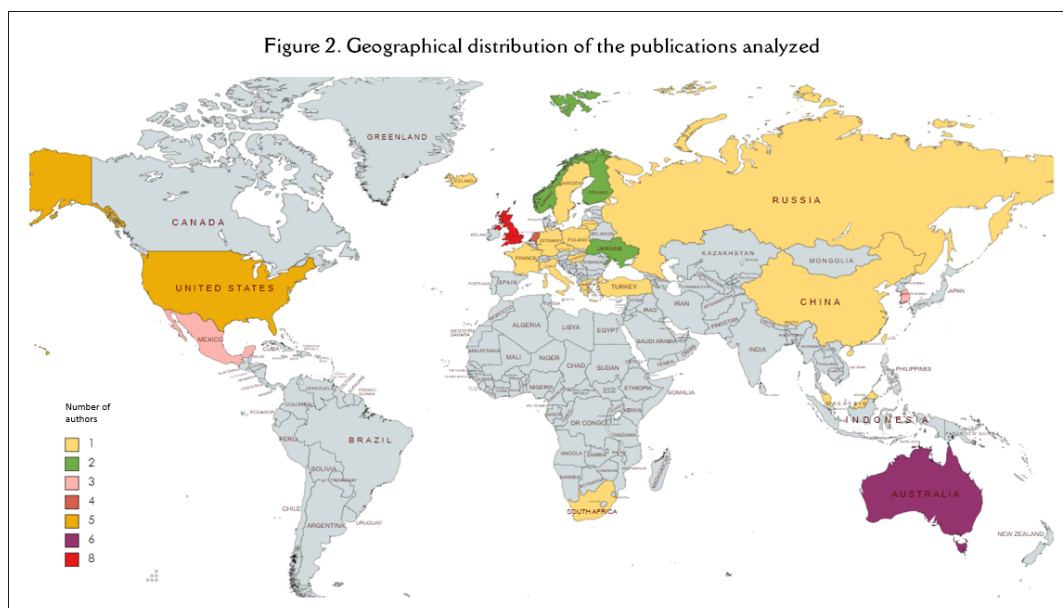
into an Excel file, after which the analysis of the results was performed, with the results presented in the following sections of the present article. It should be mentioned that given the limitations of the sample, the analysis of the results did not seek statistical representation, but instead it sought to work at the descriptive and idea-generation level that allow the identification of significant attributes of the literature, which will be discussed in the last section of the present work.

3. Results

In this section, we will describe the results related to the research questions established previously, and which are linked with the three objectives defined. The tools Tagcrowd (creation of word cloud), Mapchart (illustration of the geographical distribution), and Excel (for the graphical representations) were utilized.

P.1.1. What is the geographical distribution of the publications?

The greatest production of articles related with futures studies and education came from English-speaking countries. The United Kingdom (8 authors) was the country with the most publications on the subject, followed by Australia (6 authors), and the United States (5 authors). All the continents were well represented, except for South America. In Europe, aside from the United Kingdom, the Netherlands (4 authors) was also highlighted, followed by two Nordic countries, Norway (2 authors) and Finland (2 authors). Among the Spanish-speaking countries, only Mexico (3 authors) was represented in the present study. Nevertheless, except for three articles published in Korean, Afrikaans, and Russian, respectively, all the articles were published in English.



• P.1.2. What types of international collaborations exist?

The collaborations between authors are anecdotal. Although it was common for the articles to have more than one author, it was more frequent to find that they were from the same country and the same institution.

• P.1.3. In what journals are the articles published?

A variety of journals and subjects were found, among which we highlight publications in journals specialized in futures studies, a total of 54% of our sample. Among them, the journal "Futures" contributed with the most articles (18 out of 27). The journals specialized in education comprised 22%, and the non-specialized, 24%. The latter were journals about diverse subjects, mainly philosophy and literacy. Two monographs were identified which published articles related to futures studies and education; the first in 2012, in the journal "Futures" volume 44, number 1, entitled "Futures Education"; the second in a journal

specialized in education “International Journal of Educational Research”, volume 61, entitled “Educational Futures: rhetoric, reality, and alternatives”.

- P.1.4. What is the quality of the articles?

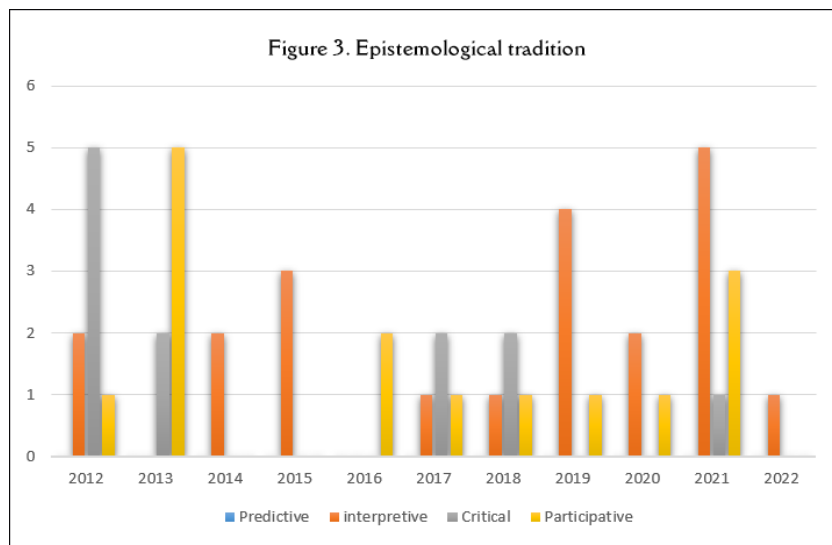
The articles analyzed were published in journals included in the two most important bibliographic databases (Scopus and Web of Science), thus guaranteeing their high quality. The journals with the highest impact factor were “Futures” (citescore 5.5 and impact factor 3.07, placed in the top 6% in the sociology and political science category in Scopus), and “International Journal of Educational Research” (citescore 3.1 and impact factor 1.972, found in the top 19% in the education category in Scopus). The articles in these journals were the highest represented in this review study.

- P.1.5. What type of studies are conducted?

We found a balance between the theoretical (21) and empirical (18) articles, with both representing 76% of the sample analyzed. Although in a more modest manner, but also significant, articles oriented towards the practical were found (11). Among the articles analyzed, we did not find a systematic review, granting value to the review presented herein.

- P.2.1. In what epistemological approach are the studies found?

The interpretative approach predominated (21 articles), followed by the participative (15 articles) and critical (12 articles) ones. We could state that there is a certain balance between the three approaches, while the predictive approach did not appear in any of the articles. A clear tendency through time towards a specific tradition over another was not found, as shown in Figure 3.



- P.2.2. What image of the future was underlined?

Although in many of the articles the image of the future was not clear, negative images were avoided, beyond the works such as those by McMain and Edwards-Schuth (2021), whose argument was developed starting with a dystopic image. Articles with predictable futures were not found either. The most common findings were articles that promoted an image of a future that is open (Inayatullah, 2013), hopeful (Haggstrom & Schmidt, 2021), plural (Mangnus et al., 2021), or under constant change (Kononiuk et al., 2021).

- P.2.3. How is multidisciplinary developed?

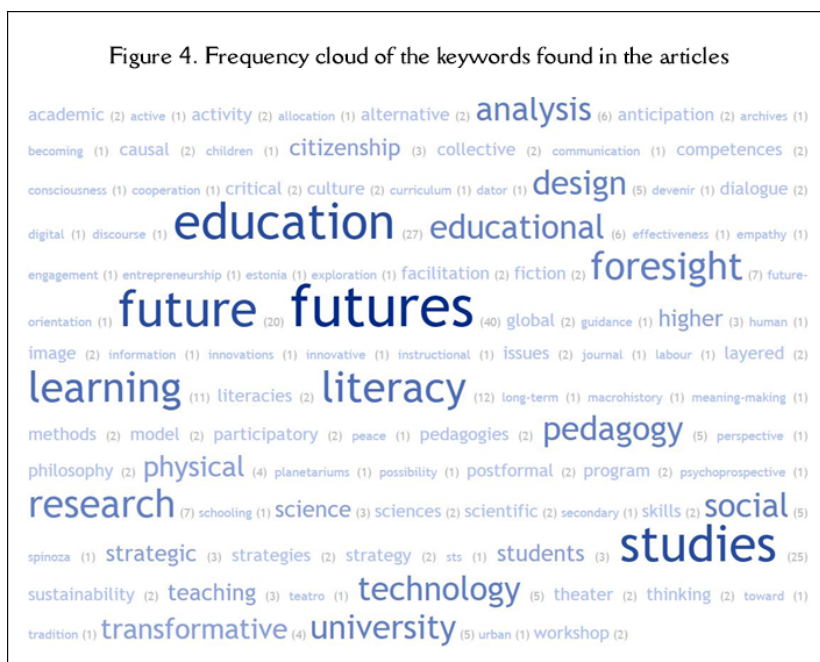
All the journals in which all the articles analyzed in this review were found, were linked with the area of Social Sciences, which does not exclude their presence in others. Within it, the fields in which these were most common were Geography, Sociology, Development, and Political Sciences. Journals were also found in Arts and Humanities, as well as in Business management and accounting. Beyond the journals specialized in education, the rest did not seem to contemplate the area of education.

- P.2.4. What contexts, types, or levels of education do the articles deal with?

Studies that dealt with education in general predominated. Although there were also articles that were contextualized in non-formal and informal education, more of them focused on elements of formal education, especially those framed within higher education (university).

- P.2.5. What other concepts were included?

In the articles analyzed, the concepts that were most used as keywords were futures, and to a lesser degree, future, which along with foresight, would be the easiest to associate to futures studies (Figure 4). Other words also appeared, such as education, educational, learning, studies, university, literacy and pedagogy, which had direct links with educational aspects. Words that referred to educational elements such as schools, teachers, curriculum, or students, appeared minimally. Other concepts of interest that were highlighted were research, technology, citizenship, transformative, analysis, social, sustainability, design, and physical.



- P.3.1. What do futures studies contribute to education, and P.3.2. What pedagogical strategies were developed for education for the future?

A great part of the articles analyzed in this review were found in the university context. We found articles that examined experiences incorporating elements of futures studies in university programs of sciences and technology (Dolgopolovas & Dagiene, 2021), design (Berkan & Jonas, 2017), teacher training (Jang, 2019; Kazemier et al., 2021), business (Henderson et al., 2019; Pietraszewski, 2016), physical education (Voitovska & Tolochko, 2018), and geography (Pauw, 2015). These articles implemented strategies and methodologies that could be transferred to other programs such as workshops on the future, causal layered analysis, and laboratories on futures literacy. Kononiuk (2021) suggested that the addition of a futurist perspective of the curriculums in university programs contributes towards the development of a philosophy of sustainability, the learning of theories, methods of forecasting, and systems analysis, to propose innovations with social and environmental impact, the promotion of a long-term orientation, the improvement in the thinking about the future, and the implementation of futures literacy. Beyond the curricular changes, Zhukova and Bulgakova (2019) added that specialized spaces such as planetariums could be useful for incentivizing thinking about the future in university students. Another of the contributions that should be underlined is that by Kokshagina et al. (2021), which suggested the creation and use, by universities, of literacy laboratories in futures to analyze and re-guide the concept of

impact of the research studies. The purpose is to plan to create and produce a specific impact within an ethical and responsible process, to promote co-production, to delve into the collective imaginary about the future, and to encourage a critical and reflective sensibility.

The studies analyzed that focused on the primary and secondary school contexts, proposed a view of education for the future that is transformative, and that aside from preparing students to develop their own images of the future, also sought an idea of the future that is realistic and common. Thus, studies such as the one by Pours-Mikkola and Wilenius (2021) suggest that learning about futures must consider three dimensions: (a) a cognitive dimension, which refers to the acquisition of knowledge about the future that allows understanding the principles of thinking about it, (b) an affective-emotional dimension that entails students developing a positive and personalized attitude towards the exploration of the future, and (c) an active dimension that implies the mobilization of the first two dimensions towards the search of avenues of action and change. Along this line, Facer (2016) underlines the responsibility of the educators so that this process is conducted with dialogue and in a collective manner, likewise emphasizing the need to work on the affective dimension, which has a strong presence in the discussions about the future. Working on the assimilation and inclusion of multiple imaginaries about the future in the classroom through futures literacy is presented in the literature as a main element of education for the future (Haggstrom & Schmidt, 2021; Hayward & Candy, 2017; Mangnus et al., 2021). The studies that focused on primary and secondary schools described a wide range of possibilities to teach about futures studies and to work on futures literacy in the classroom².

In the studies analyzed, we also found pedagogical experiences associated with futures studies that could be adapted to every level and context. Some examples are the historical-evolutionary approach (Rabinovich et al., 2021), futures workshop (Seongwon & Kang, 2014), place-based education (Sandford, 2013), and the design of scenarios or participatory fictions (Duggan et al., 2017; Pietraszewski, 2016). Due to their originality, we underline two initiatives such as the Teatro del devenir (Montero-Baena, 2017), which relates group-individual, artistic-creative, and multidisciplinary actions and thinking, and games such as that by Polak (Hayward & Candy, 2017), or Sarkar (Lianaki-Dedouli & Plouin, 2017), which allow for delving into the different views of the future in the classroom, from the most positive to the most negative.

4. Discussion and conclusions

The studies that relate futures studies with education in the last ten years, although not abundant, help to configure a large space for discussion, in which we find an equilibrium between the theoretical and the practical. Many of these publications concentrate on specialized journals or monographs, which, although of high quality, make us question the interest for this subject outside this area, more specifically, within the education community. Geographically, there was an unequal production, which is certainly worrying, given that the less economically-developed areas do not have a voice in this debate. Along this line, it is necessary to reflect on new avenues of international collaboration that facilitate the broadening of the debate, to enrich it with new perspectives, and which will comply with the integrational, multicultural, and inclusive maxim that is demanded by the most critical approaches of futures studies. This does not mean that there is lack of interest in other countries for transferring ideas from futures studies to education, but that these do not have a great academic repercussion in their reality. Without this, it would be very difficult to create the weave that will allow for the effective integration of new ways to understand and educate about the future, into education policies, curricula, or teacher training programs. Works such as the present one, and those presented in this monograph from the *Comunicar* journal, enable bringing more diverse audiences closer to the contributions and possibilities of futures studies. Specifically, this review provides the Spanish-speaking world access to the international debate and a starting point from which to nurture subsequent studies. A body of literature is offered in which the images of the futures that predominate are open, plural, and hopeful, making it possible to construct new studies or plan pedagogical practices.

The transversality and multidisciplinary that characterize the futures studies are also present in the literature linked to education. The predictive approach, which nurtures much of the current scientific knowledge, is abandoned to work from interpretive, participative, or critical perspectives, from which to

seek, without losing rigor or criteria, new ways to address and incorporate the subject of futures to the pedagogical debate and practice. From a futurist position, the relationship between different perspectives is not defined as antagonistic or in conflict, but an enriching communication or their overlap is preferred (Inayatullah, 1998; 2007). Likewise, a proposal is made to address the academic work on education subjects from different disciplines or areas, that in their most domesticated form, implies collaborations with other Social Sciences, but, in its more radical form, invites joint work with other types of disciplines and areas, among which dialogue is traditionally scarce. This invitation is found in the literature, but is hardly present in the research practice. What could an expert in robotics, environmental sciences, biotechnology, or astrophysics bring to the conversation about the future of education? The answers will perhaps surprise us and serve to open new ways to conceptualize education elements and processes.

In general lines, the futures studies contribute towards changing the way in which education is oriented towards the future, thus favoring the modernization and transformation of the pedagogic debate. On the one hand, Bateman (2012) warned that this contribution would be truly transforming if teacher training was improved, broadening their understanding of the future and questioning pre-established ideas and attitudes about teaching, and at the same time, re-shaping the curricula to incorporate elements that contribute towards a true futures literacy. The literature analyzed shows a commitment to this idea, at the conceptual, training, and curricular levels. For this, strategies and methods that allow working on futurist thinking in the classroom are developed; although they mostly focus on higher levels of education, others are found to be linked to other levels of education. It should be highlighted that the literature analyzed placed greater focus on professors, education theory, and the university context, as opposed to learning processes and the students in primary and secondary education. Beyond the merely pedagogical, alternatives were also presented to re-think research elements and education organization and training. To a lesser degree, we found interest among the researchers, to delve into what is referred to as informal education, with this pedagogical space having many possibilities, although these have yet to be exploited by education for the future researchers.

Similarly, Gidley (2012), Bodinet (2016), and Dahlin (2012) explain that futures studies provide the opportunity to incorporate new ways of thinking knowing that have recently emerged (post-humanism, new materialism, post-structuralism, transhumanism, post-colonialism, etc.) in educational plans. An ontological and epistemological starting point is thus established that is still to be explored, which helps us to construct a pedagogy about the future that is open and plural. A pedagogy in which, as explained by Facer (2016; 2019), the work of the educator is placed in a point in time that maintains the past, future, and present, in tension. With this, the educator acquires the ability to create educational situations in which to put different resources from the three different time points into play: the capability to imagine a future from a positive but multiple way, the capability of action in the present, and meeting with the historical resources of knowledge and experience. We must also add that one must not forget the affective resources, recognizing, tending to, and working with the emotions generated by the ideas and discussions about the future (generally related with emotions such as hope, fear, loss, desire, etc.). The change brought about by the re-orientation of education towards the future starting with the futurist tenets, and the multidisciplinary it assumes, also implies an opportunity for re-enforcing other types of knowledge, which in the last few years, have operated on the margins of the curriculum, in a cross-sectional manner, or as second or third category subjects. These are mainly environmental education, education for citizenship/global citizenship, democratic education, education for social justice, or multicultural education. In a direct or indirect manner, these aspects of education are present in the articles analyzed in the present review, leaving an open door for their interlinking, and the emergence of new contributions or approaches.

Futures literacy is presented as a key element for bringing the ideas from futures studies closer to education. It is a concept on which much has been written in the past few years, with the presentation of both theoretical and practical contributions. One of the most explored elements in the literature is that of competences or capacities linked to futures literacy (Haggstrom & Schmidt, 2021; Kononiuk et al., 2021; Benavides-Rincón & Díaz-Domínguez, 2022). However, we are still dealing with a concept that is not clear, and there is a lack of tools that could be used to evaluate different practices and to determine levels of mastery (Karlsen, 2021). The debate about futures literacy goes further, and it is still open. It is a

type of literacy that is found within a broader communicative approach, an approach that includes, in its exploration, the teaching and learning of multimodal cultural and ideological elements, and which sits on a broad range of communicative practices (Valverde-Berrocoso et al., 2022). With all, it is understood that beyond acquiring a series of skills to talk about, represent, or imagine the future, futures literacy works on contextual and identity notions of students and teachers, and makes possible a type of multisensorial knowledge and perception of the temporal (which is not limited to learning that is merely cognitive), to finally promote the exploration of new ways of becoming committed to the world.

In addition to the implication of the futures studies highlighted in the present work, we must point out some of the associated limitations- on the one hand, the nature of the field of study, and on the other, the methodology used. There is a great diversity of elements that must be considered when addressing futures studies, and in the present study, we opted for focusing on different aspects such as the epistemological traditions of the publications, the educational context they referred to, and overall, to the attribution we make with respect to their contribution to pedagogical knowledge. However, this meta-research approach demands subjective components that favor a contextualized type of analysis, even though the parameters could be reviewed to delve into it from other perspectives. As for the methodological limitations, we must point out the difficulties in operationalizing the search parameters, given the polysemy of the base expression in this review (Future Studies), and the accurate selection of the publications that directly addressed this field and its link with the area of education. Also, we must add that other databases which could also house relevant studies were not considered.

In light of the data analyzed, we must conclude that it is only by learning to look towards the future in an open and positive manner towards new ways of knowing, understanding, and being, that we could truly solve and release the problems from the past. Problems that seem to continuously reproduce in present education. The future is yet to arrive, a future that, although always presented as singular, always comes in plural. An education for the futures that is nurtured on futures studies is a type of education that allows us to draw a sustainable future, in which the hopeless images that predominate in the media are positively counteracted by a way of relating uncertainty about the future with the agency we have available in the present. Thus, it is necessary for futures studies to promote new education policies, improve teachers' training, methodologies in inclusive classrooms, and the transformation of education centres. This is a complex challenge that requires a conceptual clarification, a predisposition towards change at different levels, and the ethical and professional commitment to a sustainable future.

Notes

¹In this article, we opted to use the terms “estudios de futuros” and “alfabetización en futuros” given that they are closer to the translation in English, and the idea of plurality underlined in their definitions.

²The World Futures Studies Federation offers multiple pedagogical resources through their website to work on futures literacy and futures education: <https://bit.ly/3JMFYDj>.

Authors' Contribution

Idea, A.R., D.M., S.U.; Literature review (state of the art), D.M., A.R., D.F.; Methodology, D.M., S.U.; Data analysis, D.M., S.U.; Results, D.F., A.R.; Discussion and conclusions, D.M., S.U.; D.F., A.R.; Drafting (original draft), D.M., S.U.; Final revisions, D.F., A.R.

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