Chapter 91
Analysis of Psychomotricity in Digital Didactic Materials in Early Childhood

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ABSTRACT

This article is part of the research project titled "Digital Teaching Materials in Early Childhood Education: Analysis and Proposals for Use at School and at Home (INFANCI@ DIGIT@L)." The fundamental objective was to analyse the technical and pedagogical characteristics of the digital teaching resources and materials (DDM) aimed at boys and girls in the second cycle of early childhood education (period 3-6 years) as. Here the authors analyse the supply of digital educational resources offered on institutional platforms. Specifically, this text focuses on materials that may be useful for the psychomotor development of early school-age children. Ad hoc elaborated matrices were used in which the information related to the identification and location of the resource, typology, available languages, area, theme, and recommended levels of implementation. The results indicate the reduced offer of digital resources designed for this purpose. It is concluded that the need to continue exploring the specific offer for minors is due to the importance of psychomotor development at these ages.

INTRODUCTION

From an early age, most children in our country interact with different didactic materials within the family and school context. These are educational resources that represent important socialising agents and that connect them with the social environment during their childhood. Likewise, many of these technological resources are part of the leisure time of minors and their consumption continues to occupy a significant amount of that time. In the development of this chapter we present a paper on the Analysis of psychomotricity in Early Childhood Education contextualized in a study conducted over four years (2018-2022), entitled: "Digital didactic materials in Early Childhood Education. Analysis and proposals for their use at school and home (Infanci@ Digit@l". In the course of our research project we seek to explore and analyse the technical and pedagogical characteristics of digital didactic resources and materials (DDM) aimed at children in the second cycle of Early Childhood Education (3-6 year old period) as well as the uses and practices developed with them both in the school and family context. The questions guiding the development of this project have been the following: What are the main technical-pedagogical features of the DDM in the second cycle of Early Childhood Education? To what extent do the DDM rely on and enable the development of game-based teaching-learning methodologies? What views do Early Childhood Education teachers have about these digital materials and resources? What views and opinions do the families of these children have about the DDM? What are the practices for use of DDM by students both in the school context of the classroom and in their home environment?

To address and answer these questions, we have planned four studies with different objectives and methodologies, but complementary to each other and carried out simultaneously in three Autonomous Communities: The Canary Islands, Galicia and Valencia: Study 1: Analysis of the platforms or portals that offer DDM for the second cycle of Early Childhood Education in the Spanish context; Study 2: Identification of the views and opinions about the DDM held by the teachers of this cycle, as well as the adult tutors of the students; Study 3: Conducting several case studies; Study 4: Creation of a guide or protocol for teachers and families with recommendations for good practices in the use of the DDM in the classroom and at home.

As for the digital didactic materials taken into account, we have started by considering under this terminology (Area, 2017): Digital objects, digital textbooks, apps, online tools and platforms, intelligent adaptive learning environments, tangible didactic materials, and digital didactic materials. In the case of this chapter we will focus mainly on issues related to Study I in which we proceeded through the adaptation of an instrument for the analysis of digital didactic materials to analyse the technical-pedagogical characteristics of a sample of several hundred people in the Spanish educational context. For a better understanding of the particularities of the analysis guide, please consult Cepeda, Gallardo y Rodríguez (2017). One of the dimensions taken into account in the analysis of the study focused on the analysis and consideration of psychomotricity in digital educational resources for Early Childhood Education.

Content analysis of the materials was used for the methodology developed in this study. We consider content analysis as the appropriate qualitative methodology to analyse the characteristics of digital didactic materials. We start from the idea conveyed by Bardin (2004, p. 29) that "content analysis is a set of communicative analysis techniques using systematic and objective procedures to describe the contents of messages".

In the following section of the study we specify the way in which we have understood Psychomotricity within the framework of our analysis and the main results and conclusions of the study carried out.

BACKGROUND

In the development of our research we start from understanding psychomotricity as a set of techniques and methods of education that use the body and movement as a means to ensure the harmonious development of people. Although its origins are based on studies that relate psychic problems and movement disorders, with the intention of solving them through psychomotor re-education (Picq and Vayer, 1969), LeBoulch (1995). Later, a more dynamic position appeared, represented by Lapierre and Aucouturier (1977), who considered the child as a whole, emphasizing the affective dimension, and starting from their experiences and experimentation, under a pedagogical and preventive practice. At present, both currents have been overcome by eclectic or mixed postures that try to reconcile both tendencies, taking psychomotricity as a science that comprehensively develops the child, giving it great educational value (Bernardo de Quirós, 2006; Bailey, Doherty and Pickup, 2007; Fusté and Bonastre, 2008). The research conducted by Pikler (2012) highlights that the child learns successive motor skills in a free and autonomous manner, through their own actions and the movements they choose within a secure environment. It has aspects in common with motor development, understood as the unfolding of skills, motor abilities and physical and mental development that occur during the growth of people, and which acquire capital importance in the early childhood education stage (Zachopoulou, 2010).

In our case, we are committed to this integral conception of education, especially in the early stages of personal development, and which, with different nuances and meanings, appears in early childhood school curricula. Thus, movement, action and play are an inescapable part of the culture of childhood and its daily activities, something that cannot be forgotten at school, and in which the mission of physical education and psychomotricity is inserted. They also help the development of social skills, self-esteem and problem solving from a positive motivational, dynamic, social perspective through empowering experiences that collaborate in the formative process of infants.

In relation to the role of MDD in CCD, in the literature we find reviews and recent works that have recently focused on the analysis of the role of MDD (Area, 2020; Area, Rodríguez, Peirats and San Martín, 2023; Becerra, Martín and Bethencourt, 2021; Digón-Regueiro and Iglesias-Amorín, 2022; Fernández, Rodríguez, Rodríguez-Regueira and Rodríguez, 2022; Marín-Suelves, Becerra-Brito and Rego-Agraso, 2022; Martín-Gómez, Vidal-Esteve and López-Gómez, 2022; Navarro, Gabarda, Marín and Romero, 2022). Overall, the results highlight that, in general, there is a wide variety of resources available for free and the need to improve non-commercial materials compared to commercial ones. A particularly significant fact in the results is that there are hardly any resources for Early Childhood Education that allow for fully autonomous use. Likewise, families and teachers indicate, in general, a low level of digital competence and a need for more training. It should be noted that the line of research focused on the analysis of psychomotor skills and their contributions to teaching materials has little trajectory in the international arena, as has been deduced from some reviews published in high-impact journals (Fernández and Rodríguez, 2022). However, the line of research in which this work is framed has been developing in the Spanish context for almost 15 years, through the implementation of several research projects (See Rodríguez, Area and San Martín, 2024).

FOCUS OF THE ARTICLE

Psychomotricity is worked on from different conceptions that condition the methodologies and intervention materials in all the classrooms of Early Childhood Education (ECE) in Spain. In recent years, the incorporation of technology into ECE classrooms promoted by the educational administration has invaded the work of psychomotricity with the possibility of making use of digital didactic materials (DDM). Administrations have promoted platforms, spaces and training activities for teachers to develop their own DDM and share them, trying to respond to the development of a collaborative culture among teachers. These open access platforms have very different forms of operation and, in general, mechanisms are not always available to assess the materials produced by the teachers that are hosted on them. This situation leads our team to the analysis of platforms and DDM intended for psychomotor work in ECE schools with different forms of management and intervention modalities.

In the field of early childhood education, the use of institutional platforms that offer digital teaching materials has experienced significant growth in recent years. These tools have become indispensable allies for teachers, tutors, mothers and fathers, facilitating access to interactive educational resources. However, despite the advances in this field, there are still certain shortcomings that require attention, debate and analysis in order to improve the effectiveness of these resources, such as the following:

- Personalisation of learning: Institutional platforms must go beyond simply offering a variety of activities and resources. It is essential that they can dynamically adapt to the individual needs of each child, recognising their interests, abilities and learning paces. This implies the development of more sophisticated algorithms and recommender systems that enable a personalised and meaningful educational experience.
- Inclusion of diversity: Although children with different abilities and diversities are beginning to be taken into account in the development of learning platforms and materials, much more work needs to be done on how platforms can ensure true inclusion. This includes the incorporation of accessibility tools, such as easy reading, subtitles, descriptive audio and adaptations for people with low vision, deafness or motor impairments. In addition, attention must be paid to gender stereotypes, cultural and linguistic representation to ensure that materials are inclusive and relevant to all children regardless of their ethnic, cultural or linguistic background.
- Segmentation by age and stage of development: It is considered important that these platforms include a resource search engine by age and stage of development (cognitive, emotional, linguistic and motor), as the development of a 3 years old is not the same as that of a 6 years old. This also implies the development of specific teaching materials taking into account the particular characteristics and needs of pre-school children.
- Training and guidance for teachers and families: The provision of guidance for adults responsible for infants is a fundamental aspect of maximising the educational potential of these platforms. However, there is also a need to expand this area to address issues such as digital skills training, providing resources and strategies for monitoring student progress, as well as fostering effective collaboration between schools and families. For the latter, these platforms could integrate communication and collaborative work tools.
- International benchmarking: Comparisons with similar platforms in other countries would be necessary, as this can provide valuable information to improve the quality of these digital tools. However, it is important to go beyond simple quantitative evaluation and consider qualitative as-

pects, such as cultural and curricular appropriateness and pedagogical effectiveness. In addition, the diversity of educational and cultural contexts should be taken into account to avoid unthinking adoption of models from other countries and instead promote local adaptation.

This section will describe the digital didactic materials offered by the educational Administrations of seven Spanish provinces, belonging to two autonomous communities: The Valencian Community and Galicia.

DDM in the Institutional Platforms of the Valencian Region

The Valencian Community is located in the east of the Iberian Peninsula and is divided into three provinces: Castellón, Valencia and Alicante. It is the fourth largest Spanish community in terms of population, with more than five million inhabitants (5,072,176). The Spanish state is characterised, among other things, by the autonomy of the management of its communities, which makes it easier for each of them to make firm commitments, in this case, in the process of digitization of digital didactic materials, which are shared through institutional platforms. At present, the institutional platforms Mestre a Casa and Rebost Digital (Re-Di) coexist in the Valencian Community. Both, among other roles, have a space dedicated to collect didactic materials organised by educational stages and/or courses and subjects. They are multi-support platforms, with access available from different devices, free of charge, full access and with no registration required.

Mestre a Casa

Mestre a casa organises the educational resources by educational stages and, in the second cycle, by the age of the students. In spite of this, in 3, 4 and 5 years the offer is the same. There are a total of 100 resources available, with a variety of topics and contents, mainly related to the learning of mathematical skills and reading and writing.

Of the total, a very small number of resources are linked to psychomotor development. After the analysis, it can be affirmed that this platform is dominated by resources aimed at two clear goals. Some to the learning of writing, where fine psychomotricity is key. An example of this is the resource *Juego con mi nombre*, aimed at 3 years old children and designed to be used in teaching and research staff and to encourage the recognition and tracing of letters through something as familiar as their names. Or *El llibre de les vocals*, in which directionality is specifically worked on. Others, focused on emotions, through *El lenguaje no verbal*, for the identification of facial expression of emotions; *Parts del cos*, for the expression of emotions and feelings; *La interacción con los iguales* where patterns and norms of behaviour, social relationships and recognition of emotions among peers are worked on; or *Libro de instrucciones* to understand situations that provoke basic emotions.

In addition, a large number of resources are focused on addressing one-off issues, where minimal movement or physical activity is required. For example, some of these resources focus on the use of the mouse, as in *Encaja, Peque TIC* or Niños *y lluvia*, which shows the lack of updating of these programmes, since nowadays, both at school and at home, the touch screen predominates in the devices that students use. Others focus on time orientation, as is the case with the resource *Las estaciones, la ropa y la casa*.

Only one resource is offered directly related to sports. The focus is the *Beijing 2008* Olympic Games, and was created with the JClic programme. Despite the name of the resource, the proposed activities are aimed at learning basic content such as colours, vowels, seriation or numbers from 1-10, and the only approach to this event is the recognition of pets.

From an integral approach, *Ser, fer, pensar i conviure... a l'escola,* by the xucurruc group, presents 26 proposals for classroom work, including issues related to this chapter's study aim, such as postural hygiene or interpersonal relationships, but in an exclusively theoretical way.

Therefore, the psychomotor development promoted in these materials is scarce, especially if we are talking about gross motor skills, and basic motor skills do not appear, nor are they required to carry out the proposals proposed.

Re-Di

In turn, the new platform, called Re-Di, is a collaborative repository in which special care is said to have been given to inclusion, innovation and the promotion of the development of digital citizenship.

In the analysis of Re-Di, the first issue that stands out is that, in spite of the importance of psychomotor development in the first years of life, there is no mention of psychomotricity as such in the drop-down panel within the Early Childhood Education stage. However, one of the 10 options they offer is The Body, the rest being: ICT, music, inclusion, interdisciplinary issues, mathematics, reading and writing, environment or crafts.

Within The Body (https://rebostdigital.gva.es/category/infantil/el-cos/) there are 4 options: a) Joan Daudén's Channel, with different, fun games to work on PE at home; b) videos to work on PE through games with materials available at home; c) activities of the Spanish Olympic Committee and the Trinidad Alfonso Foundation, due to Sports Day, and d) the CFM teacher's website, with 200 games and activities for psychomotor development.

In the case of the first one, there is a link to a video entitled *Juguem a casa II,* shared through You-Tube in 2020 (25/3/2022), but it is possible to find more by the same author, published in the first moments after lockdown was decreed in Spain in the middle of March, all linked to physical activity and games at home. These are short videos, lasting less than 5 minutes, using simple, direct language and featuring one or two adults, a man and a woman. Locomotor skills, such as walking, running, jumping or crawling; skills for handling objects, such as throwing or catching; and reflexes, appear in several of these videos. In addition to exemplifying a multitude of activities and games in each of these videos, there are also challenges in which manual motor control is the main objective. As a counterpoint, it is necessary to point out that most of them are not specific for the Infant Education stage, and others are based on content from higher stages, such as the Valencian Pelota game and its adaptations. Therefore, despite the quality and quantity of the proposals put forward, the lack of specificity and adaptation to the abilities of Early Childhood students is the main limitation.

As for the second alternative, from Betxi state school, also through YouTube and coinciding at the time of creation of digital resources in video format on dates with the beginning of lockdown (16 March 2020), a total of 57 videos are shared, uploaded in the last two years and with an approximate duration of between 1 and 15 minutes. The videos have a variety of subjects and usually feature an adult and a child, and in some videos they are joined by specialists for interviews. The shorter videos are dedicated to health care and prevention of illnesses, for example, those dedicated to *coronavirus*, *healthy eating* or *brushing one's teeth*. Another group of videos presents workshops to carry out the materials by the

students themselves, such as juggling balls. Some videos, which are around 5 minutes long, focus on activities in which the leading role is played by the material, such as *newspapers, chalk, socks, brooms, ropes, pegs or handkerchiefs*. Also of intermediate duration, there are videos in which a physiotherapist discusses some common injuries or pains and their rehabilitation, such as a *sprain* or cervical *pain.* The longest videos are usually those in which a sport is presented using an interview technique, such as *colpbol* or *climbing.* As in the previous case, the proposed activities are varied in terms of the motor demands of the students, ranging from control and body awareness that can be achieved through relaxation and *yoga*, to the handling of objects, locomotion or spatiality. The quantity is high and the depth in the exemplification and approach to content is greater. However, there are no specific activities for the Early Childhood stage and they seem to be better adjusted to the psycho-evolutionary characteristics of Primary school students.

Regarding the resources for *Sports Day*, they do not appear on the website, despite there being a space dedicated to Resources. The winning videos of a competition for educational centres are featured. The amount of motor activities reflected in the proposals collected is remarkable, the involvement of other educational agents of the neighbourhood and the educational community and the visibility of the existing diversity in public centres, as well as adapted games or sports with little representation in the media.

Finally, the *CMF teacher's website* shares activities for the psychomotor development of children linked to the family context. It is a very comprehensive space that offers theoretical information, practical proposals and reading recommendations. The website is organised in 8 sections, one of which is dedicated to Materials. The Re-Di link goes directly to those that are perfectly suited to the body in motion for Early Childhood students, but in the Materials III sub-section it is possible to find more resources, such as an editorial sample of *40 games for body expression for 3 to 10 year olds.* In short, this website acts as a repository with links or materials from various sources that may be of interest.

In the end, these four proposals hosted in Re-Di, offer a wide variety of activities for the development of gross motor skills, taking care to adjust them to the age of school-age students and are presented in a simple yet attractive way, in terms of aesthetics and mainly through the approach of challenges in the first case or with the appearance of a child doing many of the proposed activities in the second case, which favours vicarious learning, having a model close to them.

DDM on Galicia's Institutional Platform

Galicia is an autonomous community in north-western Spain. At present, its population is 2,691,557 inhabitants. One of the main characteristics of this population is the ageing of its population, as reflected by the average age of 48.04 in 2021 and the number of children between 0-6 years of age barely reaching 99,791, that is, 3.8% of the total population. From the point of view of geographic distribution, it is characterised by a wide geographic dispersion. This community has four provinces

These contextual characteristics play a fundamental role in the incorporation of technology in schools. A priori, the objective is to facilitate access to the technological world throughout Galicia in order to set the population and break the digital divide, which causes a significant social disintegration between urban and rural areas. It is precisely in rural areas where the high ageing and low birth rate explain the high rate of depopulation and the very special conditions for the schooling of the child population.

Abalar Project and Repository

In the case of Galicia, the Abalar project was created with the aim of providing support services for the integration of ICT in schools throughout the territory. A project that has been operating for more than ten years, which has been evolving and currently offers, among other issues: dynamic websites where the centre projects its activity; virtual classrooms shared by teachers and families with digital didactic materials (DDM), day to day classroom, etc; app for communication with families; video-conferencing services; platforms to create educational communities; platform to create a social network for teachers; digital textbook for upper grades of primary education and some courses of compulsory secondary education; the school in the cloud project, which aims to improve learning through collaboration between rural schools that mainly educate children in early childhood education; and the Abalar repository, which offers DDM developed by the education professionals themselves, either directly for use in their classrooms or by participating in training activities carried out by the regional government.

In the Abalar space, during the decade of greatest impulse of technological integration in schools, it was one of the main sources of DDM for teachers and schools. Abalar is a repository that has a search menu that facilitates accessibility to the DDM. The selection of the material can be made on the basis of different criteria: keywords can be used in the title or description of each material; in the other variables we find a tab in each of them with different options for language, teaching, course, subject, type of course and licence.

The Abalar repository currently hosts 1810 DDM for all stages of pre-university education carried out between September 2010 and December 2021. For years we have been analysing the DDM specifically aimed at 3 and 6 years old students in Early Childhood Education (ECE). The 2018-2019 academic year was the time when more ECE materials were hosted on Abalar, amounting to 81 DDM, with a gradual suppression and little updating taking place. The dynamics of the repository allows each professional to upload or delete DDM that they own or that are already out of date. In recent years, the implementation of internal networks between centres and between teachers has contributed to the fact that fewer and fewer DDM have been shared publicly in open access.

Early Childhood Education DDM in the Abalar Repository

In this first search, we found that the word psychomotricity does not appear in the "subject" options. This lack of the psychomotricity option can be justified from different perspectives, which are explained below:

1. ECE must follow a globalised methodological approach in which the work projects integrate the specific learning of each area, it is integrated with the others to allow a complex knowledge of each reality, of each event. In this sense, the proposals that opt for globalisation, the subject matter of each area of knowledge does not appear segmented, but is integrated with the others. For this reason, a detailed analysis of each didactic proposal is necessary, where the contents, objectives and competencies to be worked on and acquired in each subject matter will be identified.
2. In the ECE curriculum until September 2022, it was included as a content in the area for Knowledge and personal autonomy. In the new legislation, psychomotricity appears as one of the general principles of the stage that guide the teaching-learning processes.

With these premises in mind, we decided to analyse the 81 DDM aimed at Early Childhood Education that were in open access in the repository, which were hosted on the platform at some point. Of all of them, we identified those that explicitly include contents or objectives oriented to psychomotricity work with ECE students from 3 to 6 years of age, ending up with 11 materials. After analysing each of them, we found that, in most of them, the contents and objectives of psychomotricity have a residual value in the proposal or do not meet the characteristics of a DDM, and only one of them does. This material, moreover, is the only one that is currently open, entitled *Psicomotricidade.* This is a website in the Galician language that aims to bring ECE teachers closer to what psychomotricity is and to present, using videos, examples of sessions with students at this stage.

SOLUTIONS AND RECOMMENDATIONS

Based on this analysis, the following recommendations are proposed:

To use different types of resources, with different supports, to favour the development of psychomotricity in children.

To design and select digital teaching materials for use that:

- take into account diversity and are accessible from the four perspectives proposed on the basis of universal design for learning (cognitive, sensory, physical and emotional).
- consider the integral development of the child and psychomotor issues as a whole.
- are specific for students of the Early Childhood Education stage, based on their psycho-evolutionary characteristics.
- are contextualised and value and promote the richness of the students' close contexts.

FUTURE RESEARCH DIRECTIONS

Future lines of research should attempt to address the limitations found in this work and the topics emerging from this research. The first orientation would be to focus attention beyond the institutional platforms, so as a prospective it would be interesting to extend the analysis to the offer made by publishers or on open platforms. In addition, in both communities there is a co-official language that is the one most widely used in the resources offered on the platforms analysed, which, beyond the analysis carried out, opens up lines of future research with respect to the promotion of languages in the digital didactic materials offered by the educational Administration. Another analysis that would be interesting to carry out in the future is that of the DDM in Physical Education for higher educational stages, such as Primary Education or Compulsory Secondary Education, in which these contents are specifically linked to a subject. Finally, it is appropriate to enter into the debate, still present, regarding the terminology used in Physical Education in Early Childhood, as opposed to later stages, delimiting the meaning of psychomotricity at this stage, as well as the professionals in charge of its development and the approach given.

CONCLUSION

The three platforms reviewed allow us to have a panoramic view of the conception that ECE teachers have about psychomotricity and the usefulness they find in the DDM to work on this. According to the different paradigms of interpretation of what is understood by psychomotricity, we find a great diversity of perspectives, although the mixed ones, which understand it from the point of view of the global development of the human being, are gaining ground. In coherence with this epistemological diversity, the types of the DDM are identified. When the conception of psychomotricity is understood as the mere physical exercise of our body, the number of DDM aimed at student work is reduced, as evidenced in the work conducted. In this case, the materials found are focused exclusively on the exercise of certain parts of the body and most of them are oriented to teachers. When psychomotricity is understood from a globalised perspective that integrates body and mind, DDM tends to respond to globalised projects.

The main differences between the institutional platforms analysed, in both communities, are the amount of teaching resources available, the organisation by educational stage and/or age of the students, and in turn by subject matter, and the fact that they are available in open access. In the case of the Valencian Community, on the one hand, there are major differences between the two platforms in terms of the supply of resources for the motor development of the youngest children, which is much greater and works with explicitly related content in Re-Di. On the other hand, the weight that the time experienced due to lockdown has on the available resources is evident, as was observed in those first moments (Rodriguez et al., 2020). The closure of schools decreed for months, as a consequence of Covid-19, evidences the situation experienced in the Re-Di proposals hosted, in terms of spaces, materials and the individual or paired approach of the activity proposals. Therefore, while *Mestre a casa* has become outdated, Re-Di offers mainly resources for gross psychomotricity, which can also be performed at home, but neither has been updated with new materials as of today's date.

The main finding in this intra-community and inter-community comparison of specific materials for the approach to Psychomotricity is the evolution in terms of digital didactic materials, with a qualitative leap in terms of the tools used for their creation, from power point and JClic in the *Mestre a casa* resources, to video editing tools in Re-Di. This reflects the true technological revolution that has taken place in recent years. The new role of prosumer, assumed by more and more teachers, is also evident, as well as the collaboration networks created and the growing possibilities of access to materials with increasing technical and pedagogical quality. In the case of Galicia, the institutional repository *Abalar* from the regional Ministry of Education only has one DDM oriented to psychomotricity work in ECE, intended for teachers.

The results of this research coincide with other previous studies that highlight the still minimal development of DDM in ECE compared to the rest of the stages (Fernández Iglesias et al., 2021). This low use of DDM in the ECE classroom is possibly justified for several reasons. The first are of a psycho-pedagogical nature, such as the age of the students and their psycho-evolutionary characteristics according to Piaget's developmental stages, and others derived from the social context in which we are immersed, where the child population is overexposed to digital devices at home and not at school, as stated in the *Manifiesto Infancia y Pantallas* (AAVV, 2021). In fact, the material that usually appears is intended for teachers, not so much for students. Likewise, we have detected how the concept of DDM has evolved during this decade, and we have found that there is still a strong dependence on or link with traditional printed materials in terms of methodologies and little innovation brought to the ECE school.

Taking into account the specific conditions in which ICT should be introduced in ECE in psychomotricity, characterised by a predominance of manipulative, natural didactic materials, where their own body becomes a fundamental resource, certain DDM could be interesting for the development of fine motor skills, visual-motor coordination, spatial organisation (e.g. using virtual reality). In this sense, DDM should be offered in open format to work on certain dimensions of psychomotricity, taking advantage of technological innovations that allow the development of psychomotor skills from different learning experiences, with the aim of working in a versatile, adaptive way to different contexts, for example, outdoors or through augmented reality or virtual simulations.

This research is very interesting for Early Childhood Education teachers because nowadays, the massification of information and publications is a real problem for selecting scientific evidence to help in the process of selecting or developing materials to be applied in the classroom. This review identifies and brings together the issues addressed by the research, but also highlights the important gaps that need to be addressed. More and more teachers in schools are turning to research to support their pedagogical practices and adapt their pedagogical projects to the contextual characteristics of their students. The incorporation of technologies in nursery schools also provides relevant opportunities for psychomotor work in the classroom within the framework of pedagogy in movement, through the use of applications and resources that, in a playful way, make proposals adapted to each individual, promote collective play or facilitate intercultural exchange, as can be seen in many classrooms. Research has yet to provide studies and conclusions that help to assess these practices mediated by technological resources and materials.

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