

# Montessori Memo

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Research for practitioners, researchers, and community members



MONTESSORI MEMO™

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## RESEARCH: MONTESSORI

**Title** The Effect of Montessori Education on the Development of Phonological Awareness and Print Awareness

### Citation

Buldur, A., & İclal, G. (2021). The effect of Montessori education on the development of phonological awareness and print awareness. *Research in Pedagogy*, 11(1), 264–277. <https://doi.org/10.5937/IstrPed2101264B>

**Summary/Abstract** Montessori education program offers an alternative education opportunity for children, and it supports the development of children in early childhood period as well. In the study, it was aimed to examine the effect of Montessori education on the development of phonological awareness and print awareness, which are among the early childhood literacy skills. This study was conducted in a longitudinal research design. As the data were collected from the same participants, panel design was taken as the basis of the study. The study group was composed of a total of 50 children, 24 boys and 26 girls, in the "4-6 age" group with normal development who received education in the Montessori class of a state nursery located in Sivas province of Turkey in the 2019-2020 academic year. As data collection tool, the "Scale for Evaluating Early Literacy Skills" (SEELS), which was developed by Karaman Benli (2013) and whose validity and reliability studies were carried out by the same author, was used. In the study, in order to examine whether there was a significant difference between the pretest and posttest scores in the phonological awareness and print awareness of children attending the Montessori Education program, dependent samples t-

### INSIDE THIS ISSUE

Research: Montessori.....1

Research: Related.....5

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test was performed. In addition, in order to investigate whether there was a difference between the pretest and posttest scores regarding the participants' phonological awareness and print awareness in terms of gender, two-factor ANOVA test was employed. As a result of the study, it was determined that there was a difference in favor of posttest scores between the pretest and posttest mean scores of children with normal development in the "4-6" age group who were attending the Montessori Education program in terms of general phonological awareness, matching words starting with the same initial sounds, matching rhyming words, noticing the initial sounds of words, omitting sounds and syllables, connecting sounds, and general print awareness skills, and that this difference did not vary according to gender.

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**Title** Partnerships, Action, and Collaboration, Together (PACT): A Community-Based Partnership Where Innovation, Collaboration, and Impact Reshape Stakeholders' Vision

**Citation**

Burbank, M., Goldsmith, M., Eldredge, K. P., & Spikner, J. (2021). Partnerships, action, and collaboration, together (pact): A community-based partnership where innovation, collaboration, and impact reshape stakeholders' vision. *Journal of Community Engagement and Scholarship*, 14(1). <https://digitalcommons.northgeorgia.edu/jces/vol14/iss1/7>

**Summary/Abstract** Project PACT (Partnerships, Action, & Collaboration, Together) (a pseudonym) is a multi-stakeholder partnership that reflects multiple goals, commitments, and priorities for early childhood education. PACT was informed by the literature on community-based research (CBR) and a commitment by partners to strengthen P–3 education where stakeholder assets contributed to reciprocal learning experiences in early childhood education. PACT stakeholders transformed two early childhood education classrooms into Montessori classrooms within a district public school. As one in a series of investigations, this research specifically examined partner commitments to a unique collaboration, the emergence of roles and responsibilities over time, and manifestations of innovation within a traditional public school setting. Data illustrate how stakeholders established a collaboration that allowed for flexibility, perspective-taking, and the opportunity to work together to reconsider and strengthen P–3 education through a model typically reserved for children of affluence. Beyond the operational demands of a startup initiative, findings also reflect the power of a collective through flexibility and a stance that values the assets of a community. The impact of this work demonstrates the potential to successfully impact quality education in early childhood settings through equity and opportunity.

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**Title** Absorptive Mind and Brain Plasticity: Montessori Multisensoriality from a Neurodidactic Perspective

**Citation**

Cardinali, C., Malinverni, V., & Fago, C. (2021). Absorptive mind and brain plasticity: Montessori multisensoriality from a neurodidactic perspective. *Giornale Italiano di Educazione alla Salute, Sport e Didattica Inclusiva*, 5(3), Article 3. <https://doi.org/10.32043/gsd.v5i3.419>

**Summary/Abstract** Neuroscientific studies related to neuroplasticity and multisensoriality have made it possible to understand the importance of cross-modal stimulation in the learning phase. The present article presents the cerebral mechanisms involved, recalling and updating the studies of Montessori pedagogy, in a new educational reality, in which the corporeal medium becomes the “embodiment” of knowledge.

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**Title** The Personhood in Patients with Dementia Assessed in Italian Healthcare Professionals: An Explorative Study

**Citation**

Carvello, M., Vitale, E., Babini, M., Conte, L., Lupo, R., & Rubbi, I. (2022). The personhood in patients with dementia assessed in Italian healthcare professionals: An explorative study. *Journal of Gerontology and Geriatrics*, 70(1), 50–57. <https://doi.org/10.36150/2499-6564-N400>

**Summary/Abstract** The present study aimed to evaluate the differences in the assessment of Personhood in patients with dementia according to professional profiles and years of work experience among Italian healthcare professionals directly involved in the care of patients with dementia. In addition, the correlation between the conferral of personhood and the fundamental determinants of the Montessori method applied to Dementia was also investigated. The study was observational, cross-sectional, and multicenter. Data were collected through the online administration of the Personhood in Dementia Questionnaire, between July and September 2020, in residential facilities for the elderly in two Italian regions: Emilia-Romagna and Puglia.

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**Title** Exploration of Implementation Practices of Montessori Education in Mainland China

**Citation**

Chen, A. (2021). Exploration of implementation practices of Montessori education in mainland China. *Humanities and Social Sciences Communications*, 8(1), 1–10. <https://doi.org/10.1057/s41599-021-00934-3>

**Summary/Abstract** This descriptive research work highlights the implementation practices of Montessori education in mainland China and the concerns over Montessori education's localization in mainland China. Localization can be understood as the adaptive process Montessori education undergoes in order to fit within Chinese culture. Two hundred and ten in-service Montessori teachers and administrators in China were surveyed to discover information concerning implementation practices in the following areas: mixed-aged classrooms, whether classrooms were co-teaching, student-to-teacher ratios, and morning and afternoon work cycles. The study found that the majority of classrooms were mixed-aged, reflecting high-fidelity Montessori practices. However, it also found that classrooms are co-teaching, have lower student-teacher ratios, and shortened work cycles, reflecting a departure from high-fidelity Montessori implementation. While localization should be considered to safeguard Montessori education's sustainability, Chinese Montessori educators should also reflect on these findings as high implementation fidelity has been linked to better student outcomes.

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**Title** Increasing the Learning Result of Early Mathematics Odd and Even Numbers through Montessori "Cards and Counters" Activity: A Quasi-experimental Study

**Citation**

Darnis, S., & Dodd, J. (2021). Increasing the learning result of early mathematics odd and even numbers through Montessori "cards and counters" activity: A quasi-experimental study. *Al-Athfal: Jurnal Pendidikan Anak*, 7(2), 99–110. <https://doi.org/10.14421/al-athfal.2021.72-01>

**Summary/Abstract** This study aims to obtain information about the effect of using the Montessori cards and counters' mathematics activity on learning the result of odd and even numbers of 1 to 10 to the kindergarten students at the age of 4 to 5 years.

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**Title** Education Shapes the Structure of Semantic Memory and Impacts Creative Thinking

**Citation**

Denervaud, S., Christensen, A. P., Kenett, Y. N., & Beaty, R. E. (2021). Education shapes the structure of semantic memory and impacts creative thinking. *Npj Science of Learning*, 6(1), 1–7. <https://doi.org/10.1038/s41539-021-00113-8>

**Summary/Abstract** Education is central to the acquisition of knowledge, such as when children learn new concepts. It is unknown, however, whether educational differences impact not only what concepts children learn, but how those concepts come to be represented in semantic memory—a system that supports higher cognitive functions, such as creative thinking. Here we leverage computational network science tools to study hidden knowledge structures of 67 Swiss schoolchildren from two distinct educational backgrounds—Montessori and traditional, matched on socioeconomic factors and nonverbal intelligence—to examine how educational experience shapes semantic memory and creative thinking. We find that children experiencing Montessori education show a more flexible semantic network structure (high connectivity/short paths between concepts, less modularity) alongside higher scores on creative thinking tests. The findings indicate that education impacts how children represent concepts in semantic memory and suggest that different educational experiences can affect higher cognitive functions, including creative thinking.

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**Title** Effect of Montessori Teaching Strategy on Upper Basic II Students' Interest and Achievement in Basic Science and Technology in Benue State, Nigeria

**Citation**

Okwara, O. K., & Sesugh, A. F. (2021). Effect of Montessori teaching strategy on upper basic II students' interest and achievement in basic science and technology in Benue state, Nigeria. *ATBU Journal of Science, Technology and Education*, 9(3), 237–244. <http://www.atbuftejoste.com/index.php/joste/article/view/1401>

**Summary/Abstract** The study examined the effect of Montessori teaching strategy on students' interest and achievement in Basic Science and Technology. Two research questions and two hypotheses guided the study. A pre-test post-test control group, non-equivalent quasi-experimental design was used for the study. The sample of 122 students was drawn from the population of 1,384 Upper Basic II students from the Makurdi Local Government. Intact classes were randomly selected and assigned to experimental and control groups. Basic Science and Technology Interest Inventory (BSTII) and Basic Science and Technology Achievement Test (BSTAT) researcher-design instrument were used for data collection. Both the BSTII and BSTAT items of the instrument were subjected to face and content validation. The reliability of the two instruments was established using Cronbach Alpha and Kuder-Richarson formula 20 (K-R20). The reliability coefficients of the two instruments were found to be 0.78 and 0.79 respectively. Montessori teaching strategy lesson plans were used for classroom instruction in the experimental group while the control group used lesson plans on the conventional method for instruction. The research questions were answered using mean and standard deviation, while the hypotheses were tested at 0.05 alpha level of significance using Analysis of Covariance (ANCOVA). The

findings of the study revealed that there was a significant difference in the mean interest scores of students taught Basic Science and Technology using the Montessori teaching strategy and those taught using the conventional method ( $F(1,60) = 0.073, p < 0.05$ ). The findings also revealed that there is a significant difference in the mean achievement scores of students taught Basic science and Technology using the Montessori teaching strategy and their counterparts taught using the conventional method ( $F(1,119) = 65.281, p < 0.05$ ). Based on the findings, it was recommended that Montessori teaching strategy should be used in teaching Basic Science and Technology at Upper Basic Education and science in general.

## RESEARCH: RELATED

**Title** Exploring Trust: Culturally Responsive and Positive School Leadership

### Citation

Banwo, B. O., Khalifa, M., & Seashore Louis, K. (2021). Exploring trust: Culturally responsive and positive school leadership. *Journal of Educational Administration, ahead-of-print*(ahead-of-print). <https://doi.org/10.1108/JEA-03-2021-0065>

**Summary/Abstract** This article explores the connection between Culturally Responsive School Leadership (CRSL) and Positive School Leadership (PSL) and how both engage with a concept that deeply connects both leadership expressions – trust. A multi-year, single site case study method examined a district-level equity leader, and her struggles and successes with promoting equity and positive culture throughout a large suburban district in the US. Trust, established through regular interactions, allowed the district's leadership equity team to build positive relationships with building leaders. Trust was not only a mitigating factor on the relationships themselves, but also regulated the extent to which equitable practices were discussed and implemented in the district. Trust allowed conflicts to surface and be addressed that led to individual and organizational change.

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**Title** Sexuality Education and Early Childhood Educators in Ontario, Canada: A Foucauldian Exploration of Constraints and Possibilities

### Citation

Davies, A. W., Simone-Balter, A., & van Rhijn, T. (2021). Sexuality education and early childhood educators in Ontario, Canada: A Foucauldian exploration of constraints and possibilities. *Contemporary Issues in Early Childhood*, 14639491211060788. <https://doi.org/10.1177/14639491211060787>

**Summary/Abstract** Open conversations regarding sexuality education and gender and sexual diversity with young children in early childhood education settings are still highly constrained. Educators report lacking professional training and fearing parental and community pushback when explicitly addressing these topics in their professional practices. As such, gender and sexual diversity and conversations of bodily development are left silenced and, when addressed, filtered through heteronormative and cisnormative frameworks. Through a Foucauldian post-structural lens, this article analyses data from open-ended qualitative questions in a previous research study regarding early childhood educators' perceptions on discussing the development of sexuality in early learning settings in an Ontario, Canada context. Through this Foucauldian post-structural analysis, the authors discuss forms of surveillance and regulation that early childhood educators experience in early learning settings regarding the open discussion of gender and sexuality. The authors explore how both the lack of explicit curricula addressing gender and sexuality in the early years in Ontario and taken-for-granted notions of developmentally appropriate practice, childhood innocence, and the gender binary – employed in discourses of sexuality

education in the early years – regulate early childhood educators’ professional practices. The authors provide recommendations which critique the developmentalist logics – specifically, normative development – that are used to silence non-heterosexual and non-cisgender identities in the early years, while articulating the need for explicit curricula for educators in the early years regarding gender and sexuality in young children.

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**Title** Culturally Responsive Teacher Education: Do We Practice What We Preach?

**Citation**

Morrison, S. A., Brown Thompson, C., & Glazier, J. (2021). Culturally responsive teacher education: Do we practice what we preach? *Teachers and Teaching*, 28(1), 26–50. <https://doi.org/10.1080/13540602.2021.2017273>

**Summary/Abstract** Research on culturally informed pedagogies (e.g., culturally relevant pedagogy, culturally sustaining teaching, reality pedagogy) has been ongoing for decades, yet very few studies follow teachers into their classrooms after they are introduced to the topic. We conducted an intrinsic case study of three practicing maths teachers after they completed a graduate course specifically on culturally responsive teaching. Our analysis of the data revealed mixed findings. The participants demonstrated sociopolitical consciousness and affirming views of students. However, other aspects of culturally responsive teaching were absent or partial. By interviewing and observing our participants in their classrooms, we gained access to specific and authentic examples from their curriculum and instructional practices, which extended and enhanced their learning about culturally responsive teaching and prompted us to reconsider our course content and pedagogy. We conclude by advocating for continued research that investigates and exemplifies best practices in culturally responsive teacher education.

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