

Research for Learning

Literature Review – Page 2

Methodological Considerations – Page 6

Ethical Considerations – Page 9

Reference List – Page 13

Appendix – Page 17

What are the benefits of Montessori education for children aged 4-5?

Literature Review

The Montessori method, developed by Dr. Maria Montessori in the early 1900s, is a child-centered approach to education that supports academic, emotional, and social development. It emphasizes independence, hands-on learning, mixed-age classrooms, and a carefully prepared environment where children learn at their own pace. Teachers act as guides rather than direct instructors, encouraging self-motivation and exploration. The goal is to educate the whole child, promoting holistic development through both knowledge and personal growth (Maria Montessori Institute, 2025).

A study involving parents from three Montessori schools in Massachusetts investigated their reasons for choosing Montessori education for their children. The findings indicated that parents were attracted to Montessori's child-centered approach and emphasis on encouraging independence. Many parents believed that the Montessori philosophy aligned with their own values and suited their child's individual needs. Additionally, they expected the schools to support positive academic achievement and social development. The distinctive Montessori classroom environment, characterized by hands-on materials and a balance of structure and freedom, was also a significant factor influencing their decision. Overall, the study demonstrated that parents' choices were influenced not only by the educational approach but also by how well Montessori aligned with their aspirations for their child's holistic development (Hiles, 2017).

A cross-sectional study comparing 201 children from Montessori and traditional schools examined academic performance, creativity, and executive functions (cognitive flexibility, working memory, and selective attention). Montessori students outperformed their peers in academic outcomes, creativity, and school-related wellbeing. There were no significant differences that were found in overall executive functioning, apart from working memory, which was a notable exception. The findings suggest that enhanced academic performance may be more closely linked to creativity generated by Montessori environment rather than executive function alone (Denervaud et al., 2019).

Marshall, C. (2017) research states that conducting high-quality research on Montessori education presents several challenges, particularly the difficulty of randomly assigning students to Montessori and non-Montessori schools for direct comparison. Most existing studies rely on matching participants across groups, which may leave room for unmeasured factors influencing the results. Larger-scale studies are needed to allow for broader generalisations and to determine which children benefit most from Montessori education. Recent experimental research, which manipulates certain aspects of Montessori classrooms or integrates Montessori elements into traditional settings, shows promise in identifying the specific components that contribute to its effectiveness.

A qualitative study conducted by Fayyaz et al. (2023) investigated the impact of Montessori teachers' communication styles on the cognitive and language development of young children in two schools in Karachi, Pakistan. Using semi-structured interviews with six educators, the research highlighted that effective teacher communication fosters key developmental outcomes such as increased engagement, positive behaviour, self-regulation, curiosity, and problem-solving abilities. The authors emphasized the importance of targeted communication training for Montessori teachers to enhance holistic child development within these educational settings.

This study can be linked to Vygotsky's theory, which highlights the teacher's role in supporting learning within the Zone of Proximal Development (ZPD). In Montessori classrooms, teachers guide rather than direct, offering help when needed to support children's independent exploration. This approach reflects Vygotsky's idea that learning is social and requires tailored support to promote development (Van der Veer, 2025).

Although Montessori education is often praised for encouraging independence and hands-on learning, there are also some criticisms and common misunderstandings. Some people think Montessori classrooms lack structure and discipline or believe that the approach limits creativity and imaginative play. Others argue that it focuses too much on individual work and may be hard to apply in all school settings. According to the American Montessori Society (2024), many of these misconceptions arise from limited exposure to authentic Montessori environments or from schools that do not fully implement the approach. Looking at these misunderstandings helps provide a more balanced view of the method and how it works in practice.

Gentaz and Richard (2022) reviewed existing research on the effectiveness of Montessori education in supporting children's development and learning. Their review included both observational studies and three randomised controlled trials (RCTs), which are considered high-quality evidence. While some of the studies showed positive outcomes, the overall results were inconsistent due to issues such as small sample sizes, weak research designs, and variations in how strictly the Montessori method was implemented. The authors also highlighted potential gaps in the Montessori approach, such as limited emphasis on language development and imaginative play. They concluded that more rigorous and focused research is needed to identify which specific elements of the Montessori method are most beneficial for children's learning and development.

A study by Fleming et al. (2024), looks at how well Montessori education is being implemented in public schools in South Carolina, the U.S. state with the most public Montessori programs. The researchers examined whether these schools follow the Montessori model closely, what factors affect this, and which students have access to high-quality programs. They found that while most schools do implement Montessori with reasonable fidelity, older programs tend to perform better. However, students from low-income backgrounds and those who are Black or Hispanic are more likely to attend lower-fidelity programs, raising concerns about educational equity.

Bronfenbrenner's ecological systems theory helps explain why disparities in Montessori

program quality disproportionately affect low-income and minority students. According to the theory, a child's development is influenced by multiple interacting environmental systems, from the immediate microsystem (family, school) to the broader macrosystem (cultural values, economic conditions) (Antony, 2022).

In communities experiencing poverty and limited funding, fewer resources can lead to lower-quality school environments. When high-fidelity Montessori education is concentrated in wealthier areas, children in under-resourced neighbourhoods are excluded from its developmental benefits. This reflects systemic inequalities rooted in broader societal structures, highlighting how a child's access to quality education is shaped not just by individual schools, but by interconnected social and economic factors (Biggeri and Cuesta, 2020).

Lillard et al. (2021) conducted a study comparing adults who attended Montessori schools in childhood with those who did not, to explore the long-term benefits of Montessori education on wellbeing. Surveying 190 Montessori-educated adults and 184 non-Montessori adults, participants completed standardized questionnaires measuring life satisfaction, social trust, and relationship quality. Controlling for variables such as age, gender, race, and childhood socioeconomic status, the study found that those with Montessori backgrounds reported higher levels of overall wellbeing. These findings suggest that the Montessori approach, with its focus on self-directed learning and holistic development, may have enduring positive effects on individuals' life satisfaction and social functioning.

Methodological considerations

Methodology refers to the overall approach and reasoning behind how a research study is conducted. It includes the choice of research type (such as qualitative, quantitative, or mixed methods) and explains why certain methods and strategies are suitable for answering the research questions. Methodology ensures that the research design and methods are appropriate for the study's goals (Open University, 2023).

Research design refers to the overall strategy or blueprint that guides the process of conducting a study. It outlines how the research questions will be addressed, specifying the methods for data collection, measurement, and analysis to ensure valid and reliable results (University of Minnesota, 2025).

Selecting an appropriate methodology is not something that should be decided based on personal preference, experience, or routine use. Instead, the choice should be carefully made by considering what approach will most effectively address the research questions and meet the aims of the study. The methodology must be suitable for the type of data needed, the nature of the topic, and the context in which the research is being conducted. In some cases, relying on just one methodology may not be enough. Combining different methodologies, such as using both qualitative and quantitative approaches, can provide a more complete and balanced understanding of the research problem. This flexible approach, known as mixed methods, allows researchers to explore complex issues from multiple perspectives, which can lead to more reliable and insightful results (Louis, C. 2017).

Mixed methods research is an approach that combines both quantitative and qualitative methods to take advantage of the strengths of each. This allows researchers to analyse broad trends using numerical data while also gaining deeper insights through detailed personal experiences. The choice and combination of methods are influenced by paradigms, which are underlying beliefs about knowledge and reality that help ensure the research is consistent and meaningful (McChesney, n.d.).

Qualitative research is an approach used by researchers who aim to understand complex or diverse human experiences in depth. It focuses on smaller populations and seeks to explore the meanings that individuals attach to their experiences. Rather than relying on statistics or experimental control, qualitative research uses detailed, personal methods such as interviews and focus groups. It includes a range of research designs, such as phenomenological inquiry, ethnography, historical research, case studies, action research, and policy analysis. This approach values rich, descriptive data and often involves active participation from individuals, including children, in the research process (Nolan, Macfarlane and Cartmel, 2013).

Quantitative research is a method of collecting and analysing numerical data to understand patterns, relationships, or trends. According to Ghanad (2023), it focuses on measuring things using numbers and answers questions like "how many" or "how much." Quantitative research

aims to test hypotheses, identify patterns, and generalize findings from a sample to a larger population through objective measurement and statistical analysis.

The Mosaic approach is a participatory research method that actively involves children in the research process. It uses various tools, such as photographs, drawings, and child-led tours, to gather children's perspectives on their environments. This approach is particularly important in early years research as it aligns with the principles of the United Nations Convention on the Rights of the Child, emphasizing children's rights to participation and expression. By treating children as co-constructors of knowledge, the Mosaic approach fosters a more inclusive and comprehensive understanding of children's experiences and needs (Lyndon, 2025).

It is important to recognize both the advantages and limitations of various research techniques, such as observing children. Louis and Betteridge, (2020) discuss how observations may be affected by unconscious biases, which can result in incorrect interpretations and unfair treatment. Unconscious bias involves making automatic assumptions about people based on traits like race, gender, or social background, often without realising it. In early childhood education, these biases can influence how teachers view children's actions, skills, and needs. This can lead to inaccurate observations which will affect the research study.

In contrast, observation has several advantages as a research method. It allows data to be collected in real time, capturing events as they naturally occur. This unobtrusive approach does not rely on participants' responses, reducing potential biases. Additionally, observation is flexible and well-suited for discovering new insights, making it valuable for exploring and understanding behaviours and interactions in their natural context (Almeida, Faria and Queirós, 2017).

Surveys are a common tool in quantitative research due to their many advantages. They require relatively low development time, are cost-effective, and allow for efficient data collection and analysis using statistical methods. Surveys can also reach large and diverse audiences, increasing the potential for high representativeness in the findings. Furthermore, because they rely on standardised questions, they are less influenced by researcher subjectivity, which supports the objectivity of the results. However, surveys also have limitations. The reliability of the data depends heavily on the quality of the questions and the structure of the survey. Poorly designed questions can lead to unclear or biased responses. Additionally, the rigid format of surveys can limit the depth of insight gained, as they often do not allow for open-ended or detailed responses (Almeida, Faria and Queirós, 2017).

To explore the research question, "*What are the benefits of Montessori education for children aged 4-5?*", the researcher will collect data from four different reception classes, each comprising children aged 4 to 5. Two of the schools (one following the Montessori approach and one using a mainstream curriculum) will be located in areas of socioeconomic disadvantage, while the other two schools (again, one Montessori and one mainstream) will be situated in more affluent communities.

Choosing the correct sample size is essential because a sample that is too small may lack the statistical power to detect meaningful differences, leading to inconclusive or misleading results. On the other hand, using a sample that is larger than necessary can be inefficient, costly, and raise ethical concerns by involving more participants than needed (Pourhoseingholi, Vahedi and Rahimzadeh, 2013).

The reason for selecting schools from different socioeconomic areas is to account for the variable of funding and access to resources, ensuring that any observed benefits of the Montessori approach cannot simply be attributed to the schools being in more affluent areas. This allows the research to more accurately evaluate the effectiveness of the Montessori method itself, rather than outcomes being influenced by external factors such as school funding or availability of materials. This reasoning is due to the study done by Biggeri and Questa, (2020) which showed that low-income communities with limited financial support, a lack of resources can result in poorer-quality educational settings. When high-quality Montessori education is primarily available in affluent areas, children in disadvantaged areas miss out on its developmental advantages.

This study will adopt a mixed methods approach, combining both qualitative and quantitative research techniques. The qualitative component will involve classroom observations, focusing on children's confidence, capabilities, and cognitive development within their learning environment. In contrast, the quantitative aspect will consist of a structured questionnaire distributed to parents, featuring closed-ended, multiple-choice questions. The responses will be statistically analysed and presented using graphs, providing measurable insights into parents' experiences with the school.

In addition, open questionnaires will be distributed to the parents of participating children to gain insights into their children's confidence in performing practical life skills at home. These may include tasks such as dressing independently, using cutlery correctly, preparing a snack, filling a cup, or completing simple domestic chores like tidying up toys. The aim is to examine whether children educated in a child-led Montessori environment are more independent than their peers from mainstream schools, and if they are able to transfer and apply these skills in their home setting.

The study '*Implementation of Practical Life Learning in Developing Independence Character in Children Aged 4-5 Years*' demonstrates how engagement in practical-life tasks (such as dressing themselves, using cutlery, and managing simple household chores) significantly contributes to young children's development of independence and self-sufficiency (Susilawati & Diana, 2024). This supports the proposed use of open-ended questionnaires for parents to explore how children educated in child-led, Montessori-type environments transfer these independent skills into the home setting.

In conclusion, the chosen mixed methods approach will allow the study to explore both measurable outcomes and personal experiences, offering a fuller picture of the Montessori method's impact. This approach supports greater reliability by combining the strengths of both

observation and survey data while reducing the limitations of using a single method (Almeida, Faria and Queirós, 2017; Louis and Betteridge, 2020). Ultimately, this design is intended to provide meaningful insights into children's independence and development across different educational and social contexts.

Ethical considerations

When conducting research involving young children, it is essential to consider a range of ethical principles to protect their safety, dignity, and rights. As a vulnerable group, children require additional safeguards to ensure that research practices do not cause harm and that their participation is both informed and respectful. Ethical procedures must prioritise children's well-being, obtain valid consent and assent, and ensure that participation is meaningful and appropriate to their age and understanding. According to UK Research and Innovation (UKRI, 2025), special attention must be given to issues such as safeguarding, confidentiality, and the power imbalance between adults and children in research contexts. This section will explore the key ethical considerations relevant to early years research, including consent, anonymity, safeguarding, and the importance of maintaining a child-centred approach.

NSPCC (2023) states that when conducting research involving children, it is crucial to carefully consider any potential risks of harm to both the children and the researchers. Ethical research should avoid causing stress beyond what children typically experience in their daily lives. A key concern in studies focusing on children's experiences is the possibility of emotional or psychological distress. For instance, children may find participation stressful, the research could trigger or uncover difficult feelings or memories, or children might worry about how researchers will respond to their shared information. The extent of these risks can vary depending on factors such as the child's age and vulnerability, the sensitivity of the research topic, and the methods used to collect data. Researchers must be vigilant in minimizing these risks to protect children's well-being throughout the study.

In research involving children, it is important to understand the difference between consent and assent. Consent refers to a voluntary, informed agreement to take part in research, usually given by a parent or guardian when the child is not legally able to do so. Assent is the child's own informed and willing agreement to participate. While consent is a legal requirement, assent ensures that the child also understands and agrees to the research in a way appropriate to their age and understanding. Researchers must use clear, age-appropriate language and respect the child's right to decline or withdraw at any time. This dual process recognises children's rights and supports ethical, inclusive research practices (Barbero, 2025).

According to the Information Commissioner's Office (ICO, 2025), once consent and assent are understood, it is equally important to consider how they are documented. A well-written consent request should be clear, concise, and presented in a way that is easily understood by parents and children alike. It must be separate from other materials, such as terms and conditions, and should clearly outline who is collecting the data, why it is being collected, how it will be used, and how consent can be withdrawn. Avoiding vague language or technical jargon is essential, especially when involving young children. Ensuring that consent is specific, transparent, and accessible supports ethical practice and complies with legal frameworks such as the UK GDPR, which emphasises clarity and the right to withdraw consent at any time.

Anonymity and confidentiality are crucial ethical considerations in research. Anonymity means that participants' identities cannot be linked to their data, as personal details like names or exact locations are not collected, only general demographic information is used. This approach is common in surveys and ensures participants remain unidentifiable. Confidentiality, on the other hand, applies when researchers know the participants' identities, such as in interviews. In these cases, researchers protect privacy by using pseudonyms and removing any identifying information from the data to safeguard participants (Coffelt, 2017).

Researchers must recognise that confidentiality has its limits, especially when participants disclose information suggesting harm or abuse. In such cases, researchers are ethically and legally obliged to report concerns to safeguarding officers or appropriate authorities to protect the safety of the participant or others. These safeguarding issues should be anticipated and addressed during the planning phase, with participants informed about the boundaries of confidentiality before giving consent. Additionally, when conducting group research such as focus groups, confidentiality can be compromised because researchers cannot control what participants share outside the session. Participants should be made aware of this risk, as it may influence their willingness to participate or the openness of their disclosures (UK Statistics Authority, 2022).

Article 16 of the United Nations Convention on the Rights of the Child (UNCRC) highlights the child's right to privacy, reinforcing the importance of maintaining confidentiality and secure data storage in research involving children (Unicef UK, 2019).

BERA (British Educational Research Association) is an organisation that supports education research in the UK. It offers guidance on ethical standards, shares resources, and helps researchers collaborate to improve the quality and impact of their work. BERA is important for promoting responsible and ethical research practices in education.

Ethical research design prioritizes the comfort and well-being of participants, aiming to avoid placing excessive demands on them. Researchers must carefully consider their duty of care before collecting data, identifying potential risks and preparing to manage any distress that may occur. If any part of the research process causes harm, researchers should promptly reassess their approach. The responsibility to protect participants increases with their vulnerability. It is also essential to inform participants or their guardians about any foreseeable risks or disadvantages related to the study. Should unexpected harm arise, it must be communicated immediately. Researchers must also strive to reduce any perceived unfair advantages between participant groups, such as offering beneficial interventions to control groups after the study concludes to address ethical concerns (BERA, 2024).

Article 19 of the UNCRC states that children have the right to be protected from all forms of harm, highlighting the need for safeguarding protocols in research. This ensures disclosures are promptly reported to protect children (UNICEF, 2019).

Hart's Ladder of Participation is a useful tool for understanding how children and young people are involved in decision-making. It shows different levels of participation, starting from low

involvement (like tokenism) to the highest level, where young people lead the decisions. The ladder helps show that participation can change over time and should fit with young people's everyday lives. While some say the ladder is too rigid or doesn't suit all situations, it is still helpful for identifying how involved young people are, encouraging more meaningful participation, and showing how their roles and influence can grow (Mensa-Kwao et al., 2024).

Article 13 of the UNCRC grants children the right to freely seek, receive, and share information. This supports involving children as active participants in research rather than merely as subjects (UNICEF, 2019).

Ethical research practice involves minimising risks for all involved, including participants, researchers, and the institution. In the context of the research proposal outlined in the methodology section, the researcher will take steps to protect child participants by ensuring they hold a valid DBS certificate. Proper documentation, including clear and informed consent forms, will also help prevent misunderstandings or allegations of misconduct. According to UWTSD (2022), the university has a responsibility to promote good research practice by fostering a culture of integrity and supporting researchers to meet ethical standards, especially when faced with challenging situations.

Since the research involves children, ethical approval must be obtained before any data collection takes place. This involves submitting a PG2/E1 form to the University's Ethics Committee. Approval is necessary for studies involving personal or sensitive data, vulnerable groups such as children, data sharing, or international elements. No data can be collected until approval is granted, ensuring the study meets ethical guidelines and data protection requirements (UWTSD, 2022).

Proper data storage is essential to protect participants' privacy and maintain research integrity. Data should be stored securely, using encrypted and password-protected systems, with access restricted to authorised individuals only. Physical data, such as consent forms or written notes, should be kept in locked cabinets in secure locations. Researchers must ensure that data is backed up regularly and stored in compliance with institutional policies and legal requirements, such as the UK GDPR. Sensitive information, especially when involving children or vulnerable participants, requires extra care to prevent unauthorised access or loss. Following secure storage practices helps uphold confidentiality, prevents data breaches, and supports transparency and accountability in research (University of Cambridge, 2025; University of Liverpool, 2025).

To conclude, ethical considerations are essential when conducting research involving children, who are considered a vulnerable population and require additional protections. Researchers must ensure that participation is informed, voluntary, and appropriate to the child's level of understanding, using both consent and assent (Barbero, 2025; ICO, 2025). Safeguarding, confidentiality, and data protection are equally critical, particularly when sensitive information is involved (NSPCC, 2023; UK Statistics Authority, 2022). Institutional procedures, such as obtaining ethical approval and securely storing data, ensure research complies with legal and professional standards (UWTSD, 2022; University of Cambridge, 2025). By adhering to ethical

frameworks such as those outlined by BERA (2024) and involving children in meaningful ways (Mensa-Kwao et al., 2024), researchers promote responsible practice while protecting the rights, dignity, and welfare of all participants.

Reference List

Almeida, F., Faria, D. and Queirós, A., 2017. Strengths and limitations of qualitative and quantitative research methods. *European Journal of Education Studies*, 3, pp.369–387. doi:10.5281/zenodo.887089.

American Montessori Society (2024) 'The Top 12 Myths & Misconceptions about Montessori Education'. Available at: <https://amshq.org/blog/at-home-family/2024-01-03-the-top-12-misconceptions-about-montessori-education/> (Accessed: 15 October 2025).

Antony, E.M.-A. (2022) 'Framing childhood resilience through Bronfenbrenner's ecological systems theory: A discussion paper'. PhD thesis, University of Cambridge, Apollo Repository. doi:10.17863/CAM.90564.

Barbero, M.V., 2025. Between protection and participation: informed consent, ethics and play in research with children and youth. *Children & Society*, 39(5), pp.739–748. Available at: <https://doi.org/10.1111/chso.12940> [Accessed 21 October 2025].

Biggeri, M. and Cuesta, J. A. (2020) 'An Integrated Framework for Child Poverty and Well-Being Measurement: Reconciling Theories', *Child Indicators Research*, 14(2), pp. 821–846. Available at: <https://doi.org/10.1007/s12187-020-09774-0>.

British Educational Research Association (BERA), 2024. Ethical Guidelines for Educational Research, fifth edition. Available at: <https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-fifth-edition-2024-online> [Accessed 21 October 2025].

Coffelt, T. 2017. Confidentiality and Anonymity of Participants. In: *The SAGE Encyclopedia of Communication Research Methods*. Thousand Oaks, CA: SAGE Publications, Inc., pp. 228-230. Available at: <https://doi.org/10.4135/9781483381411.n86> [Accessed 21 October 2025].

Cohen, L. (2017). *Research Methods In Education*. 8th ed. London: Routledge. pp.344-355.

Denervaud, S., Knebel, J-F., Hagmann, P. and Gentaz, E. (2019) Beyond executive functions, creativity skills benefit academic outcomes: Insights from Montessori education. *PLoS ONE*, 14(11), e0225319. Available at: <https://doi.org/10.1371/journal.pone.0225319> (Accessed: 10 October 2025).

Fayyaz, S., Lashari, A. A., Rafiq, K., Umm e Ammara, M., Madiha, & Jabeen, N. (2023) 'Montessori teachers' communication effects on cognitive development of children', *Journal of Namibian Studies: History Politics Culture*, 33(2), pp. 115–131. Available at:

https://www.researchgate.net/publication/374023016_Montessori_Teachers%27_Communication_Effects_On_Cognitive_Development_Of_Children (Accessed: 10 October 2025).

Fleming, D. J., Culclasure, B. T., Warren, H. and Riga, G. (2024) 'The Challenges and Opportunities of Implementing Montessori Education in the Public Sector', *Journal of Montessori Research*, 10. Available at: <https://doi.org/10.17161/jomr.v10i2.22574> (Accessed: 10 October 2025).

Ghanad, A., 2023. An Overview of Quantitative Research Methods. *International Journal of Multidisciplinary Research and Analysis*, 6(8), pp.3794-3803. doi:10.47191/ijmra/v (Accessed: 21 October 2025).

Gentaz, E. and Richard, J. (2022) 'What can we learn from the current literature on the cognitive and academic benefits of Montessori education?', *Children*, 9(2), p.133. <https://doi.org/10.3390/children9020133> (Accessed: 12 October 2025).

Hiles, E. (2017) 'Parents' reasons for sending their child to Montessori schools', *Journal of Montessori Research*, 3(1), pp. 1–11. Available at: <https://journals.ku.edu/jmr/article/view/6714/6915> (Accessed: 15 October 2025).

ICO, 2025. How should we obtain, record and manage consent? Available at: <https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/lawful-basis/consent/how-should-we-obtain-record-and-manage-consent/> [Accessed 21 October 2025].

Lillard, A.S., Meyer, M.J., Vasc, D. and Fukuda, E., 2021. An association between Montessori education in childhood and adult wellbeing. *Frontiers in Psychology*, 12, p.721943. Available at: <https://doi.org/10.3389/fpsyg.2021.721943>. (Accessed: 15 October 2025).

Louis, S. and Betteridge, H., 2020. Unconscious bias in the observation, assessment and planning process. *The Foundation Stage Forum*. Available at: <https://eyfs.info/articles.html/general/unconscious-bias-in-the-observation-assessment-and-planning-process-r338/> [Accessed 21 October 2025].

Lyndon, H. (2019). Mosaic. In: Mike Lambert (Ed). *Practical Research Methods In Education*. London: Routledge. pp.104-113.

Maria Montessori Institute (2025) What is Montessori? Available at: <https://www.mariamontessori.org/what-is-montessori/> (Accessed: 15 October 2025).

Marshall, C. (2017) 'Montessori education: a review of the evidence base', *npj Science of Learning*, 2, p. 11. Available at: <https://doi.org/10.1038/s41539-017-0012-7> (Accessed: 10 October 2025).

McChesney, K., (n.d.). Paradigms for mixed methods research. *Social Research Association*. Available at: <https://the-sra.org.uk/SRA/SRA/Blog/Paradigmsformixedmethodsresearch.aspx> [Accessed 21 October 2025].

Nolan, A., Macfarlane, K. and Cartmel, J., 2013. *Research in Early Childhood*. London: SAGE Publications Ltd. Available at: <https://research-ebsco-com.ezproxy.uwtsd.ac.uk/linkprocessor/plink?id=1b6df3da-2c40-31cc-92d2-ff0be65c849b> [Accessed 17 Oct. 2025].

Open University, 2023. Defining your research methodology. Available at: <https://www.open.edu/openlearn/education-development/postgraduate-studies/defining-your-research-methodology> [Accessed 21 October 2025].

Pourhoseingholi, M.A., Vahedi, M. and Rahimzadeh, M., 2013. Sample size calculation in medical studies. *Gastroenterology and Hepatology from Bed to Bench*, 6(1), pp.14–17. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6970301/> [Accessed 21 Oct. 2025].

Susilawati, S. and Diana, D., 2024. Implementation of practical life learning in developing independence character in children aged 4–5 years. *Cakrawala Dini: Jurnal Pendidikan Anak Usia Dini*, 15(2). doi:10.17509/cd.v15i2.74519. Available at: <https://ejournal.upi.edu/index.php/cakrawaladini/article/view/74519/28932> [Accessed 21 Oct. 2025].

UKRI, 2025. Research with children and young people. Available at: <https://www.ukri.org/manage-your-award/good-research-resource-hub/research-with-children-and-young-people/> [Accessed 21 October 2025].

UK Statistics Authority, 2022. Ethical considerations associated with Qualitative Research methods. Available at: https://uksa.statisticsauthority.gov.uk/publication/ethical-considerations-associated-with-qualitative-research-methods/pages/6/#lg_limits-to-confidentiality [Accessed 21 October 2025].

University of Cambridge, 2025. Storing and backing up your research data. Available at: <https://www.data.cam.ac.uk/organising-storing/storage-backup> [Accessed 21 October 2025].

University of Liverpool, 2025. Managing research data: Guidance for researchers. Available at: <https://www.liverpool.ac.uk/research/research-environment/research-integrity/guidance/managing-research-data/> [Accessed 21 October 2025].

University of Minnesota, 2025. Research Questions and Design. Center for Educational Innovation. Available at: <https://cei.umn.edu/teaching-resources/scholarship-teaching-and-learning/research-questions-and-design> [Accessed 21 October 2025].

University of Wales Trinity Saint David (UWTSD), 2022. Research Integrity and Ethics: Code of Practice. Available at: <file:///C:/Users/Admin/Downloads/REICoP-July-2022.pdf> [Accessed 21 October 2025].

UNICEF UK (2019) A summary of the United Nations Convention on the Rights of the Child. Available at: https://www.unicef.org.uk/wp-content/uploads/2019/10/UNCRC_summary-1_1.pdf (Accessed: 21 October 2025).

Van der Veer, R. (2025) 'Vygotsky's Theory', in Hupp, S. and Jewell, J. (eds) *The Encyclopedia of Child and Adolescent Development*. Wiley. Available at: <https://doi.org/10.1002/9781119171492.wecad101> (Accessed 15 October 2025).

AI Statement

No AI was used to support my work in this module

