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DIGITAL TRANSITION AND HOME EDUCATION: CHALLENGES AND OPPORTUNITIES FOR PSYCHOLOGICAL INTERVENTION

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Abstract

The 21st century is being marked by a series of significant changes in educational practices that are having a profound impact on psychological intervention. These changes are driving the genesis of an innovative era of personalized, digital, and accessible education. Individualization is the tendency to adapt teaching to the individual needs of students. Artificial intelligence has the potential to transform education and can be used to personalize teaching, automate routine tasks, and assess student performance. It is true that there are obvious constraints and that it is a challenge to carry out psychological intervention in a "distance" school context, Psychologists must maintain coordinated and shared planning with the other educational actors, the emphasis on preventive and multilevel interventions and management of priorities that respect their technical and scientific autonomy. The Psychologist's support is particularly important in situations that involve (i) entry into schooling (including the analysis of requests for postponement/anticipation), (ii) cycle transition, (iii) change of educational establishment; or (iv) access and entry into Higher Education, especially if we consider that after the situation of isolation at home, the return to school/higher education institution may occur through the abrupt interruption of academic activities and attendance at an educational establishment only to, months later, return to a different space and educational establishment, often unaccompanied by their colleagues and friends. It will be important, for example, to promote literacy about transition and adaptation to change; create a dedicated space, inside or outside distance learning activities, to work on this life topic with students and families who are in this situation; build and share other digital or material resources; or intervention from the areas of action already mentioned. The guiding question of this study was: What are the challenges and what are the opportunities of the digital transition for home education? The aim of this work was to investigate how the digital transition can affect home education and identify the trends and challenges of home education in the context of the digital transition. The research was carried out in four databases with combinations of the words digital transition, home education, digital technologies, curriculum, regulation, psychological intervention. We consider 25 articles published in international scientific journals between January 2007 and September 2022, two books and two documents of a normative nature, authored by the American government. All articles met the inclusion criteria. The documents were described, and the content was systematized in a meta-synthesis. The study detailed here carries out the analysis of how the adoption of digital technologies in schools and families can have an impact on the way in which home education is carried out, identifying the challenges and opportunities of this transition, such as the need for training parents and educators, the adequacy of curricula and the regulation of home education and investigates how home education is evolving in the context of the digital transition. Implications for psychological intervention are presented.

Keywords: individualization, home-schooling, technology, open education, psychological intervention

1 INTRODUCTION

The digital transition, characterized by the widespread adoption of digital technologies, has profoundly impacted various aspects of society, including education. With the rapid integration of computers, tablets, and the internet into schools and homes, the way we teach and learn has undergone significant transformations. Artificial Intelligence (AI) and machine learning have become prominent in the domains of psychological intervention. Recent advances in the areas of artificial intelligence and computer science have boosted bigdata analysis, the data mining, and the understanding and application of the extracted knowledge. Some level of conflict between

humans and emerging technologies used in psychological assessment/intervention is seen as inevitable; that is why solving the problem of control over AI is not just possible, but rather the key to unlocking a future of unlimited promise. This type of discussion requires extensive research that should make not only technical but also ethical contributions regarding the use of technologies in the fields of psychological assessment and psychological intervention. The use of novel technologies, methods and presentation formats in the educational domains is on the rise since technological tools become more accessible. Specifically, various devices, such as digital tables, smartphones, virtual reality, social robots, and different types of wearables are being used to screen or assess across different psychological conditions.

Due to the increased accessibility and to the possibilities to add engaging content and real-time monitoring, the use of technology in educational interventions has gained ground and several researchers have proved their effectiveness in randomized trials. However, even if several studies show the effectiveness of digital tools for assessing psychological aspects, there are still issues that need further investigation, such as the validity of these assessment instruments, the high rates of dropout when using technology-based interventions and the usability of the various devices and applications. Homeschooling, the practice of educating children at home rather than in traditional school settings, has not been immune to these changes.

Homeschooling has been a controversial subject since parents began fighting for the right to educate their children outside of school.

A longstanding critique of homeschooling is that it isolates children from mainstream society, depriving them of social experiences needed to thrive as adults. In the early days, homeschoolers and their parents were subjected to any number of assumptions, stereotypes, and criticisms. Doubts as to the validity of a home education prevailed, academics and outside objectors alike would express their negative views on the idea of taking a child outside the mainstream educational system and schooling them in their own homes with parents who were, in their minds, underqualified for the task at hand.

Long standing concerns regarding a homeschoolers' lack of socialization, the validity of their education, inability to integrate into college, be productive members of society, or regarded as isolated religious zealots were habitually expressed.

Several studies have explored different aspects of the stereotypes surrounding the homeschooled child. These include the topics of socialization, collegiate integration, and how students amalgamate into society at large. Typically, parents who choose to homeschool are aware of the potential pitfalls in this manner of education and thus are prepared to combat the situations that may develop. The scholarly literature available on homeschooling aimed primarily to frame its history, provide background on the different homeschool movements, and attempted to explain the legalities surrounding the battle fought by parents. The data presented displays minimal differences between the homeschooled or traditionally schooled child and their subsequent assimilation into adult society, thus leading these intellectuals to the collective conclusion in favor of the option to permit homeschooling (Hamlin & Cheng, 2022).

This study aims to explore the multifaceted impact of the digital transition on homeschooling, examining its potential challenges and opportunities. The review was conducted based on the following general objectives:

a) Investigate how to the digital transition can affect homeschooling.
b) Identify trends and challenges of homeschooling in the context of the digital transition.

They are based on the following specific objectives:

a) Analyze how the adoption of digital technologies in schools and families can impact the way homeschooling in conducted.
b) Identify the challenges and opportunities of this transition, such as the need for training for parents and educators, the adaptation of curricula, and the regulation of homeschooling.
c) Investigate how homeschooling is evolving in the context of the digital transition.

They are based on the following research question:

a) What are the challenges and opportunities of the digital transition for homeschooling?

2 METHODOLOGY

This study is part of a systematic literature review that aims to understand the current perception of the multifaceted impact of the digital transition on home education, thus identifying potential challenges and opportunities for psychological intervention.

Through this methodological technique, we intend to determine the evolution of home education and how it has increased over the years, especially after the Covid-19 pandemic and its impact on the population. Was conducted a comprehensive and rigorous search to find relevant and quality articles, using various sources.

The following inclusion criteria were established:

a) Studies whose theme refers to: home education, digital transition, technology, psychological intervention.
b) Studies published in Portuguese and English.
c) Studies published between January 2007 and September 2022.
d) Studies published in Springer, ResearchGate, Elsevier, Multidisciplinary Digital Publishing Institute, Institute of Electrical and Electronics Engineers, Journal of Innovation & Knowledge, Journal of Education and Practice, International Institute for Science, Technology and Education and International Journal of Information and Education Technology.
e) Studies published in Europe and America
f) Research related to the following search strings: digital transition, home education, digital technologies, impact, trends, challenges, opportunities, training, curriculum, regulation and evolution.

The following exclusion criteria were established:

a) The context or topic of the study does not refer to the theme of home education
b) The context or topic of the study does not refer to the theme of digital transition
c) The context or topic of the study does not refer to the theme of technology.
d) The context or topic of the study does not refer to the theme of psychological intervention

To analyse the data, the Zotero program was used. During the initial selection, was used one reading filer to evaluate the title, abstract, and keywords of each article. In table below, we present the following studies that were included:

Table 1. Studies included in this literature review.

	Research Title
1	*Why flipping the classroom is not enough: Digital curriculum making after the pandemic.*
2	*The future of the curriculum: School knowledge in the digital age*
3	*Rethinking education in the age of technology*
4	*Digital Technologies and Artificial Intelligence Technologies in Education*
5	*The futures of Europe: Society 5.0 and Industry 5.0 as driving forces of future universities.*
6	*Trends and patterns in distance education (2014–2019): A synthesis of scholarly publications and a visualization of the intellectual landscape.*
7	*Artificial Intelligence trends in education: a narrative overview*
8	*Virtual learning environments: major trends in the use of modern digital technologies in higher education institutions*
9	*Technological transformation, multiple literacies, and the re-visioning of education*
10	*GenZ white paper: strengthening human competences in the emerging digital era.*
11	*Virtual learning environments: major trends in the use of modern digital technologies in higher education institutions*
12	*Guest editorial: Challenges to the educational field: Digital competence the emperor has no clothes: The COVID-19 emergency and the need for digital competence.*
13	*Translating knowledge into innovation capability: An exploratory study investigating the perceptions on distance learning in higher education during the COVID-19 pandemic-the case of Mexico.*
14	*COVID-19's impact on higher education: A rapid review of early reactive literature*
15	*Global trends in the research on early childhood education during the COVID-19 pandemic*
16	*Leadership and reshaping schooling in a networked world. Education Sciences*
17	*Leveraging digital technology for better learning and education: A systematic literature review*
18	*Responding to the initial challenge of the COVID-19 pandemic: Analysis of international responses and impact in school and higher education.*
19	*Artificial intelligence potential in higher education institutions enhanced learning environment in Romania and Serbia. Sustainability*
20	*Virtual Schools: Trends and Issues. A Study of Virtual Schools in the United States*
21	*Disseminating digital innovation in school–leading second-order educational change. Education and Information Technologies*
22	*Keeping pace with K-12 digital learning: An annual review of policy and practice.*
23	*Digitainability—Digital competences post-COVID-19 for a sustainable society.*
24	*Literature review in informal learning with technology outside school.*
25	*Online teaching during the COVID-19 pandemic: exploring science/STEM teachers' curriculum and assessment practices in Canada.*
26	*The future of mathematics education since COVID-19: Humans-with-media or humans-with-non-living-things*
27	*Impact of Coronavirus pandemic on education*
28	*Handbook of Research for Educational Communications and Technology*
29	*Educational transformation through online learning: To be or not to be.*
30	*The Virtual University & Educational Opportunity. Issues of Equity and Access for the Next Generation*

3 RESULTS

Focusing on the texts that contributed most to our research question and that most align with the objectives that guided this research, we highlight the main axes below.

Study 2 addresses and recommends the adoption of a possible official curriculum for digital schools, while study 3 addresses and details the stages of starting home teaching practices in the United States. Study 5 supports awareness of how universities should prepare and how they can play a more active role in the digital era. The 7th study refers to artificial intelligence in the learning environment. In study 9, the importance of transforming technologies in education in multiple literacies is analyzed. The 10th study analyzes Generation Z and the use of technology in everyday life. Study 13 addresses the COVID-19 pandemic and assumes that this pandemic climate represented a significant challenge for higher education; in this text, perceptions of the quality and efficiency of the educational process in higher education in relation to distance learning are addressed, indicating the level of satisfaction with distance education separately for students and teachers and the experience lived for future models of education, it may be possible to analyze the relevance of the profitability of the stepwise regression model to identify the most important variables related to the satisfaction aspect of e-learning for students and teachers. Study 14 presents emerging evidence on the effects of COVID-19 on educational institutions and assesses the prevalence of changes in e-learning in the sector, presenting as main themes digital learning, the challenges of e-learning, the digital transition to virtual assessment emergency response to the psychological impact of COVID-19 and creating collaborative cultures. Study 23 argues that the increase in digital education is inevitable and signals challenges, including changes in teaching and learning practices; There is a call for the need for future studies to deepen the understanding and implementation of strategies that improve digital readiness in a more sustainable society, including the study of digital divides and the promotion of inclusive digital sustainability. Study 24 highlights the need to value learning outside of formal education, the need for more research, the importance of understanding young people's learning and the need for confidence to interpret and use this learning, both for parents and educators and software creators. Study 29 argues that, regarding online learning, further development of public policies is necessary to enable transformation. Study 30 presents some general prescriptions to increase learning opportunities for all, recommending maintaining a balance between traditional and technology-based offerings, adapting to students' needs over time, learning from distance learning pioneers, building on the experience of those who have successfully integrated technology and traditional teaching methods, ensuring equity of access to technology, monitoring progress towards equality of access, conducting research and indicators to assess the social impact of the Internet and its influence on learning opportunities for all citizens.

Table 2. Critical analysis of articles

	G. O. 1	G. O. 2	S. O. 1	S. O. 2	S. O. 3	R. S.
1	1	2	1	1	2	1
2	1	1	1	1	1	1
3	1	1	1	1	1	1
4	2	2	2	2	2	2
5	1	1	1	1	1	1
6	2	2	1	2	2	1
7	1	1	1	1	1	1
8	2	2	2	2	2	2
9	1	1	1	1	1	1
10	1	1	1	1	1	1
11	1	1	2	1	2	1
12	1	2	1	1	2	1
13	1	1	1	1	1	1
14	1	1	1	1	1	1
15	1	1	1	1	1	1
16	1	1	2	1	2	1
17	1	2	2	2	2	1
18	2	2	2	2	2	1
19	2	2	2	2	2	2
20	2	2	2	2	2	2
21	1	1	2	2	2	1
22	2	2	2	2	2	2
23	1	1	1	1	1	1
24	1	1	1	1	1	1
25	2	2	2	2	2	1
26	1	1	1	1	1	1
27	1	1	2	2	2	1
28	1	1	2	1	2	1
29	1	1	1	1	1	1
30	1	1	1	1	1	1

Legend:

1) The article specifically addresses the objective or research question.
2) The article touches on the objective or research question.

The article does not specifically address the objective or research question.

4 CONCLUSIONS

The Covid-19 pandemic forced schools to adopt new educational approaches, including remote learning. This change provided an opportunity to re-examine traditional teaching and learning methods and explore new possibilities, such as the use of digital technologies. The use of digital technologies can have a positive impact on education, but it is important that this integration be done effectively and equitably. The Covid-19 pandemic exacerbated the challenges facing the world of education, but it also provided an opportunity to rethink and redefine the traditional educational model.

The educational crisis resulting from the COVID-19 pandemic highlights challenges and inequalities faced by educational institutions. The lack of preparedness of institutions and the worsening of educational disparities is emphasized, highlighting the urgency of rethinking the educational system in the face of the challenges imposed by the pandemic. The impact of COVID-19 on social and educational fractures is highlighted, discussing difficulties in accessing remote education, especially for vulnerable populations. The authors cite UNESCO estimates regarding possible school dropout, highlighting inequalities in access to remote education with an emphasis on global disparities.

The increase in domestic responsibilities for women, the growth of intra-family violence, and issues related to cyberbullying during the pandemic are explored. Additionally, they highlight the vulnerability of children in crisis situations and the impact on intra-family sexual abuse rates. In this study, mention is made of the success of distance learning during the pandemic, highlighting the challenges and limitations faced, including variations in curriculum accessibility and teacher preparedness for remote education. The text highlights inequalities in access to distance education, especially for the less privileged. The complexity of education is emphasized, going beyond simplistic approaches, and proposes evaluating actions taken during the pandemic, recovering what was not learned, and highlighting the importance of mutual support between society and the state.

The digital transition is having a significant impact on education, making it more personalized, accessible, and flexible. However, it is important to address the challenges of this transition, such as the need for training for parents and teachers, as well as the adaptation of curricula and the regulation of home education.

In Portugal, to guarantee education for all, the Ministry of Education, which oversees this area, has four modes of education:

Distance Learning, regulated by Decree-Law No. 54/2018, of July 6. This mode of education allows students to learn at their own pace and schedule, from anywhere with internet access. It is divided into three modalities: e-learning, where training takes place entirely online, using learning platforms and communication tools; b-learning, where training takes place partly online and partly in person; and e-learning with tutoring, where it takes place online, with the support of a tutor.

Education for Itinerancy, regulated by Decree-Law No. 152/2013, of November 4. This mode of education aims to meet the educational needs of students who, due to the nature of the professional activity of their guardians, are subject to frequent travel from their home and therefore attend many schools throughout the school year. Educational support for itinerant students is provided by an itinerant teacher who accompanies students throughout the school year, ensuring that they have access to quality education.

Home Education, regulated by Decree-Law No. 70/2021, of August 3. This mode of education takes place outside the school context, through the responsibility of parents or guardians. It can be organized according to the interests and needs of the child or young person. After the Covid-19 pandemic, it was found that this modality has evolved significantly, because parents or guardians want to educate their children at home, according to their values and principles, to give their children a more personalized education adapted to their individual needs, so that their children have more time for other activities, such as sports or music.

Individualized Education, regulated by Decree-Law No. 70/2021, of August 3. This mode of education allows the teaching to focus on the individual needs of the student. Individualized education is organized according to the student's learning pace and interests and goals. It is

organized in two contexts: at school, through an individualized educational plan; and at home, through an individualized education program.

This study comprehensively addressed the impact of digital transition on home-schooling, successfully achieving its objectives by analyzing trends, challenges, and opportunities. It delved into the adoption of digital technologies in both schools and families, identifying challenges and opportunities, and examined the evolution of home-schooling within this digital context. However, the study acknowledged certain limitations, such as the inclusion of articles only up to September 2022, linguistic constraints, and potential methodological biases.

The research emphasizes the need for future studies in areas such as the validity of digital assessment tools, dropout rates in technology-based interventions, and the usability of devices and applications. It also underscores the importance of exploring the post-COVID-19 evolution of home-schooling. Despite its limitations, the study significantly contributes to understanding the impact of the digital transition on home-schooling, providing valuable directions for future research and ongoing advancements in the fields of education and technology.

Psychologists can support the various types of education through preventive and multilevel interventions, focusing on areas such as literacy about transition and adaptation to change, the creation of spaces dedicated to the transition to the various types of education, and the development of digital resources and materials to support home education.

The European Federation of Psychologists (EFPA) and the Portuguese Order of Psychologists (OPP) acknowledge the significant contribution of psychologists in supporting various educational contexts. Both entities emphasize the imperative need for preventive interventions to address a variety of facets within the scope of the educational process.

There is a pronounced commitment to promoting literacy during transitions, providing information and guidance to deal with changes in the educational environment. This effort encompasses preparing students for transitions between different levels of education. Additionally, the importance of creating dedicated transition spaces is highlighted, where students can discuss their concerns, share experiences, and receive emotional support.

The active promotion of the development of digital resources is another area of focus, aiming to support home education. This involves creating digital tools and materials that support parents and guardians in the home educational process. These resources may include guidance, time management, and emotional support for students in a non-traditional environment. Emphasis is placed on creating a conducive learning environment at home, thereby promoting the continuity and effectiveness of the educational process.

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