



Analysis of the International Conception of Personalized Education. Difficulties for the Advancement in Scientific Educational Research

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Abstract

The concept of personalized education has been widely approached by multiple authors, who have contributed their own point of view on this theory, moving it further away from its unique and universal definition. To get to build this definition, it is first necessary to verify and scientifically determine whether this concept encompasses the same perspective within international literature or whether there are significant differences in the interpretation of its meaning. To this end, a systematic review of this concept has been carried out in the ERIC database, analysing a sample made up of 64 articles. The results show several problems, amongst them a high disparity in the referents used to lay down the theoretical foundations of personalized education and a scarce matching of the content to the used keywords. These difficulties pose a challenge to which the scientific community needs to respond if further progress in this field is desirable.

Keywords Personalized education · Personalized learning · Person centered learning · Student centered education · Systematic review · ERIC database

Introduction

Thanks to a firm commitment by international organizations to educational inclusion (UNESCO, 2015, 2017), it could be said that most countries now have a more heterogeneous student profile in ordinary classrooms than a few decades ago. However, despite the fact that all institutions and agents are working to guarantee equity and

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acceptance of diversity, it seems that we are witnessing an increasingly marked depersonalization of education (Bandrés, 2015; López, 2003; Martínez, 2011; Molina & De Luca, 2009; Morchio, 2005; Moya, 2016; Salinas, 2007).

Inclusive education is understood as an educational model without exclusions (Parrilla, 2002), giving the welcome to everyone and attending to the diversity of each student (Ainscow, 2005a, 2005b), because there is the right of education that should be recognized for each person. For this reason, inclusion promotes systematic changes at the educational level to implement certain values (Ainscow & Messiou, 2021). Inclusion means not leaving any person excluded because of their origins, cultural or socio-economic context, psycho-physical situation, or personal beliefs, so that it is integrated, included, as one more personalization indicates an intentional educational action that, by its very nature, is never exclusive and that considers the adaptation to the peculiarities of each student when facing the education act (Dieter & Vanacore, 2020). In other words, to include is to involve everyone in a quality education. Make them feel indispensable and valued members of society. This implies personalizing and an integral vision of the person and his/her development.

The personalization of the learning process includes a channelling space of personal initiative, facilitating the possibility of designing, planning, carrying out and cooperatively controlling the different elements of learning (Valeeva et al., 2019). It would even allow each student to build their agenda, deciding which subjects or educational proposals to address at each moment but in many schools did not have this possibility. The encouragement and promotion of such participation and development of initiatives empowers progressively for the development of each student's personal project (Fomunyan, 2020).

In fact, an organisation of the environment that seeks to favour, through the implementation of a set of actions, strategies and resources has not always been successful because the participants have not made lessons that have their own personal meaning and value for them (McCollum & Reed, 2020). It is necessary for each student to know, to recognize and master their interests and the strategies that help them learn better and, in many cases, that situation is not possible because of the overcrowding of classrooms, teacher training needs formation (Gallego-Jiménez et al., 2020) and misunderstood perception that diversity is made up only by students with difficulties (González-Rojas & Triana-Fierro, 2018; León, 2018). Therefore, these factors not only affect the motivation and interest of the students (López, 2003), but also the quality of teaching, the learning results and the classroom climate do not proceed to achieve a real inclusive educational environment (González, 2018).

There should be a stimulating environment with socially relevant themes that provoke questions, facilitate meaningful and transferable learning, and work cooperatively. Teachers should have a helping role in generating new ideas and this is not always done (Khosravi et al., 2019). However, it is necessary to acquire knowledge for someone more expert to help the learners to rebuild it.

Likewise, personalized education fosters the need to stimulate and reinforce relationships between human beings, because it attends and pays attention to differences between students in the educational field and avoids homogenization in the school field (Garatte & Clúa, 2016). Indeed, Martínez-Otero (2000) affirms: "education, faithful to the essence of the person, is oriented to favour the perfective process of

the learner, which is to say that education is personalization” (p. 44). In other words, there is no other way to understand education, because education must be always personalized.

Regarding the characterization of the personalized educational style, we could say that it is an “inclusive and open style; reflective and critical style; unique and convivial style; operant and creative style; demanding and cheerful style” (García-Hoz, 1979, p. 67). Going deeper into the idea of educational personalization, Pérez and Ahedo (2020) indicate that “García Hoz goes beyond the roles that can be assigned to teachers and students in the educational process; since it intends that the educational task is carried out through a truly personal encounter” (p. 153).

Indeed, personalization refers to instruction that benefits the learning needs according to the specific preferences and interests of different learners. The education process when it is personalized, the learning objectives and content as well as the method and pace can vary greatly (personalization encompasses differentiation and individualization). For this reason, personalized education is always centered on the student, who recognises his/her own identity, and which sets the objective of developing or fostering skills while empowering the student himself/herself in the design of his/her personal career.

Therefore, personalization seeks personal “satisfactoriness”, that is the greater development of the dimensions of each person (physical, affective, intellectual, and volitional) that manifest their uniqueness, their openness, and their origination (Erickson, 2020). He understands that the achievement of the highest level for all students is not independent of their individual and social characteristics, but that, precisely, must be considered to achieve the highest level of each student. For that reason, personalized education has emerged the implementation of inclusive education in many schools that has meant that the entire educational community participates in this common project. Despite its increasing diffusion, the concept is not always very clear, and it is sometimes considered equivalent to personalization.

However, a truly inclusive education should be concerned about offering a school environment that is “sensitive to the specific needs and demands of all students, allowing them to learn the significant curricular content, but also to develop their social and emotional skills” (González-Rojas & Triana-Fierro, 2018, p. 203). This is an approach that, based on attention to diversity and personalization of education, does not contravene the humanisation of educational relations, the quality of the teaching–learning process, nor the demands in terms of curricular competence and academic achievement levels (López, 2003; in Leiva, 2017). This would be an education allowing students to evolve as a person and to maximize their capacities, and offering, to that purpose, the educational attention, resources, materials and tools that are necessary so that they can learn with and from their peers, in an educational process based on equity and social justice (García-Barrera, 2013). This inclusive process, from this perspective, would be intimately related and therefore could not be understood without a personalized education that covers all the individual needs of the students (Quesada, 2018).

In this sense, one of the relevant conclusions that are collected in the Delphi Report (Moreno, 2020) is that “a personalized education is inclusive although it cannot be the other way around” (p. 27). Therefore, the personalization facilitates

inclusion but not the other way around. In fact, this article reflects how inclusion develops common goals in contrast to; the personalization integrates not only these common goals but also individual ones. For instance, students must cooperate for their own personality (Dieter et al., 2020). However, the Delphi Report demonstrates how inclusion eliminates any type of barriers from learning, creating learning environments, and benefits the needs of each of the students.

In short, as the researches mentioned from the foregoing, the concept of personalized education has been widely approached by multiple authors, coming from different countries, who have provided their own point of view on this theory, allowing delving into its definition and application (Calderero et al., 2014). However, depending on the author or the work consulted, the criteria and characteristics of this educational paradigm at both theoretical and practical levels seem to differ significantly. For this reason, we consider that there is an urgent need to define a single and universal construct of personalized education, delimiting its parameters, characteristics, demands and objectives. Nevertheless, to get to build it, it is first necessary to verify and scientifically determine whether this concept encompasses the same perspective within international literature or whether there are significant differences in the interpretation of its meaning.

Method

This work is part of a broader framework of research, assuming its initial, exploratory phase. The main objective of this broader framework is to find and offer a universal definition of the construct of personalized education. However, to achieve this goal, it is first necessary to examine the scientific literature to determine whether there is a unique concept of personalized education that allows defining it in depth and under the same perspective.

The objective of this present work is to compile a systematic review of the scientific literature presents in the ERIC (Education Resources Information Center) database covering from 2010 to 2020, inclusive because inclusion education has started to integrate in the schools and University as it is the fourth goal. This authoritative database is sponsored by the Institute of Education Sciences of the United States Department of Education and it is the most widely used in the educational field. It contains the largest amount of indexed and full-text education literature and resources in the world.

A systematic review is a review performed on the quantitative and qualitative aspects of primary studies, based on the synthesis of the available evidence on a particular topic with the aim of summarise the information it provides (Manterola et al., 2013) in a way that is unbiased and, to some extent, repeatable (Kitchenham & Charters, 2007). In this sense, the search sequence carried out in this work consisted of two phases:

The first search focused on the term “personalized learning”, limiting the results to peer-reviewed papers with the full text available, obtaining 207 references. Then it filtered by publication date, establishing as a limit works published from the year 2010, which produced 171 results. Out of these 171 references, we selected only

journal articles, reducing the results to 151. Finally, the search was limited to the descriptor “individualised instruction”, which reduced the total of results to only 51 matches.

In the second phase, the search focused on the term “personalized education”, maintaining as a criterion that the works were peer-reviewed and available in full text, which produced 205 results. After this first approximation, the search was limited to works published as of 2010, which gave 160 results, out of which only journal articles were been selected, totalling a number of 133 references. Finally, these results were restricted to the descriptor “individualised instruction”, which reduced the final amount to 40 matches.

The articles resulting from both searches were been saved into a single folder, in which it was detected that 27 out of the 91 found references were duplicates. The second search found only two new works compared to the initial search, as reflected in Fig. 1.

Therefore, the study universe consisted of 512 works (207 from the first phase and 205 from the second), of which, after applying the corresponding inclusion criteria, a sample of 64 articles remained (Follow diagram).

The inclusion criteria used to select the documents to be analysed in both phases were the following: (1) journal articles, (2) peer-reviewed, (3) written in English, (4) open-access in full text, (5) published between 2010 and 2020, (6) containing descriptors related to individualised instruction. All the studies from the initial search that did not meet these characteristics were excluded, so once the data matrix was cleaned, the articles selected as a final sample were the following: Alhawiti and Abdelhamid (2017), Altunoglu (2017), Aravind and Croyle (2017), Basham et al. (2016), Billings (2012), Bonk et al. (2018), Buch et al. (2018), Capacho (2016), Çetinkaya (2016), Corry and Carlson-Bancroft (2014), Dorça et al. (2016), Easley (2017), Farrelly and Daniels (2013), Gao (2014), Gnagey and Lavertu (2016), Howe and Kekwaletswe (2012), Hsieh and Chen (2016), Hsu (2012), Huggins and Smith (2015), Ignatova et al. (2015), Kallio (2018), Li (2015), Pardo et al. (2018), Raiyn and Tilchin (2016), Rice (2018), Saba (2012), Şahin and Tarık Kişla (2016), Salahli et al. (2013), Sen (2016), Shand and Farrelly (2017), Xia (2017), Abdullahi (2020), An and Mindrila (2020), Arnesen et al. (2019), Azukas (2019), Baker et al. (2020), Beghetto (2019), Boninger et al. (2020), Buch et al. (2018), Corry and Carlson-Bancroft (2014), Dieter et al. (2020), Burstein et al. (2019), Erickson (2020), Fomunyam (2020), Fung et al. (2019), Hariyanto et al. (2020), Hite et al. (2019),

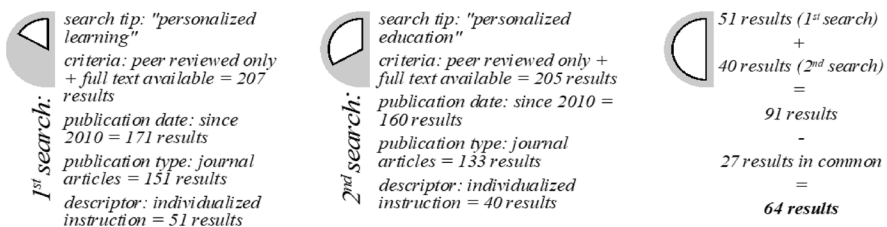


Fig. 1 Description of the search sequence

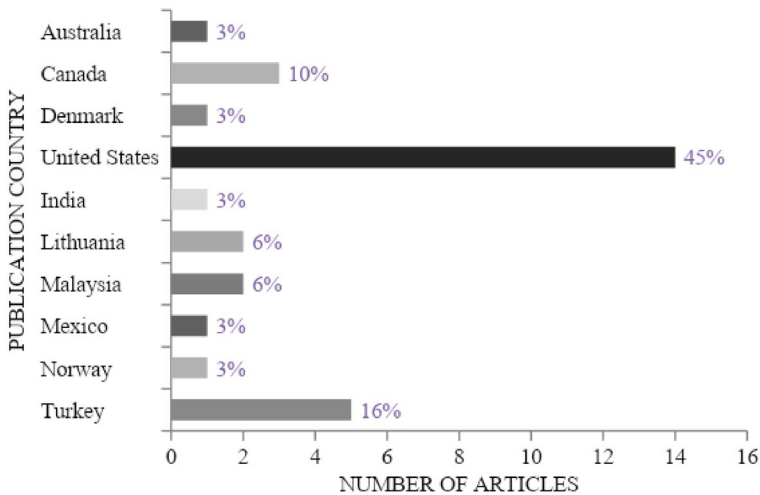


Chart 1 Number of articles by country of publication

Hughey (2020), Ibáñez and de Benito (2020), Kacetl and Klímová (2019), Khosravi et al. (2019) Lee et al. (2020), Lokey-Vega and Stephens (2019), McCollum and Reed (2020), McKenna et al. (2019), Nandhakumar and Govindarajan (2020), Osifo (2019), Owen et al. (2019), Pandey and Karypis (2019), Soffer et al. (2019), Valeeva et al., (2019), Vaithilingam et al. (2019), Dieter et al. (2020), Erickson (2020).

The data were then systematised and analysed, for which an Excel table was designed that included the following aspects: DOI, file name in ERIC, year of publication, authorship, title, country of publication, country of study, keywords, type of study, sample, results, conclusions, referents, and conception of personalized education reflected in the study.

These data were been considered of interest due to the information they offered to know the state of the topic, and they allowed understanding and trying to answer the question formulated by this research and study hypothesis initially formulated. The treatment of these data was based on a mixed methodology, combining quantitative and qualitative data analysis techniques, and using deductive and inductive data interpretation methods (Bernal, 2010) to obtain a more holistic view of the findings (Gómez, 2006). It also employs comprehensive techniques, so the data obtained in the research is analysed and discussed in depth (Sánchez et al., 2018).

Results

The sample of analysed articles was been mostly made up of works from magazines in the United States (45%), Turkey (16%) and Canada (10%) (see Chart 1), published in 2012 (11%), 2013 (3%), 2014 (8%), 2015 (8%), 2016 (24%), 2017 (16%), 2018 (16%), 2019 (13%) and 2020 (18%) (see Chart 2) and having carried out their studies especially in the United States (45%) (see Chart 3).

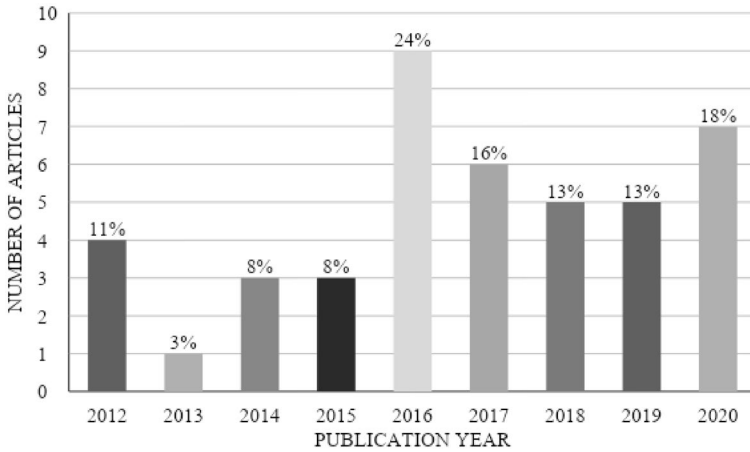


Chart 2 Number of articles by year of publication

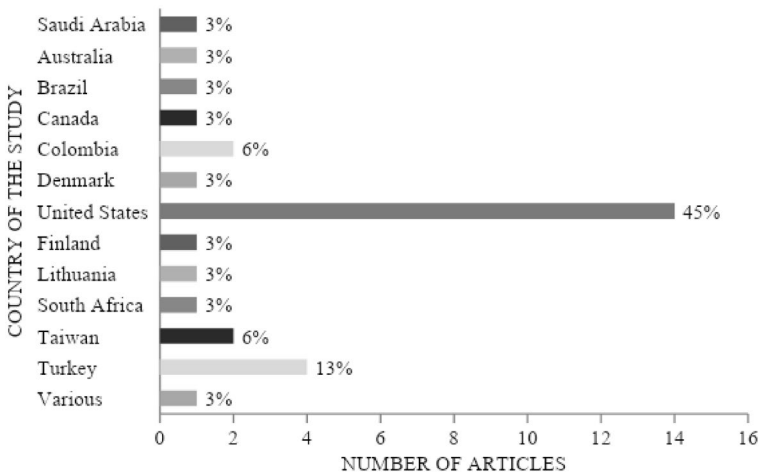


Chart 3 Number of articles by country in which the study was been conducted

The analysed studies were classified as follows: 18 empirical studies (58%) and 13 theoretical studies (42%).

Among the references mentioned in the analysed articles to provide theoretical foundations of personalized education, it is remarkable that the only work mentioned more than once is that of Patrick et al. (2013), being in two of the selected works.

As for the keywords used, the analysed articles mostly used the terms “personalization”, “personalized learning” and concepts related to the notion of personalized education, as can be seen in Chart 4. Nevertheless, although the search focused on the terms “personalized learning” and “personalized education” including the descriptor “individualised instruction”, 23% of the articles analysed included,

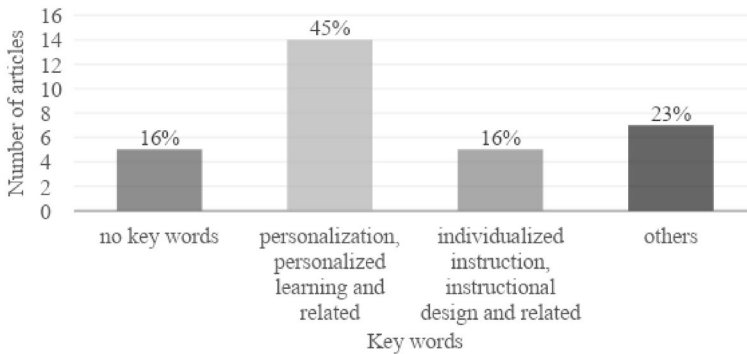


Chart 4 Keywords used in the analysed articles

among their keywords, other concepts not directly related to these concepts, and 16% did not even include keywords (see Chart 4).

Discussion and Conclusions

The results obtained from the research included in this work provided relevant data for the international scientific community, especially for journals and databases in the field of education. The analysis of the study sample proved that researchers and professionals in the field of personalized education encounter difficulties in their ability to make advances in their body of knowledge. These difficulties are been caused by several factors that have been highlighted because of the present research.

Firstly, although it is considered that the ERIC provides the search filters, the database is not sufficient to delimit a search related to the scope of personalized education. The results obtained in the present study show that there is a lack of clarity and precision on the part of scientific journals, external reviewers and authors when dealing with and defining the appropriate keywords and descriptors of the content of the articles that address issues related to personalized education.

Properly labelling and classifying documents in journals and scientific databases is crucial for subsequent searches to be effective and to allow users to obtain the desired information easily and quickly. Making mistakes in this sense leads to a significant waste of time for professionals and researchers, and directly affects the results of the studies they carry out, impoverishing their outcomes or even leading them to come to wrong conclusions.

On the other hand, the present study has revealed an additional difficulty for the scientific community, since the sample studied presented, generally, a lack of common references when it came to defining and theoretically justifying personalized education. This situation further aggravates the complexity of making advances in the body of knowledge that currently exists on this subject, raising several questions that would request further analysis in future study.

The first would be whether the notion of personalized education is unequivocally described and defined internationally, maintaining the same references as to the authors and scholars who have addressed the issue at both theoretical and empirical levels, contributing to its foundation and consolidation as an important educational paradigm. In this sense, and by way of example, the following authors should be highlighted: Carr (1990), Faure (1975), Freire (1989), García-Hoz (1944), Keller (1974) or Rogers (2000). The lack of mention of these authors in the works selected as a sample in this article focuses on another difficulty that emerged because of this work. This suggests another line of research for the future: it would be worth analysing whether the existing knowledge that educators and professionals have in the field of personalized education, at an international level, is sufficiently valid, profound, and up to date.

Finally, and in response to the purpose of the broader framework of research of this exploratory study, it has become clear how complex it is to define a single conception of personalized education and to define the principles, characteristics, demands and objectives that this educational model poses at an international level. Therefore, our suggestion is that of continuing working on the mentioned issues to make progress in this scientific field both theoretically and practically.

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