

# Inclusion and the Montessori Classroom: A Proposal for Improvement in Early Childhood Education Centres

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Although the enrolment rate in the first cycle of infant education has reached its highest level, there is still a lack of studies related to educational inclusion. This is the starting point for the present research, whose main objective is to design an inclusive proposal for an improvement plan in three early childhood education centres in the city of Valencia, Spain. These centres are distinguished by their commitment to Montessori pedagogy due to the importance it places on the child as the centre of education, offering an environment that encourages children to develop, satisfy their needs and learn at their own pace. The present research is an exploratory study framed within the interpretative paradigm, whose design is non-experimental, transactional and correlational-causal. The methodology used is mixed, as both quantitative and qualitative data collection instruments are used jointly with the aim of gathering the opinions of different members of the school community and understanding the underlying motives and internal reasons behind their responses. The results highlight key areas for improvement: opening the school to the community, the relationship between families and the school, teacher training in inclusive education, carrying out activities that promote diversity, communication in Montessori classrooms, and the successful integration of new teachers into the school. Moreover, Montessori classrooms are identified as a facilitator of inclusive practices. The conclusions derived from the research can help the development of actions in education centres to improve their levels of inclusion.

**Keywords:** early childhood education, educational inclusion, Montessori classrooms, proposal for improvement

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## Inkluzija in razred montessori: predlog za izboljšanje v centrih za predšolsko vzgojo in izobraževanje

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Čeprav je stopnja vpisa v prvi cikel predšolske vzgoje in izobraževanja dosegla najvišjo raven, še vedno primanjkuje študij na področju inkluzije v izobraževanju. To je izhodišče za to raziskavo, katere glavni cilj je oblikovanje inkluzivnega predloga za načrt izboljšav v treh centrih za predšolsko vzgojo in izobraževanje v Valencii v Španiji. Ti centri se odlikujejo po zavezanosti pedagogiki montessori, saj ta otroku pripisuje osrednjo vlogo v vzgoji in izobraževanju ter ponuja okolje, ki otroke spodbuja k razvoju, zadovoljevanju njihovih potreb in k učenju v lastnem tempu. Ta raziskava je raziskovalna študija v okviru interpretativne paradigme, katere zasnova je neeksperimentalna, transakcijska in korelacijsko-vzročna. Metodologija, ki smo jo uporabili, je mešana, saj se skupaj uporabljajo kvantitativni in kvalitativni instrumenti za zbiranje podatkov z namenom zbrati mnenja različnih članov šolske skupnosti ter razumeti temeljne motive in notranje razloge za njihove odgovore. Izsledki poudarjajo ključna področja za izboljšanje: odprtje šole za lokalno skupnost, odnos med družinami in šolo, usposabljanje učiteljev na področju inkluzivne vzgoje in izobraževanja, izvajanje dejavnosti, ki spodbujajo raznolikost, komunikacija v razredih montessori ter uspešna vključitev novih učiteljev v šolo. Poleg tega so razredi montessori opredeljeni kot dejavnik, ki olajšuje inkluzivne prakse. Zaključki, pridobljeni na podlagi raziskave, lahko pripomorejo k oblikovanju ukrepov v izobraževalnih centrih za izboljšanje njihove stopnje inkluzije.

**Ključne besede:** predšolska vzgoja in izobraževanje, inkluzija v izobraževanju, razredi montessori, predlogi za izboljšanje

## Introduction

The society in which we live is always on the move. This gives rise to continuous cultural, moral, technological, family and social changes, influencing an educational reality that is increasingly heterogeneous, diverse and complex to address. Grande and González (2015) explain that the diversity of students in the classroom is a complicated reality that needs to be addressed from the perspective of inclusive, preventive education that optimises capacities and compensates for situations of inequality. This becomes even more important at the infant education stage, as this stage caters for children from zero to six years of age, who are in full developmental expansion. Moreover, it is a pre-compulsory stage, with students entering at different ages, and with very different histories and past experiences.

Although educational inclusion has evolved significantly, there is still a long way to go to the creation of a truly inclusive culture that transcends the educational sphere, especially in the first cycle of early childhood education (Reyes-Parra et al., 2020). In order to improve the level of inclusion in three early childhood education centres in the city of Valencia, the present research has the following research goals. Firstly, it aims to record and analyse the opinions of school community members about the inclusive cultures, policies and practices of their education centre. This is achieved using the Spanish version of the Index for Inclusion in Early Childhood Education designed by Booth et al. (2007), adapted for the early childhood education stage. Secondly, the research aims to identify and describe the main barriers to inclusion detected in each of the centres studied. Thirdly, it attempts to determine whether the Montessori classrooms of these centres are inclusive. Although there are numerous investigations that endorse the benefits of Montessori pedagogy, there are no studies focusing on the inclusivity of Montessori practices (Andrés-Martínez et al., 2022). Fourthly, the present study analyses whether certain aspects of the participants' identification data can influence the development of inclusive practices in the centres. The purpose of all of these research goals is to enable the creation of an individualised proposal for an improvement plan for each centre.

### *The Importance of Inclusive Early Childhood Education*

At birth, human beings have to learn almost everything, as they have dispositions to adapt to the world but do not yet possess elaborated behaviours. Through relationships with adults over the long period of childhood, children adapt to the environment and become autonomous individuals with certain capacities, beliefs, habits and feelings. During early childhood, all of

the foundations for later learning are laid, knowledge and intelligence are built, and the learning and development of the social, emotional, cognitive, sensory-perceptual and motor skills that will be the basis for a lifetime take place. Early childhood is therefore an essential stage for the future development of human beings (Fernández, 2014).

For all of this to be possible, it is necessary to provide quality, equitable and inclusive early childhood education. Equity is understood as equal opportunities for the full development of the individual through education, without economic, demographic, geographic, ethnic or gender conditions being a barrier to learning. Bearing in mind that each student has different abilities, interests, rhythms and learning styles – in short, different needs – their educational process will be unique and unrepeatable. This implies that education should take into account individual differences and needs. Therefore, when we refer to the term “educational inclusion”, this does not only apply to students with impairments or special educational needs, but, as explained by Booth et al. (2007), it concerns improving the participation of all children and adults involved in education centres.

### *Inclusive Schools: Barriers and Facilitators*

The growing multiculturalism in schools has posed various challenges for teachers and students, with many policies and strategies focusing on equality in the education system and promoting inclusion and respect for all people (Mlinar & Peček, 2024). Achieving inclusive schools involves a constant search for improvements and innovations, “in order to meet the diversity of needs of all students, both those with special learning difficulties and those with greater ability and motivation to learn” (*Ley orgánica 3/2020*, 2020, p. 122882). This involves striving for the presence, participation and success of all students. Moreover, it requires the detection and elimination of barriers to inclusion, understood as the beliefs and attitudes held by certain members of the educational community in relation to inclusion, which are embodied in cultures, policies and practices that lead to exclusion and school failure. Finally, it entails the identification of facilitators or factors that condition the implementation of good practices in order to address the diversity present in education centres (Covarrubias, 2019).

Barriers can be organised into two groups: those of the school and those of the classroom. School barriers include poor relations between classmates; the lack of shared spaces and times for planning better ways of dealing with diversity; and the lack of cooperation between disciplines and between professionals. Among classroom barriers are the lack of teacher training, resulting in

poor teaching-learning strategies and a focus on the shortcomings of students with difficulties rather than their potential; the lack of student motivation; and the lack of family participation (De la Iglesia et al., 2013; Polo & Aparicio, 2018; Gonzalez Gil et al., 2019; Giné et al., 2020; Save the Children, 2019; Kurowski et al., 2022). Facilitators can also be organised into those related to the school and those pertaining to the classroom. The main school facilitators are companionship; the support of specialists outside the school; and the attitude of the educational community with regard to the constant search for better ways to respond to diversity. The main classroom facilitator is teacher training, which translates into various methodological strategies such as heterogeneous groupings, teaching strategies based on Universal Design for Learning and cooperative actions, and a positive view of diversity (Molina & Holland, 2010; González-Gil et al., 2019; Bani & Lach, 2024).

### *The Montessori Classroom as a Facilitator of Inclusive Practices in Early Childhood Education*

Maria Montessori was one of the first research-based special educators. She had a very clear vision of equity and opportunity for students with special educational needs, a vision that is reflected in her pedagogy, which is as applicable today as it was in 1900 (McKenzie & Zascavage, 2012). This vision is revealed in the work that students do in Montessori classrooms, especially in the early childhood education stage (0–3 years). The basis of the Montessori philosophy is to “follow the child” and individualise the curriculum to meet their needs (Danner & Fowler, 2015). This encourages education that takes into account individual differences, thus providing an educational environment that is particularly conducive to inclusive education.

Montessori pedagogy argues that the three fundamental pillars of education are the child, the adult and the prepared environment. It considers that the child should be the centre of learning, which requires a deep understanding of children that can only be achieved if we allow them to follow their interests freely (Nehring, 2014; Lillard, 2017). To this end, the prepared environment, which is “designed to attend to children of different ages” (Macià-Gual & Domingo-Peñañiel, 2023), must be able to respond to the physical, intellectual, social, emotional and spiritual needs of the children. Due to the characteristics of its materials, this environment provides an opportunity for students to learn and express themselves in their own way, as advocated by Universal Design for Learning (Danner & Fowler, 2015). Adults are the most important people in children’s lives, as they are the intermediaries between the child and the environment. They are the ones who must prepare the environment so that children

can develop all of the potential they bring with them from birth, respecting “the internal rhythm of the child’s soul, the sensitive periods, and their decision about what to do at any given moment” (Montessori, 2013). Finally, other principles fostered in Montessori classrooms, such as cooperative work, mutual support and tailoring learning environments to suit the learner, are just some of the factors that make Montessori pedagogy a facilitator of inclusive practices (Curatola, 2016).

## **Method**

The present research is an exploratory study that “serves to prepare the ground” (Batthyány & Cabrera, 2011, p. 33) for subsequent research, which in this case will focus on implementing the improvement plan proposals created and assessing whether they reduce the detected barriers to inclusion. The study is framed in an interpretative paradigm, while the design used to obtain data is non-experimental, cross-sectional and correlational-causal. The methodology is mixed, using both quantitative and qualitative data collection instruments, with the aim of understanding the underlying motives and internal reasons that have motivated the responses towards inclusion of the different members of the educational community (Hernández Sampieri et al., 2014). In other words, the qualitative responses will be used to seek explanations for the quantitative responses.

### *Participants*

The participating centres were chosen on the basis of four criteria: they teach the educational stage of the first cycle of early childhood education (0–3 years); they are located in the city of Valencia; they have a Montessori classroom for the infant community that meets the design standards established by the International Montessori Association; and they are centres authorised by the Regional Ministry of Education, Culture and Sport. Only three centres met all of these inclusion criteria: Centre 1, located in the district of Benimaclet, has six classrooms plus a Montessori classroom that was created in 2017; Centre 2, located in the district of Campanar, has seven classrooms plus a Montessori classroom that was created in 2020; and Centre 3, in the district of Patraix, has six classrooms plus a Montessori classroom that was created in 2014. The three participating centres included a total of 144 families and 26 professionals. Of these, 95 families (66%) participated in the study along with 17 professionals (65.4%), while a total of 74 children were observed during work in the Montessori classrooms.

### *Instruments*

The data were collected based on the specific objectives of the research, using different quantitative and qualitative instruments to provide a more comprehensive understanding of the information obtained. In order to record and analyse the opinions of members of the school community on the inclusive cultures, policies and practices of their school, and to identify and describe the main barriers to inclusion detected in each school, two questionnaires were used: one for school professionals and one for families. These questionnaires were developed *ad hoc* for the present research based on the Spanish version of the Index for Inclusion in Early Childhood Education, designed by Booth et al. (2007) but adapted for the purposes of this research. A table of priorities for improvement from the Index was also used for school professionals.

Both questionnaires were composed of three blocks: personal data, composed of a series of questions drawn from previous research (e.g., Barrio de la Puente, 2009; Molina & Holland, 2010; Calvo, 2013; Polo & Aparicio, 2018; González Gil et al., 2019); a block of indicators to be answered on a Likert scale from A to D (A – I totally agree, B – I neither agree nor disagree, C – I disagree, D – I need more information); and a section of two open questions. The indicators part of the practitioners' questionnaire is divided into three dimensions: Dimension A – Creation of Inclusive Cultures; Dimension B – Creation of Inclusive Policies; and Dimension C – Development of Inclusive Practices. The titles of Dimensions A and B, with their respective sections, are exactly the same as those used in the Index for Inclusion for Early Childhood Education, but the statements and questions that make up the sections of Dimension C were adapted for the present research so that participants could give their opinions about the inclusive practices carried out both in the school and in the Montessori classroom. This mitigates researcher bias, as the Montessori classrooms were observed only by the main researcher. The families' questionnaire is composed of a single block of 43 questions, with those related to inclusive practices in schools being duplicated. After being developed, the questionnaire was validated by two experts specialising in early childhood education, the Montessori method and inclusion. Finally, statistical analysis of the data collected from the questionnaires was performed using IBM SPSS Statistics, version 23 (released in 2015). The data were processed via the graphical user interface and by running custom syntax scripts.

In order to record, summarise and justify the relationship between Montessori classroom practices and certain inclusive principles, the researcher used an observation diary over a period of three weeks. This was divided into three sections representing the three schools in the sample. Each of the sections

was divided into five categories representing what the principal researcher was to observe and record in the diary each day. The categories were composed of different indicators taken from Section C of the Index for Inclusion: Category 1 – Observing classroom organisation, materials and groups; Category 2 – Observing professional performances in the classroom; Category 3 – Observing the activities carried out by the students; Category 4 – Observing student participation and collaboration; and Category 5 – Observing autonomy, independence and equality.

In order to analyse the information gathered from the observations in the Montessori classrooms, four of the steps proposed by Ballestin and Fabregues (2018) were followed. Step 1 – Transcribe the information. This was done by creating three tables in which all of the collected information was recorded. Step 2 – Preliminary reading of all of the material to explore the general meaning of the data. On reviewing the information, any repeated information was underlined and the number of times it appeared was counted. Connections were also made between information that was repeated in the different centres. Step 3 – Categorisation. Key patterns in the collected information were identified in order to classify and relate the data. Step 4 – Representation of the coded information. In order to execute this step, a summary table was created that included the topics observed on each of the five days, the propositions extracted from the Index that warranted a response, and textual phrases extracted from the diary related to each proposition and coinciding in the three classrooms.

We responded to the different propositions within the categories extracted from Section C (Inclusive Practices) of the Index for Inclusion, detailing the reason for our responses. There were three types of responses: “yes” if the recorded data showed that the statement was true; “no” if that indicator had not been observed; and “information missing” in cases of doubt, i.e., the statement may be true, but the recorded data did not enable 100% confirmation. Following this analysis, the results obtained were represented in graphs.

### *Research Design*

The research began in September 2020, but the first contact with the schools was made one year later, between September and October 2021. After contacting the schools via email, a face- to-face meeting was held with each of the school principals to inform them of the objectives of the research. After interest was shown in participating, the schools were given the relevant documentation, the participant information sheet and an informed consent form to be completed and signed. It was agreed that the fieldwork would begin in January 2022. On the agreed date, a meeting was held with the professionals

from the education centres to explain the subject matter and the research process, and to inform them of the procedure for delivering the questionnaires to families. Due to restrictions imposed during the COVID-19 pandemic and the preventive measures taken by the education centres, it was not possible to hold a face-to-face meeting. It was therefore agreed to inform the management of the education centres by email, with the classroom tutors being in charge of the delivery and collection of the relevant documentation. Once all of the completed questionnaires had been collected, those that did not include informed consent were excluded. The total participation rate of families was 66% (80.3% at Centre 1, 37.8% at Centre 2 and 75.8% at Centre 3), while the total participation rate of school professionals was 65.4% (61.5% at Centre 1, 42.9% at Centre 2 and 100% at Centre 3). Observations by the researcher in the Montessori classrooms were carried out in Centre 1 from 31 January to 4 February 2022; in Centre 2 from 7 to 11 February 2022; and in Centre 3 from 15 to 21 February 2022.

## Results

Two matrices were prepared to analyse the results of the questionnaires: one for the data extracted from the questionnaires for the school professionals, and another for the data from the families. Four aspects were analysed in both matrices: the total barriers detected; the barriers per school; the comparative results between the indicators of the school and the Montessori classroom, from Dimension C of the questionnaire; and the data extracted from the personal identification section. In the school professionals questionnaire, 14 indicators were found that could be improved in the different centres. These were grouped into five areas: family-school collaboration; opening the centre to the community; continuous training; the lack of activities that encourage attention to diversity and communication in Montessori classrooms; and the adaptation of new teachers. In the families questionnaire, the only indicator that appears to be in need of improvement is opening the school to the community.

In the identification data section of the questionnaire for school professionals and families, the aspect that most attracted our attention was the low percentage of participants who had taken a course related to inclusive education (29.4%), despite the fact that 53% of the school professionals had 10–20 years of experience, and 35.3% had more than 20 years of experience. Due to the low rate of participation, we do not consider the information extracted from the table of priorities for improvement and the open questions to be representative. However, it is interesting to note that 17.9% of the participating families consider that family-school communication should be improved through

more information on the school's website and the reduction of paper, as well as through the creation of WhatsApp groups for each classroom.

Over a three-week period, observations were made by the principal researcher in the Montessori classrooms to determine whether the activities carried out were inclusive. The results are divided into five categories:

*Classroom organisation, materials and groupings.* This category consists of three indicators taken from Section C of the Index for Inclusion. The first of these, the Montessori classroom is organised to encourage play (C.2.1b), is confirmed, as some of the aspects observed in all of the Montessori classrooms show that the activities are varied and are organised and located appropriately for the students' height: children are free to pick up and work with the materials that interest them most. Moreover, there is a calm atmosphere, with tables and rugs where students can sit freely. All of this encourages play and learning. The second indicator, resources are distributed fairly in the Montessori classroom (C.2.2b), is also confirmed, as it can be observed that the materials are distributed throughout the environment, always within reach of the children in order to satisfy their different learning needs. However, there is insufficient information to corroborate the last indicator, the resources in the Montessori classroom environment are known and used (C.2.6b).

*Practitioners' actions within the classroom.* This category comprises six indicators. Firstly, professionals foster a calm and respectful atmosphere (C.1.9b), as students understand and comprehend the rules, with teachers intervening when a student needs help or if a conflict arises. This promotes respect among students, and between teachers and students. Secondly, professionals plan, review and engage in activities collaboratively (C.1.10b). Everyone collaborates in the care of the class, sharing their opinions on its organisation and functioning. They check that all of the material is complete at the end of each session, deciding collaboratively whether to introduce or remove an activity. Thirdly, teaching assistants support play, learning and participation (C.1.11b). The head teacher and the assistant complement each other, as they have different roles. While the head teacher gives individual presentations, the assistant supervises the rest of the class, intervening if any conflicts arise. The assistant also helps with tidying and caring for the classroom, carrying out certain activities in small groups with the students and informing the head teacher if anything catches their attention in relation to a child. Fourthly, the experience of professionals is fully utilised (C.2.4b), as the Montessori classroom's free yet guided approach enables teachers to use their experience and skills to observe and interpret what they see, to detect shortcomings in the classroom and take action to remedy them, to decide when to intervene if a conflict arises, to

respond to the needs and interests of all of the students, to know when a student is ready to perform an activity, etc. However, there are two propositions within this group that were observed, the first related to assessment as a tool to promote student achievement (C.1.8b), and the second to the development of shared resources (C.2.5b).

*Activities carried out by students.* This category comprises three indicators. Activities are planned with all of the children in mind (C.1.1b). In Montessori classrooms, there is a wide variety of activities of varying difficulty and themes available to students. These activities have been designed and planned with the developmental needs of the children in mind; in this case, children aged from 18 months to 3 years. However, teachers are free to add or remove activities according to the interests, needs or deficiencies they observe in the children in a particular group. Secondly, the activities encourage communication among all of the children (C.1.2b), as in Montessori classrooms, communicative interactions between students or between students and the teacher are constantly observed. The former usually occur to discuss classroom activities, to enforce a rule, to discuss a book or vocabulary material from the language classroom, and to tidy up the classroom. The latter occur when the children need help, when they recount or remember an experience related to something that has happened in class, or when they need to get the teacher's attention. Therefore, it is considered that the organisation and disciplined freedom to work in Montessori classrooms encourages communication. However, it was not possible to observe whether all of the children participated during special activities (C.1.12b).

*Student participation and collaboration.* There are three indicators in this category. Montessori activities encourage participation (C.1.3b), as they encourage students to become actively involved, learning through practice. Montessori activities cover various areas (language, hand-eye coordination, art, practical life and nutrition) in order to satisfy the interests of all children. They are based on the children's prior knowledge and experiences at home, and are adapted to their level so that they can learn when they want and encounter different levels of difficulty that suit different stages of development. Furthermore, in Montessori classrooms, children are active agents in their own learning (C.1.6b), while teachers take on the role of observers and guides. Students choose which material they want to work with, how long (at what pace) they want to work with the material, and where they want to work in the classroom. Teachers observe the children and intervene only to teach them, individually and according to their interests, how to perform an activity or to help them with a problem. Finally, the children cooperate with each other by asking for help (C.1.7b). They work together in caring for the classroom and following the rules; they respect work

turns; they know that they have to wait when the teacher is working with another classmate; and, once they have finished working with particular material, they put it back in its place so that another child can work with it.

*Attention to diversity and equality.* Within this category, we find three indicators. With regard to whether the activities serve to better understand the differences between people (C.1.4b), there is a lack of information to confirm this assertion. There is a wide variety of activities on different topics available in the classroom, and students are allowed to choose what to work on at their own pace. Different ways and styles of learning are therefore respected. However, no specific materials or activities were observed that serve to enhance the understanding of different cultures, races, genders, etc. In other words, the topic of differences between people was not specifically addressed in any classroom during the observation period. Similarly, there is a lack of information to confirm whether the activities avoid stereotypes (C.1.5b). The fact that all of the activities are placed at the children's height, thus allowing them to choose what they want to work on according to their interests, contributes to avoiding gender-related stereotypes. However, no activities or books have been observed that reflect diverse people – from ethnic minorities, with disabilities or of different genders – carrying out activities without resorting to stereotypes. This topic was not specifically addressed in any of the classrooms visited during the observation period. Finally, with regard to whether differences between children are used as a resource to support play, learning and participation (C.2.3b), we can observe that the wide variety of students' interests and their freedom of choice mean that a great diversity of activities take place simultaneously in the classroom, with one child's interest in a particular material often sparking another's interest. Moreover, the varying levels of difficulty in the activities and the sense of responsibility that the children feel for one another encourage them to help one another with their activities. Therefore, the differences between the children are indeed used as a resource.

In summary, of the 18 indicators observed in the Montessori classrooms, 12 can be corroborated based on the information recorded in the observation log, but more information is needed to answer the remaining 6. This means that 66.6% of the inclusive propositions are fulfilled. We can therefore conclude that the practices and dynamics carried out in Montessori classrooms are governed by inclusive principles.

Based on the results presented above, proposals for improvement plans were created for each school, consisting of four possible actions to be carried out in each of them, with the aim of improving the lowest scoring inclusive indices. Prior to their implementation, these proposals must be presented,

explained and agreed upon with the schools. Each action includes an implementation procedure consisting of an analysis of the actions already being carried out in the centres and the design of the action to be implemented. The first three areas of improvement to be worked on are common to all of the centres: the need to open the centre to the community, the family–school relationship, and attention to diversity. However, the last action differs: in the case of Centre 1, it involves companionship between professionals, while in Centres 2 and 3, it relates to the adaptation of students and, specifically in Centre 2, the adaptation of new teaching staff.

## Discussion

Based on an analysis of the results, we examine five areas for improvement in order to make the participating schools truly inclusive. These areas also appear in previous research (Egido, 2020; Zabalza & Zabalza, 2011; Navarro et al., 2021; L'Ecuyer, 2023; Teixidó, 2009)

*Family-school collaboration.* In order to improve this indicator, we should first examine what professionals understand by collaboration and what aspects they consider should be improved (Ceballos & Saiz, 2021). We should then determine the degree of participation that is promoted by the education centres and the obstacles to adequate collaboration encountered by families. Egido (2020) explains that the main factors that hinder collaboration on the part of parents are lack of time and incompatibility of schedules, while teachers are impeded by a lack of facilities for “the collaboration of families, especially in academic matters, encountering certain resistance and limits on the part of education professionals, who see parents as alien to the centre” (Fernández-Freire et al., 2019; Giró & Andrés, 2016, cited in Egido, 2020, p. 75). Both of these factors must be taken into account if we really want to achieve protagonist participation of families in schools.

*Opening the centre to the community.* As Zaitegi (2020) explains, “the right to education, social justice and equity are also at stake in non-school space and time” (p. 102). In order to improve this indicator, it is therefore necessary to promote actions that allow the surrounding entities to participate in the school (Network for Educational Dialogue, 2020), and to carry out actions that enable the school to open up and project itself in the community in a careful way, “showing it to be intelligent, cultured, professional and open, far from puerile stereotypes” (Abelleira & Abelleira, 2022, p. 69).

*Continuous training.* Teacher training is a key element that improves attitudes towards students, while a lack of training prevents teachers from carrying

out their educational work properly (Zabalza & Zabalza 2011; González-Gil, 2019; Reyes-Parra, 2020). Focusing on the early childhood education stage, Zabalza and Zabalza (2011) believe that the impact of good educators is relevant, so there is no possibility of improving school programmes without adequate training of the people responsible for executing them. The low rate of affirmative responses to this indicator in the present study nonetheless coincides with other research, such as that by Navarro et al. (2021), in which only 18.75% of pre-primary and primary school teachers consider themselves to be prepared to respond to inclusive objectives. Research by Arnaiz-Sánchez et al. (2021) also found that almost half of the surveyed teachers were not prepared for responding to the educational needs of their students. Although training is clearly a powerful resource for the improvement of educational processes, and it is essential that teachers receive training for introducing innovations or improving the execution of existing practices (Zabalza & Zabalza, 2011), there is still a long way to go towards the implementation of such training in schools.

*Lack of activities that encourage attention to diversity and communication in Montessori classrooms.* In the absence of other research, perhaps the reason for the low scores in these indicators is related to the criticisms that Prof. William Kilpatrick made of Dr Montessori's individualistic approach to education, claiming that Montessori classrooms do not provide situations for adequate social cooperation (Polk, 1982; Chavarría, 2012; L'Ecuyer, 2023). In relation to this criticism, Danner (2015) explains that in Infant Community classrooms (18 months–3 years), individual activities are promoted in order to favour the interests, rhythms and work styles of the children, and to enable them to understand, respect and enrich themselves, as well as to accept differences between people. On the other hand, she comments that cooperative activities involving specific learning proposed by the teacher are not specifically planned, because these are carried out spontaneously during the development of the Montessori classroom activity. This is justified by the fact that human beings are social beings by nature.

*The adaptation of new teachers.* The way in which new teachers are received, how they are informed of the school's attitude and, above all, the degree of coherence between what is expressed and the reality they perceive on a day-to-day basis, give the newcomer security and lead them to form positive expectations with regard to student learning, as well as to their professional development as teachers (Teixidó, 2009). It is therefore important for schools to have a welcome and follow-up plan for new teachers to help them integrate, develop their work, solve problems more autonomously, etc. (Centro de Educación Infantil y Primaria Juvenil de Vega y Relea, 2023). One of the measures

recommended is to provide teachers with a reference tutor during the first year, who can help to clarify any doubts and to familiarise new teachers with the school project (Carbonell, 2019; Centro de Educación Infantil y Primaria Juvenil de Vega y Relea, 2023).

The families participating in the present study also consider that family–school communication should be improved through more information on the school’s website and the reduction of paper, and through the creation of WhatsApp groups for each classroom. This is mentioned in the publication *La Red por el diálogo Educativo* (2020), which considers that “the school tends to limit and protocolise contact with families, replacing it with the unilateral dissemination of stereotyped information” (p. 22). The low percentage of participants who had taken a course related to inclusive education coincides with the results obtained in research carried out by Sucuoglu et al. (2013), in which only 23% of the surveyed early childhood teachers had participated in a seminar or conference related to inclusive education. Ten years after this research, the data are very similar, despite the fact that in the preamble of the current *Organic Law 3/2020 (Ley orgánica 3/2020, 2020)*, of 29 December, which modifies *Organic Law 2/2006, of 3 May, on Education (LOMLOE)*, it is made explicit that the pedagogical principles that should guide the proposals of centres with regard to students should be governed by the principle of educational inclusion. Gómez et al. (2019) point out that the lack of training in attention to diversity is a barrier to the development of inclusive education, since the teacher, as the designer of the teaching–learning processes, is a key element, and his or her teaching skills and interpretation of diversity are fundamental to the success of educational inclusion.

Finally, we would like to note that the present study is not without limitations. Only three early childhood education centres in Valencia city were selected for the development of the study, all of which had a Montessori classroom designed according to the principles of the International Montessori Association in the 2021–2022 school year. This resulted in a small sample size, which means that the findings may not be generalisable. Secondly, the perceptions of members of the educational community may vary depending on when they are consulted. It would therefore be interesting to conduct this type of study periodically in order to analyse its evolution and record variations in the perceptions of members of the educational community. Thirdly, the research is limited in scope, as it is a pilot study whose general objective is to make a proposal for each of the schools in the sample on how to improve their level of inclusion, acting directly on the barriers detected. With regard to the observations of the Montessori classrooms, there are two important limitations to note. The

first relates to the recording and interpretation of data, which was carried out exclusively by the principal researcher, raising the possibility that the data may have been influenced by that researcher's perspectives and opinions. However, an effort has been made to minimise this bias, which is inherent in any observation by a single person, by cross-checking the recorded data with information collected on this topic using quantitative methods. Another notable limitation is the time constraint, as a longer observation period would likely have resulted in a greater number of indicators being addressed, which would undoubtedly have influenced the conclusions. However, if we focus on the benefits, the three participating schools have obtained a proposed improvement plan. Moreover, for the educational community, this research is an example of the first step that must be taken if there is a desire to achieve truly inclusive education. This step involves a thorough analysis of all aspects of the school, revealing Montessori classrooms as possible spaces for promoting practices governed by inclusive principles.

## Conclusions

The proposed objectives were achieved in the present research. Firstly, the use of the Index for Inclusion made it possible to gather the opinions of members of the school community at three education centres. After analysis, these data enabled the identification of the main barriers to inclusion. Secondly, observations in Montessori classrooms and analysis of the collected data made it possible to determine the inclusiveness of their practices. Finally, analysis of the participants' identifying data facilitated the identification of certain shortcomings in relation to teacher training that are likely to influence their views on inclusion. All of these steps were fundamental in achieving the overall objective of making an individualised proposal for an improvement plan for each school.

To conclude, we would like to highlight the need to continue carrying out this type of study, since the detection of barriers to inclusion and the planning of actions to reduce these barriers is the first step towards the development of truly inclusive education. As mentioned above, the present research is a pilot or exploratory study, prior to further research involving the implementation of the proposed actions and evaluation of the results. Future research would therefore entail the approval of the proposed plans by the education centres; the choice of the specific actions to be carried out; programming the actions, including objectives, content, methodology, materials and timing; determining how to inform and involve the educational community; and, finally, determining how and when to evaluate the achievement of the objectives.

## Ethical Statement

This paper is part of the doctoral thesis entitled Challenges Facing the Social Sciences and Humanities in the 21st-Century Society Programme of the Catholic University of Valencia San Vicente Mártir. The research study was approved by Catholic University of Valencia Ethical Research Committee (UCV/2020-2021/140).

## Data Availability Statement

The data generated during the current study are not publicly available due to ethical and confidentiality concerns related to the protection of the research participants, but they are available from the corresponding author on reasonable request.

## Disclosure Statement

The authors declare that they have no relevant or material financial or non-financial interests related to the research described in this article.

The authors declare that they have prepared this manuscript without the use of artificial intelligence and accept full responsibility for the content and integrity of the publication.

## References

- Abelleira, A., & Abelleira, I. (2022). *Los hilos de infantil* [Children's threads]. Octaedro.
- Andrés-Martínez, R., Cañadas, M., & Domingo-Penafiel, L. (2022). Pedagogía Montessori en las diferentes etapas del desarrollo humano: una revisión sistemática sobre su incidencia e implicaciones educativas [Montessori pedagogy across the different stages of human development: A systematic review of its prevalence and educational implications]. In A. Martos, A. B. Barragan, M. C. Perez, M. M. Molero, M. M. Simón, & M. Sisto (Eds.), *Acercamiento multidisciplinar para la investigación e intervención en contextos educativos* [A multidisciplinary approach to research and intervention in educational settings] (pp. 27–41). Dykinson.
- Arnaiz-Sánchez, P., Escarbajal Frutos, A., Alcaraz García, S., & De Haro Rodríguez, R. (2021). Formación del profesorado para la construcción de aulas abiertas a la inclusión [Teacher training for creating classrooms that are inclusive]. *Revista de Educación*, 393, 37–67.  
<https://doi.org/10.4438/1988-592X-RE-2021-393-485>
- Ballestín, B., & Fàbregues, S. (2018). *La práctica de la investigación cualitativa en ciencias sociales y de la educación* [The practice of qualitative research in the social and educational sciences]. Editorial

UOC.

Bani-Odeh, K., & Lach, L. M. (2024) Barriers to, and facilitators of, education for children with disabilities worldwide: a descriptive review. *Public Health*, 11, 1–20.

<https://doi.org/10.3389/fpubh.2023.1294849>

Barrio de la Puente, J. L. (2009). Hacia una educación inclusiva para todos [Towards inclusive education for all]. *Revista complutense de educación*, 20(1), 13–31.

<https://revistas.ucm.es/index.php/RCED/article/view/RCED0909120013A/>

Batthyany, K., & Cabrera, M. (2011). *Metodología de la investigación en ciencias sociales: apuntes para un curso inicial* [Research methodology in the social sciences: notes for an introductory course]. Universidad de la república de Uruguay.

[https://www.colibri.udelar.edu.uy/jspui/bitstream/20.500.12008/26551/1/Metodologia%20de%20la%20investigaci%3b3n%20en%20CCSS\\_Batthyany\\_Cabrera.pdf](https://www.colibri.udelar.edu.uy/jspui/bitstream/20.500.12008/26551/1/Metodologia%20de%20la%20investigaci%3b3n%20en%20CCSS_Batthyany_Cabrera.pdf)

Booth, T., Ainscow, M., & Kingston, D. (2007). *Index para la Inclusión. Desarrollo del juego, el aprendizaje y la participación en Educación Infantil* [Index for Inclusion. Developing play, learning and participation in early years education]. CSIE.

Calvo, G. (2013). La formación de docentes para la inclusión educativa [Teacher training for inclusive education]. *Páginas de Educación*, 6(1), 19–35.

[http://www.scielo.edu.uy/scielo.php?script=sci\\_arttext&pid=S168874682013000100002&lng=es&tlng=es](http://www.scielo.edu.uy/scielo.php?script=sci_arttext&pid=S168874682013000100002&lng=es&tlng=es)

Carbonell, J. (2019). *Pedagogías del siglo XXI: alternativas para la innovación educativa* [21st-century teaching approaches: Alternatives for educational innovation]. Octaedro.

Chavarría, M. C. (2012). ¿Está Montessori obsoleta hoy?: A la búsqueda del Montessori posible [Is Montessori obsolete today?: In search of a viable Montessori approach]. *Revista Rupturas*, 2(1), 58–117. <https://dialnet.unirioja.es/descarga/articulo/4888197.pdf>

Ceballos, N., & Saiz, A. (2021). Un proyecto educativo común: la relación familia y escuela. Revisión de investigaciones y normativas [A shared educational project: The relationship between family and school. A review of research and policy]. *Educatio Siglo XXI*, 39(1), 305–326.

<http://dx.doi.org/10.6018/educatio.469301>

Centro de Educación Infantil y Primaria Juvenil de Vega y Real. (2023). *Plan de acogida al nuevo profesorado* [Induction programme for new teaching staff]. Junta de Andalucía.

<https://blogsaverroes.juntadeandalucia.es/ceipjuvenaldevegayrelea/files/2023/01/18-Plan-de-acogida-al-nuevo-profesorado.pdf>

Covarrubias, P. (2019). Barreras para el aprendizaje y la participación: una propuesta para su clasificación [Barriers to learning and participation: A proposal for their classification]. In J. A. Trujillo Holguín, A. C. Ríos Castillo, & J. L. García Leos (Eds.), *Desarrollo Profesional Docente: reflexiones de maestros en servicio en el escenario de la NuevaEscuelaMexicana* [Teacher professional development: Reflections from practising teachers within the context of the New Mexican School] (135–157).

<https://www.studocu.com/es-mx/n/35178248?sid=01667233569>

Curatola, A. (2016). The contribution of Maria Montessori's pedagogy and her educational action to

- modern inclusive policies. *International Journal of Digital Competence*, 8(4), 37–40.  
<https://doi.org/10.4018/ijdlc.2016100103>
- Danner, N., & Fowler, S. A. (2015). Montessori and non-Montessori early childhood teachers attitudes toward inclusion and access. *Journal of Montessori research*, 1(1), 28–41.  
<https://files.eric.ed.gov/fulltext/EJ1161287.pdf>
- De la Iglesia, C. J. F., Asorey, M. J. F., & Cerdeirina, M. A. Z. (2013). A propósito de como analizar las barreras a la inclusión desde la comunidad educativa [On how to analyse barriers to inclusion from the perspective of the educational community]. *Revista de investigación en educación*, 11(3), 172–191.  
<https://reined.webs4.uvigo.es/index.php/reined/article/view/294/343>
- Egido, I. (2020). La colaboración familia-escuela: revisión de una década de literatura empírica en España (2010–2019) [Family-school collaboration: A review of a decade of empirical literature in Spain (2010–2019)]. *Bordón*, 72(3), 6–84. <https://doi.org/10.13042/Bordon.2020.79394>
- Fernández, E. (2014). *Temas de Psicología del desarrollo infantil* [Topics in child development psychology]. Editorial Técnica AVICAM.
- Fernández-Freire, L., Rodríguez-Ruiz, B., & Martínez-González, R.A. (2019). Padres y Madres frente a las tareas escolares: la visión del profesorado [Parents and schoolwork: The teachers' perspective]. *Aula Abierta*, 48(1), 77–84. <https://reunido.uniovi.es/index.php/AA/article/view/13291>
- Giné, C., Duran, D., Font, J., & Miquel, E. (2020). *L'educació inclusiva. De l'exclusió a la plena participació de tot l'alumnat* [Inclusive education: From exclusion to the full participation of all students]. Horsori.
- González-Gil, F., Martín-Pastor, E., & Poy, R. (2019). Educación inclusiva: barreras y facilitadores para su desarrollo. Análisis de la percepción del profesorado. *Profesorado* [Inclusive education: Barriers and facilitators to its development. An analysis of teachers' perceptions. Teachers]. *Revista de Currículum y Formación de Profesorado*, 23(1), 243–263. <https://doi.org/10.30827/profesorado.v23i1.9153>
- Grande, P., & Gonzalez, M. M. (2015). La educación inclusiva en la educación infantil: propuestas basadas en la evidencia [Inclusive education in early education: Evidence-based proposals]. *Tendencias pedagógicas*, 26, 145–162. <https://dialnet.unirioja.es/descarga/articulo/5247176.pdf>
- Hernández Sampieri, R., Fernández Collado, C., & Baptista Lucio, P. (2014). *Metodología de la investigación* [Research methodology]. McGraw-Hill.
- Kurowski, M., Černý, M., & Trapl, F. (2022). A review study of research articles on the barriers to inclusive education in primary schools. *Journal on Efficiency and Responsibility in Education and Science*, 15(2), 116–130. <http://dx.doi.org/10.7160/eriesj.2022.150206>
- L'Ecuyer, C. (2023). Montessori: Origen y razones de las críticas a una de las pedagogas más controvertidas de la historia [Montessori: The origins and reasons behind the criticism of one of the most controversial educators in history]. *Revista Española de Pedagogía*, 81(285), 251–270.  
<https://doi.org/10.22550/REP81-2-2023-01>
- Ley orgánica 3/2020, de 29 de diciembre, que modifica la Ley orgánica de educación.* (2020). [Organic Law 3/2020 of 29 December, amending the Organic Law on Education]. Boletín oficial del estado.  
<https://www.boe.es/eli/es/lo/2020/12/29/3/dof/spa/pdf>

- Lillard, A.S (2017). *The science behind the genius*. Oxford University Press.
- Macià-Gual, A., & Domingo-Peñafiel, L. (2023). Analysing the Montessori principles from the perspectives of schools, teachers, and families. *Center for Educational Policy Studies Journal*, 13(1), 163–186. <https://doi.org/10.26529/cepsj.1232>
- Mlinar, K., & Peček, M. (2024). **The approach of schools to ethnic diversity: The perspective of majority and minority pupils.** *Center for Educational Policy Studies Journal*, 14(4), 13–32. <https://doi.org/10.26529/cepsj.1887>
- McKenzie, G. K., Zascavage, V. S., Rigaud, V. M., Dahlmeier, C., & Vo, M. N. (2021). *The inclusive classroom*. Rowman & Littlefield.
- Molina Roldán, S., & Holland, C. (2010). Educación especial e inclusión: aportaciones desde la investigación [Special education and inclusion: Insights from research]. *Revista Educación y Pedagogía*, 22(56), 31–43. <https://www.researchgate.net/publication/235711467>
- Montessori, M. (2013). *El método de la Pedagogía Científica* [The Scientific Pedagogy method]. Biblioteca Nueva.
- Navarro-Montano, M. J., López-Martínez, A., & Rodríguez-Gallego, M. (2021). Research on quality indicators to guide teacher training to promote an inclusive educational model. *Revista Educare*, 25(1), 1–18. <http://doi.org/10.15359/ree.25-1.10>
- Nehring, C. (2014). Implementing inclusion theory into practice. *The Namta Journal*, 39(3), 38–63. <https://files.eric.ed.gov/fulltext/EJ1183199.pdf>
- Polk, P. (1982). *Un enfoque moderno al método Montessori*. [A modern approach to the Montessori method]. Diana.
- Polo Sánchez, M. T., & Aparicio Puerta, M. (2018). Primeros pasos hacia la inclusión: Actitudes hacia la discapacidad de docentes en educación infantil. [First steps towards inclusion: Teachers' attitudes towards disability in early years education]. *Revista de Investigación Educativa*, 36(2), 365–379. <http://dx.doi.org/10.6018/rie.36.2.279281>
- Red por el Diálogo Educativo. (2020). Hacia el diseño de un modelo organizativo consensuado [Towards the design of a consensus-based organisational model]. In M. Fernández-Enguita (Ed.), *La organización escolar. Repensando la caja negra para poder salir de ella. Una acción educativa comprometida con el desarrollo humano* [School organisation. Rethinking the black box in order to break free from it. An educational approach committed to human development] (pp. 17–33). Asociación Nacional de Editores de Libros y material de Enseñanza.
- Reyes-Parra, P., Moreno, A., Amaya, A., & Avendaño, M. (2020). Inclusive education: A systematic review of research in students, teachers, families and instructions and its implications for educational guidance. *REOP*, 31(3), 86–108. <https://doi.org/10.5944/reop.vol.31.num.3.2020.29263>
- Save the Children. (2019). *Donde todo empieza: educación infantil de 0 a 3 años para igualar oportunidades*. [Where it all begins: Early education for children aged 0 to 3, to promote equal opportunities]. Save the Children. [https://www.savethechildren.es/sites/default/files/imce/donde\\_todo\\_empieza\\_o.pdf](https://www.savethechildren.es/sites/default/files/imce/donde_todo_empieza_o.pdf)
- Sucuoglu, B., Bakkaloglu, H., Iscen, F., Demir, S., & Akalin, S. (2013). Inclusive preschool teachers: Their attitudes and knowledge about inclusion. *International Journal of Early Childhood Special*

*Education*, 5(2), 107–128. <https://doi.org/10.20489/intjecse.107929>

Teixidó, J. (2009). *La acogida al profesorado de nueva incorporación* [The induction of new teaching staff]. GRAÓ.

Zabalza, M. A., & Zabalza, M. A. (2011). La formación del profesorado de educación infantil [Training for pre-school teachers]. *Participación Educativa*, 16, 103–113.

<https://redined.educacion.gob.es/xmlui/bitstream/handle/11162/81505/00820113012784.pdf?sequence=1&isAllowed=y>

Zaitegi, N. (2020). Participación: hacia un proyecto educativo comunitario [Participation: Towards a community-based educational project]. In M. Fernández Enguita (Ed.), *La organización escolar. Repensando la caja negra para poder salir de ella. Una acción educativa comprometida con el desarrollo humano* [School organisation. Rethinking the black box in order to break free from it. An educational approach committed to human development] (pp. 97–107). Asociación Nacional de Editores de Libros y material de Enseñanza.

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