

USING DIGITAL PLATFORMS IN PRE-SCHOOL EDUCATION: BENEFITS, CHALLENGES AND PERCEPTIONS OF TEACHERS AND PARENTS

Dr. Ioana-Theodora Bosoi¹

Doctoral School, Faculty of Psychology and Educational Sciences, University of Bucharest
Bucharest Romania

ioana-theodora.cireasa.20@drd.unibuc.ro

Summary

In the context of accelerated digitalization and educational innovation, the integration of digital platforms in early childhood education has become both a necessity and a challenge. The present study investigates teachers' and parents' perceptions of the use of digital platforms in the Romanian pre-school system, focusing on their impact on children's learning, engagement and development. Using a mixed methodological approach, quantitative data were collected through questionnaires (N=150) and qualitative data through semi-structured interviews and direct observation. The results reveal a generally positive attitude towards digital tools, with acknowledged benefits in terms of motivation, personalization of learning and communication. However, there are significant concerns about screen time, technical difficulties and the need for training. The study underlines the importance of a balanced and pedagogically informed use of digital platforms and provides practical recommendations for their integration in early childhood education.

Keywords: Digital education, pre-school education, early childhood, ICT, teachers' perceptions, parents' attitude

1. Introduction

The digital transformation of education has accelerated significantly in recent years, affecting all levels of the education system, including pre-school education. While early childhood education has traditionally been anchored in direct, sensory-centered experiences and play, the emergence of digital tools has begun to shift pedagogical paradigms, especially in the wake of the COVID-19 pandemic. Digital platforms have proven essential not only for maintaining educational continuity in times of crisis, but also for diversifying learning opportunities tailored to the individual needs of each child.

In Romania, as in other European countries, the integration of digital technologies in pre-school education is still in a transitional stage. Although national education strategies encourage the use of information and communication technologies (ICT), their application in kindergartens is uneven and fragmented. Barriers such as lack of infrastructure, insufficient professional training and reluctance to expose young children to screens continue to influence the digitization process.

This study aims to respond to this educational reality by exploring how digital platforms are used in Romanian kindergartens and how their impact is perceived by teachers and parents. The dual perspective - pedagogical and parental - allows a more complex understanding of the

¹Dr, Faculty of Psychology and Educational Sciences, University of Bucharest, Bucharest, Romania, ioana-theodora.cireasa.20@drd.unibuc.ro



specific benefits and challenges of this integration process.

The importance of this research lies not only in its relevance to the contemporary educational context, but also in its potential to contribute to the informing of effective and balanced educational practices and policies. Thus, the study aims to answer the following questions:

- How frequently and for what purposes are digital platforms used in pre- school education?
- What are the perceived benefits and drawbacks of using them?
- How do teachers and parents assess the impact of digital platforms on early learning?

By analyzing these questions, the article contributes to the academic and practical discussion on the digitization of early childhood education, providing data and reflections relevant to the Romanian system.

2. Theoretical framework and literature review

The integration of digital technologies in early childhood education has become an increasingly common topic in the literature, reflecting both the educational potential of digital platforms and the associated ethical and pedagogical challenges. Hirsh-Pasek et al. (2020) emphasize that well-designed digital tools that provide interactive and meaningful content can support the cognitive and social-emotional development of preschool-aged children.

International organizations such as UNESCO and the OECD advocate a responsible integration of technology in early education. OECD (2021) emphasizes the importance of developing digital competences from the earliest years of life, with a focus on active engagement rather than passive consumption of content. UNESCO (2022) recommends a balanced approach, linking the use of digital resources with age-appropriate educational objectives and the principles of didactic play.

In the Romanian context, research on digitization in preschool education is still limited but growing. Studies such as those conducted by Duca (2021) and Popescu & Ionescu (2022) indicate that educators are increasingly open to the use of digital resources, but face difficulties related to lack of training, access to infrastructure and insufficient methodological support.

From a theoretical point of view, this study is based on the constructivist theory of learning, according to which children actively construct their knowledge through interaction with the environment - including the digital environment. Vygotsky's sociocultural theory also supports the role of tools and mediated interaction in facilitating learning, principles that underpin child-centered and adult-guided digital pedagogy.

The literature converges on a few key ideas:

- ◆ Digital platforms can stimulate interest in learning and accessibility of content.
- ◆ The pedagogical quality of the resources is essential, more important than the duration of the exposure.
- ◆ The role of the educator is crucial in guiding the digital learning process.
- ◆ Parental involvement is indispensable for supervising and supporting digital activities at home.

This study aims to contribute to this theoretical approach through a contextualized analysis in the reality of kindergartens in Romania.



3. Research objectives and hypotheses

The overall aim of the research is to explore the use and perceived impact of digital platforms in pre-school education from the perspective of teachers and parents. The study aims to identify the types of platforms used, the frequency and purpose of their application, their perceived benefits and limitations, and training needs.

Specific objectives:

1. Investigating the frequency of use of digital platforms by pre-school teachers.
2. Identify the purposes for which these platforms are used (training, communication, evaluation).
3. Analyzing perceptions of the effectiveness and influence of platforms on children's development.
4. Identifying the challenges and training needs expressed by educators.
5. Exploring parents' attitudes towards digital learning and their role in supporting this process.

Working assumptions:

H1: Teachers who frequently use digital platforms perceive increased motivation among children.

H2: Parents who engage in digital activities with their children more often notice learning progress.

H3: Both teachers and parents see the need for a balance between traditional and digital methods.

H4: Lack of infrastructure and insufficient training are major obstacles to effective implementation of platforms in kindergarten.

4. Methodology

In order to get a complete and realistic picture of how digital platforms are used and perceived in pre-school education, the study adopted a **mixed methodological approach**, combining quantitative and qualitative methods. This strategy allowed triangulation of data and validation of findings across multiple sources of information.

4.1 Research design

The research followed an **exploratory-descriptive model**, aiming to identify trends, behaviors and perceptions related to the use of digital platforms in kindergarten.

Both numerical data (through questionnaires) and narrative data (through interviews and direct observations) were collected.

4.2 Participants

The study included two categories of participants: **50** pre-school teachers (public kindergartens, urban and rural) and **100 parents** of pre-school children enrolled in the same institutions.

The selection of participants was done by the availability method, based on informed consent. The sample is heterogeneous, including people with varied teaching experience (in the case of educators) and different levels of education (in the case of parents).



4.3 Research tools

The following instruments were used for data collection: **two structured questionnaires** - one for teachers and one for parents.

These included closed-ended questions, frequency grids, Likert scale items and open-ended questions to elicit interpretative nuances.

□ **Semi-structured interview guides** - administered to a selected sample of educators and parents to explore perceptions, experiences and attitudes.

□ **Observation sheets** - used in kindergarten activities to capture children's behaviors, reactions and level of engagement in digital activities.

4.4 Data collection procedure

Questionnaires were completed online via Google Forms. Interviews were conducted online or by telephone and were transcribed in full. Direct observations were carried out in 5 kindergartens that allowed the researcher access, with the consent of the parents and teaching staff.

4.5 Methods of analysis

Quantitative data were processed in Microsoft Excel by applying descriptive statistics (percentages, means). Qualitative data obtained from interviews and observations were analyzed by **thematic analysis** in order to identify recurrent patterns, response categories and themes relevant to the research objectives.

Through this mixed methodology, the research aimed to capture not only general trends but also the depth of participants' experiences and perceptions, in a current and applicable educational approach.

5. Results and discussions

The analysis of data collected from the 150 participants (50 teachers and 100 parents) allowed the identification of clear trends regarding the use of digital platforms in pre-school education, as well as the identification of differences in perceptions between the educational and the family environment. Results are presented by combining quantitative interpretation with meaningful examples from qualitative analysis.

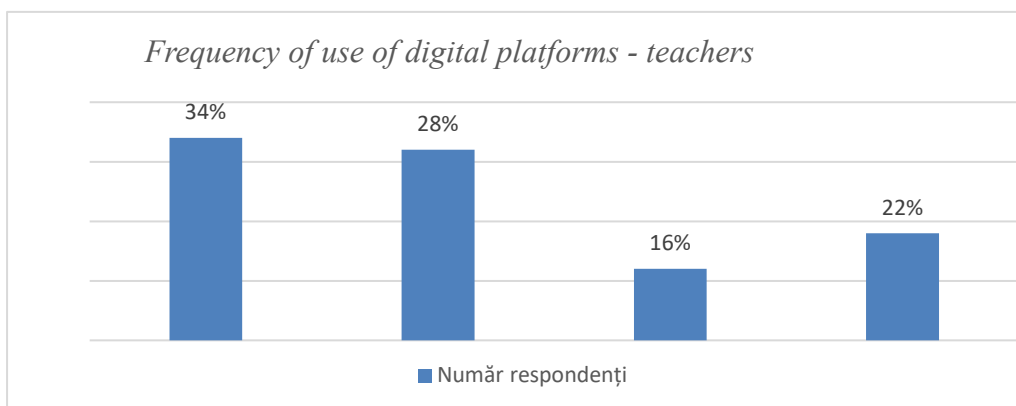
5.1 Frequency and purpose of use of digital platforms

All teachers surveyed (100%) stated that they use at least one digital platform in their educational work. The most frequently mentioned were **Kinderpedia, Wordwall, Google Classroom** and **Livresq**.

In terms of frequency:

- **34%** use platforms several times a week;
- **28%** weekly;
- **16%** daily;
- **22%** occasionally.

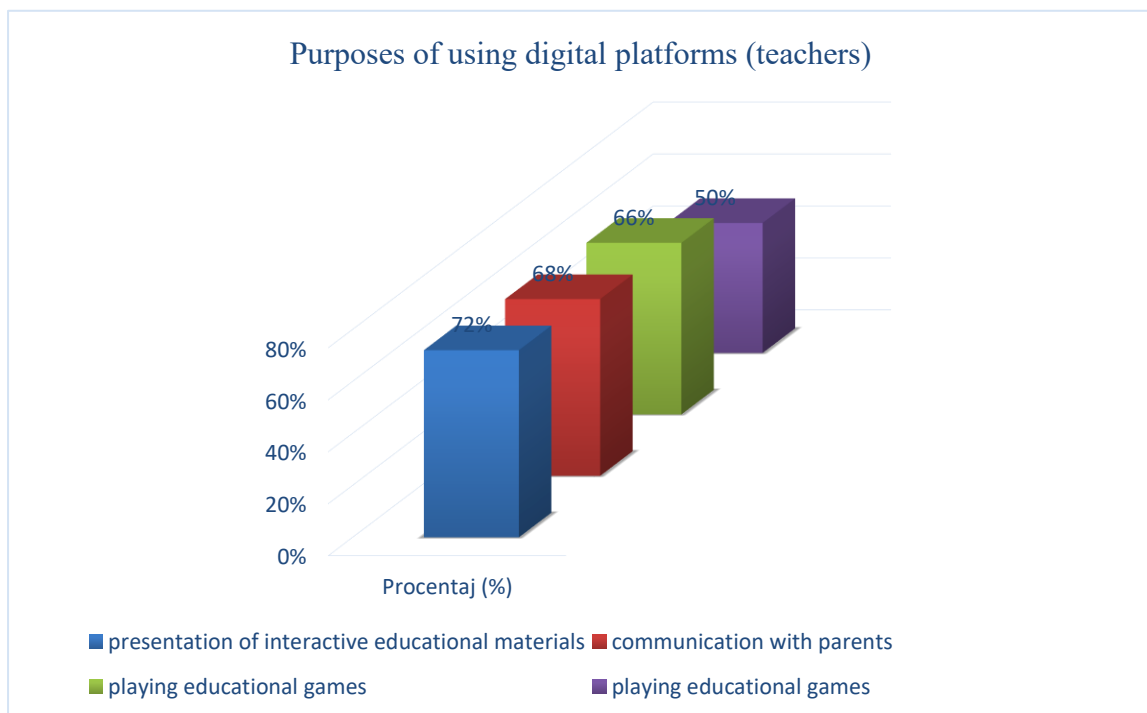
Figure 1 : Frequency of use of digital platforms – teachers



Main purposes mentioned:

- presentation of interactive educational materials (72%);
- communication with parents (68%);
- playing educational games (66%);
- playing educational games (50%).

Figure 2: Purposes of using digital platforms (teachers)



Teacher quote: "Children are much more engaged when we use Wordwall. Even the shy ones are happy to participate."

Direct observation: "The children were enthusiastic about the digital activity. Most of them were attentive until the end."



5.2 Perceived benefits and difficulties

Among the most common **benefits** reported by teachers:

- increase motivation and interest in the activity;
- the possibility to personalize learning;
- effective communication with the family;
- methodological variety.

At the same time, **difficulties** have been reported:

- lack of technical infrastructure;
- insufficient time to prepare digital activities;
- the need for vocational training.

56% of educators said **they need additional training** in using the platforms.

Teacher quote: "I would like to use more platforms, but I don't know exactly how. I haven't had specialized training."

Among parents, **46%** said they use digital platforms with their child, the most popular being **YouTube Kids, Kinderpedia, EduMagic.**

Main **benefits seen** by parents:

- vocabulary development;
- increased attention and concentration;
- quick access to educational content;
- increased motivation for learning.

5.3 Impact on learning and motivation

Likert-type results (1-5 scale) reflect the following averages:

Claim	Teachers	Parents
Digital platforms boost children's motivation for learning	4.0	3.7
Platforms stimulate active learning	3.8	3.6
Platforms can replace traditional methods	2.3	2.8
Balance between digital and traditional methods needed	4.4	-
Parental supervision is essential when using technology	-	4.3

Interpretation:

Both educators and parents see technology as a **complementary tool**, not a substitute for traditional activities. At the same time, the active involvement of the adult - either teacher or parent - is seen as essential.

Parent Quote: "My child learned the alphabet on YouTube, but without me around, he wouldn't have retained it as well."

Remark: "The teacher adjusted the pace according to the children's responses and they completed the tasks with interest."



5.4 Ethical concerns and implications

Both teachers and parents expressed concerns about:

- excessive screen time;
- difficulty in choosing age-appropriate content;
- lack of social contact in digital activities;
- unequal access to technology.

Parent quote: "I fear screen addiction. Apps are interesting, but not always appropriate."

These perceptions are in line with the literature, which draws attention to the dangers of passive exposure to digital content and supports the idea of **guided** and **active** age-appropriate **digital interaction**.

6. Conclusions and recommendations

The results of this study highlight those digital platforms, when integrated in a purposeful and balanced way into the educational process, can significantly contribute to improving learning experiences in pre-school education. Both teachers and parents recognize the potential of these tools to boost motivation, facilitate differentiated learning and strengthen the school-family relationship.

But the research also highlighted major challenges: limited access to digital resources, lack of adequate teacher training and parents' concerns about the balance between technology and real interaction.

Main conclusions:

- Digital platforms are already present in most kindergartens and are perceived as useful by teachers.
- Parents show interest but sometimes lack the confidence or support to use these platforms at home.
- Both educators and parents emphasize the need to maintain a balance between digital and traditional methods.
- The need for training and parental guidance is urgent and justified.

Recommendations:

For teachers:

- * Participation in in-service training programs on digital pedagogy;
- * Select platforms adapted to the age level and educational objectives;
- * Active involvement of parents through recommendations and feedback.

For parents:

- Accompanying the child in using digital resources;
- Set a balanced schedule between digital and free play time;
- Constant collaboration with educators to align educational efforts.

For decision-makers and institutions:

- Investing in the digital infrastructure of kindergartens;
- Develop clear guidelines and policies on the use of technology in early childhood education;
- Support collaboration between the family and the educational institution in early digital education.

In conclusion, digitization in pre-school education is not an "if" but rather a "how" question. This study shows that the success of this process depends on trained teachers,



involved parents and child-centered educational visions.

Limitations and directions for future research: the study is limited to a small sample and a specific geographical context. Extending the research to a wider national area and introducing a longitudinal design could provide valuable comparative data. In addition, it would be useful to explore children's perspectives through more detailed indirect or observational methods.

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