

Literature Review, 2014-2017 (Part 2)

by
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*Editors' note: This is the second half of the bibliography;
the first half appeared in the previous issue.*

This annotated bibliography is the fourth in a series published in *Montessori Life*, with the first reviewing articles published during the 10-year time span of 1996–2006 (Bagby, 2007), the second covering 2007–2009 (Bagby & Jones, 2010), and the third 2010–2013 (Bagby, Wells, Edmondson & Thompson, 2014). As with the previous reviews, these articles were published in non-Montessori professional periodicals that included information about Maria Montessori and/or the Montessori Method. We have also included four articles that were published in 2013 that were not annotated in the previous review.

There are 91 articles in this review, an increase over the previous three reviews, which continues to indicate strong interest in Montessori in the U.S. and internationally. (By comparison, the 1996–2006 bibliography reviewed 54 articles, the 2007–2009 bibliography 37 articles, and the 2010–2013 bibliography 83 articles.)

Almost 80% of the articles were published in educational periodicals, with the remaining articles appearing in publications representing a variety of disciplines, such as anthropology, economics, and philosophy. As with the previous reviews, a significant number of articles focused on the use of the Montessori materials/methods with individuals with dementia.

Kayili, G., & Ari, R. (2016). The effect of Montessori Method supported by social skills training program on Turkish kindergarten children's skills of understanding feelings and social problem solving. *Journal of Education and Training Studies*, 4(12), 81–91.

These researchers investigated the impact of the Montessori Method on preschoolers' ability to understand feelings and solve social problems. Results indicated that the children in the Montessori group who received social skills training had significantly higher posttest scores on both understanding feelings and problem-solving measures than children who did not receive the training.



Khachatryan, M. (2015). A look at AUA preschool English program through the lens of Montessori pedagogy. *Procedia—Social and Behavioral Sciences*, 197, 304–307.

This mixed methods research study examined the compatibility of the Montessori and the foreign language pedagogies in an American University of Armenia (AUA) preschool English program. The author examined teacher and student qualities and actions along with classroom environments. Results indicated that the methods are similar enough to incorporate the Montessori Method within the AUA preschool program.

Kirkham, J. A., & Kidd, E. (2017). The effect of Steiner, Montessori, and National Curriculum education upon children's pretence and creativity. *The Journal of Creative Behavior*, 51(1), 20–34.

The purpose of this study was to examine pretence and creative thinking abilities in children attending UK National Curriculum, Steiner, and Montessori pedagogy schools. Twenty children ages 6 to 11 from each school setting completed a test for creative thinking and a pretend actions task. Results indicated that students from Steiner schools had higher scores on both measures and the two measures had scores that positively correlated with each other, similar to findings from past research.

Koleoso, O. N., Ehigie, B. O., & Akhigbe, K. O. (2014). Color preference among children in a Nigerian Montessori school. *Mediterranean Journal of Social Sciences*, 5(1), 325–332.

This study focused on the color preferences of 60 randomly selected children in a Montessori school in Ibadan, Nigeria. Results found that the children preferred red and yellow the most and black the least. The authors concluded that the findings would be helpful for developing and marketing educational materials.

Król-Gierat, W. (2014). Using captioned tactile jigsaw flashcards in teaching vocabulary to children with special educational needs. *Journal of the International Association of Special Education*, 15(2), 147–150.

This article discussed a technique for

teaching vocabulary to 105 children with special educational needs. This method, called the Captioned Tactile Jigsaw Flash-



card (CTJF) technique, was based on the Montessori three-period lesson. The author examined both passive and active knowledge of her students. The use of CTJF was beneficial in teaching children vocabulary.

Larson, S. (2014). Transforming young lives. *Reclaiming Children and Youth*, 23(1), 19–23.

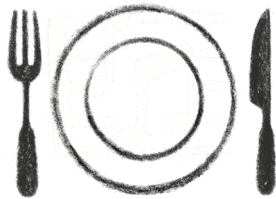
This article discussed the need for transformational change (relational, cognitive, and spiritual) in addressing the lives of troubled youth. Larson briefly mentioned the contribution of Maria Montessori in engaging all students, even those who came from disadvantaged backgrounds.

Lillard, A. S., Helse, M. J., Richey, E. M., Tong, X., Hart, A. & Bray, P. M. (2017). Montessori preschool elevates and equalizes child outcome: A longitudinal study. *Frontiers in Psychology*, 8(1783), 1–19.

This recent randomized longitudinal study by Lillard and associates evaluated preschoolers' abilities on cognitive and social-emotional measures. The sample included 141 children from high-poverty areas attending two public Montessori magnet schools and non-Montessori control schools,

both public and private. One major finding was that, in the Montessori classrooms, the children who entered the study with lower executive function performed as well on the academic measures as the children who entered with higher executive function.

Liu, W., Galik, E., Boltz, M., Nahm, E., & Resnick, B. (2015). *Optimizing eating performance for older adults with dementia living in long-term care: A systematic review.* *Worldviews on Evidence-Based Nursing, 12*(4), 228–235.



This systematic review of published articles evaluated the effectiveness of eating interventions for long-term care residents with dementia. Eleven intervention studies were found. Results indicated that the training programs that incorporated Montessori methods and spaced retrieval decreased feeding difficulty, and these training programs showed evidence for better eating performance for the patients.

Looijenga, A., Klapwijk, R., & de Vries, M. J. (2015). *The effect of iteration on the design performance of primary school children.* *International Journal of Technology and Design Education, 25*(1), 1–23.

This study examined how iteration—repeating and testing a process—affects design performance. The participants were 6- to 8-year-old children who attended a Dutch Montessori school. Four conditions based on the work of Montessori were included in the children’s concrete assignments. The study showed that iteration can improve the effectiveness of design and technology activities.

Low, L., Baker, J. R., Jeon, Y., Camp, C., Haertsch, M., & Skropeta, M. (2013). *Study protocol: Translating and implementing psychosocial interventions in*

aged home care the Lifestyle Engagement Activity Program (LEAP) for Life. *BMC Geriatrics, 13*(124), 1–12.

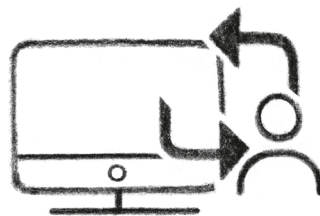
This article described a quasi-experimental design protocol that was to be implemented over 12 months to investigate the effects of the LEAP (Lifestyle Engagement Activity Program) for Life, a program in which home-care clients are trained in communication, promotion of client autonomy, and implementation of meaningful activities influenced by the Montessori principles.

Lynch, L. (2017). *A space apart: Enabling the creation of a withdrawal space in the preschool.* *Sage Open, 7*(1).

The study examined how preschool students create their own “private space,” a place where they can be alone while still in the presence of others. To determine how students create a withdrawal space, the author analyzed the current research, observed two Montessori preschools in Sweden, and interviewed the six teachers from the observed classrooms. Students’ spaces were often mobile, and the students could therefore maintain their spaces more easily.

Marks, L. (2016). *Playing to learn: An overview of the Montessori approach with pre-school children with autism spectrum condition.* *Support for Learning, 31*(4), 313–328.

Marks summarized the literature related to using play-based approaches with students on the autism spectrum. She describes the Montessori approach as providing a beneficial educational environment for students with ASC by providing routines, flexible activity alternatives, social interaction, and structure.



Miranda, S., Marzano, A., & Lytras, M. D. (2017). *A research initiative on the*

construction of innovative environments for teaching and learning: Montessori and Munari based psycho-pedagogical insights in computers and human behavior for the “new school.” *Computers in Human Behavior, 66*, 282–290.

The article described a research project aimed at examining the technology available for teaching Italian students ages 3 through 6. Using the educational principles of Montessori and Munari, the developer’s goal was to create products to improve the learning experience for young students and perform experiments to evaluate their effectiveness.

Mix, K. S., Smith, L. B., Stockton, J. D., Cheng, Y.-L., & Barterian, J. A. (2017). *Grounding the symbols for place value: Evidence from training and long-term exposure to base-10 models.* *Journal of Cognition and Development, 18*(1), 129–151.

This article described two experiments of elementary students learning the place value structure. Experiment 2 included 68 children, half from a Montessori school and half from a non-Montessori school. Results indicated that the Montessori students scored higher on the place value tasks.

Moretti, E. (2014). *Beyond biological ties: Sibilla Aleramo, Maria Montessori, and the construction of social motherhood.* *Italian Culture, 32*(1), 32–49.

In this historical paper, Moretti discussed the promotion of Italian women through the concept of social motherhood by detailing the contributions of Maria Montessori and Sibilla Aleramo, a feminist author from the early 1900s. Consequently, a new understanding of the role of social motherhood in the contemporary feminist debate was described.

Moretti, E. (2015). *Teaching to be American: The quest for integrating the Italian-American child.* *History of Education, 44*(5), 651–666.

This article focused on the influence of Angelo Patri, an Italian-American educator and author, in the progressive education movement. Moretti described the historical

context, including social reform, during the early 1900s, to illustrate how this time altered ideas about immigration and integration. She also described how Patri and Maria Montessori were involved in the progressive movement that included “learning by doing” in the education debate at that time.

Murray, L. L., & Paek, E. J. (2016). Behavioral/nonpharmacological approaches to addressing cognitive-linguistic symptoms in individuals with dementia. *Perspectives of the ASHA Special Interest Groups*, 1(15), 12–25.

The authors described how restorative and compensatory approaches may help the cognitive functioning of patients with dementia and included research on the different approaches. The Montessori-based intervention has been found to help patients with dementia in many areas, such as behavior and social interaction.



Nitecki, E. (2015). Integrated school-family partnerships in preschool: Building quality involvement through multidimensional relationships. *School Community Journal*, 25(2), 195–219.

In this qualitative case study conducted in a small private preschool in the northeastern United States, Nitecki examined the impact of school-family partnerships in early education. Results indicated that the school setting had three important characteristics that facilitated these partnerships: building relationships between parents and schools, having a welcoming environment, and trying to communicate with parents about student needs.

Oyzon, V. Q., Lubio, C. C., Salamia, J. I., & Ripalda, L. M. (2014). Teaching geometrical figures in Waray: The LNU-ILS experience. *Journal of Education and Learning*, 8(2), 115–121.

These researchers developed a lesson plan that incorporated the Montessori approach to determine if Waray or English vocabulary usage affected achievement of kindergarten students in the Philippines. The experimental group used Waray mathematics vocabulary and the control group used English terms. Students from families who speak Waray at home and students who speak English at home were included. The results showed no significant differences based on student background or the type of vocabulary presented.

Pate, R. R., O’Neill, J. R., Byun, W., McIver, K. L., Dowda, M., & Brown, W. H. (2014). Physical activity in preschool children: Comparison between Montessori and traditional preschools. *Journal of School Health*, 84(11), 716–721.

These authors studied the physical activity levels of preschoolers enrolled in nine Montessori schools as compared to those who attended eight non-Montessori schools, in South Carolina. After controlling for demographic characteristics, the children enrolled in Montessori schools recorded more physical activity time. The study noted that using Montessori methods may assist schools in promoting children’s physical activity.

Patton, R. M. (2014). Games that art educators play: Games in the historical and cultural context of art education. *Studies in Art Education*, 55(3), 241–252.

This article explored the role of games in modern education. The article stated that early childhood educators like Maria Montessori “used artmaking, games, and structured play” to provide learning experiences for students. The article also described the impact of the sociopolitical context on the literature related to games in art education.



Paule-Ruiz, M. P., Álvarez-García, V., Pérez-Pérez, J. R., Álvarez-Sierra, M., & Trespalacios-Menéndez, F. (2017). Music learning in preschool with mobile devices. *Behaviour & Information Technology*, 36(1), 95–111.

These researchers reported on an experimental study that examined kindergartners’ musical learning outcomes. Participants included two groups of 43 students each: one group of children who had music education through the traditional Montessori Bells method and one group of children using specific tablet software. Results indicated that students that had the software performed better than students in the bells method group, although both groups increased their performance on the music assessment.

Peng, H., & Md-Yunus, S. (2014). Do children in Montessori schools perform better in the achievement test? A Taiwanese perspective. *International Journal of Early Childhood*, 46(2), 299–311.

This study compared the achievement of elementary students in Taiwan who were enrolled in Montessori education to those students who received a traditional education; the sample size was 196. Researchers measured first-, second-, and third-grade students’ abilities in language, math, and social studies. After controlling for previous achievement and Montessori program attendance, students who experienced Montessori education programs had better language arts performance than those in traditional schools. For math, only first-grade students had higher performance. Social studies scores showed no significant differences.

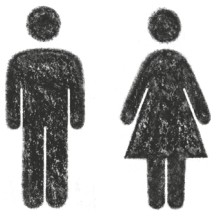
Ponticorvo, M., Di Fuccio, R., Di Ferdinando, A., & Miglino, O. (2017). An agent-based modelling approach

to build up educational digital games for kindergarten and primary schools. *Expert Systems*, 34(4), 1–9.

An approach to developing a “games engine model” is presented in this article. The authors were inspired by the interactive nature of the manipulatives designed by Montessori that encourage multisensory learning. The authors also described how to create digital tools that allow for the same sort of interactivity and included two examples of activities that use this approach.

Pruit, J. C. (2015). Preschool teachers and the discourse of suspicion. *Journal of Contemporary Ethnography*, 44(4), 510–534.

Pruit focused on the complexities of gender at a Montessori preschool using ethnographic participant observation and interviews. Male teachers were seen as threats and at times characterized as deviant. Pruit included methods for teachers



to employ in order to reduce the suspicion and decrease tension within the Early Childhood education setting. A discussion concerning gender constructs and education is included.

Rajan, R. S. (2017). Music education in Montessori schools: An exploratory study of school directors' perceptions in the United States. *International Journal of Music Education*, 35(2), 227–238.

This survey study examined 36 Montessori school administrators' perspectives on the role of music education, in eight states within the Midwestern United States. Results indicated that the majority of schools provided musical learning that was seen as beneficial to children's development. Also discussed were ways to include music education within the Montessori classroom.

Roberts, G., Morley, C., Walters, W., Malta, S., & Doyle, C. (2015). Caring for people with dementia in residential aged care: Successes with a composite person-centered care model featuring Montessori-based activities. *Geriatric Nursing*, 36, 106–110.

This mixed methods study utilized ABLE, a person-centered care model that incorporated Montessori principles and activities to address the needs of individuals living with dementia. Results indicated the ABLE model positively affected resident behavior, confidence among care staff, and family satisfaction.

Scott, C. M. (2017). Un-“chartered” waters: Balancing Montessori curriculum and accountability measures in a charter school. *Journal of School Choice*, 11(1), 168–190.

In this longitudinal case study, Scott examined Montessori charter school-teachers' use of math professional development to assist with meeting the demands for standardized testing. All teachers participating in the study increased their mathematical content knowledge through the professional development, and gains were also made in student learning.

Shawket, I. M. (2016). Educational methods instruct outdoor design principles: Contributing to a better environment. *Procedia Environmental Sciences*, 34(1), 222–232.

This study examined the influence of an educational method on the design of outdoor spaces and included recommendations for creating a physical space conducive to Montessori education. Results indicated that designers should consider educational methods when creating children's outdoor spaces.



Sheppard, C. L., McArthur, C., & Hitzig, S. L. (2016). A systematic review of Montessori-based activities for persons with dementia. *Journal of the American Medical Directors Association*, 17(2), 117–122.

These researchers conducted a search of peer-reviewed studies examining the benefits of Montessori-based activities for people with dementia. They included 14 out of 150 identified articles for analysis. The results of the study suggested strong evidence for using Montessori methods for addressing eating behaviors. However, there was weak evidence for cognitive benefits, and results on engagement and affect were mixed.



Skrajner, M. J., Haberman, J. L., Camp, C. J., Tusick, M., Frentiu, C., & Gorzelle, G. (2014). Effects of using nursing home residents to serve as group activity leaders: Lessons learned from the RAP project. *Dementia*, 13(2), 274–285.

This study built on previous research of implementing Montessori-based activities for nursing-home residents with dementia. The authors examined the effects of the Resident-Assisted Programming training, a program that allows residents with less advanced dementia to work with those who are more advanced. Findings from this study indicated that the residents who completed the Montessori-based activities achieved better engagement compared to the residents who did another type of activity.

Sparks, S. D. (2016). Charter movement fuels boom for public Montessori schools. *Education Week*, 35(32), 1, 20–21.

According to recent statistics, there are

more than 500 Montessori public schools, with approximately 300 of them opening within the past 15 years. This brief article described the challenges facing these public Montessori programs that are housed in both magnet and charter schools.

Spaseva, S. M. (2013). Human mission of education. *International Journal of Cognitive Research in Science, Engineering, and Education*, 1(1), 87–91.

Spaseva explored the role education plays in the moral development of children and youth. She discussed Montessori's pedagogical ideas and suggests that her peace beliefs could be used to shape a better society and improve the world for our future generations. The author also challenged educators to become models for moral behavior.

Steiner, M. (2016). Freeing up teachers to learn: A case study of teacher autonomy as a tool for reducing educational inequalities in a Montessori school. *FORUM*, 58(3), 421–427.

In this case study, Steiner described how the Oxford Montessori Schools in England provide teachers autonomy for reflection and professional development. He argued that this freedom allows teachers to more effectively address the needs of the most vulnerable students and this practice eventually will lead to fewer inequalities in education.



Suortti, O., & Lipponen, L. (2016). Phonological awareness and emerging reading skills of two- to five-year-old children. *Early Child Development and Care*, 186(11), 1703–1721.

The study investigated the relationship between phonological awareness and letter knowledge as well as the ability to read. Participants included 72 children ages 2 to 5 from private Montessori centers and private child-care centers in Finland. Results

indicated that the children who learned letters performed better on phonological awareness tasks.

Taggart, J., Heise, M. J., & Lillard, A. S. (2017). The real thing: Preschoolers prefer actual activities to pretend ones. *Developmental Science*, e12582, 1–6.

This study examined preschoolers' preferences for pretend or real activities. Using nine different activities, 100 middle-class American children were tested for their preferences. Findings indicated the children overwhelmingly preferred real activities. The authors also stated that Maria Montessori designed a form of education that encourages children to take part in real hands-on activities.

Thayer-Bacon, B. (2017). Exploring William James's radical empiricism and relational ontologies for alternative possibilities in education. *Studies in Philosophy & Education*, 36(3), 299–314.

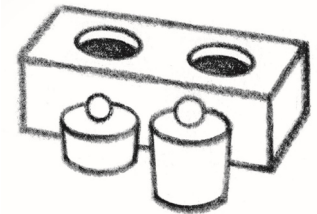
Thayer-Bacon argued that teachers must understand theories of knowledge (epistemologies) and theories of being (ontologies) in order to create safe and holistic educational experiences for students. She included an in-depth description of a Montessori classroom to explain how this type of education provides different experiences than those in other educational settings.

Tobin, T., Boulmier, P., Zhu, W., Hancock, P., & Muennig, P. (2015). Improving outcomes for refugee children: A case study on the impact of Montessori education along the Thai-Burma border. *International Education Journal: Comparative Perspectives*, 14(3), 138–149.

Examining the benefits of a Montessori education for displaced students on the Thai-Myanmar border, the authors compared the pre- and posttest results from the Ages and Stages Questionnaire for 66 students in traditional and Montessori classrooms. Results indicated that students in Montessori classrooms had higher gains on the questionnaire than students in a traditional class setting.

Townsend, E., & Friedland, J. (2016). 19th & 20th century educational reforms arising in Europe, the United Kingdom, and the Americas: Inspiration for occupational science? *Journal of Occupational Science*, 23(4), 488–495.

The authors profiled multiple educational reformers from the 19th and 20th centuries: Philip Magnus, John Dewey, Octavia Hill, Maria Montessori, Eduard Lindeman, and Thomas Kidner. These reformers strived to alleviate social and economic inequities through education change. The article also discussed how the educational reforms relate to occupational science.



Trawick-Smith, J., Wolff, J., Koschel, M., & Vallarelli, J. (2014). Which toys promote high-quality play? Reflections on the five-year anniversary of the TIMPANI Study. *Young Children*, 69(2), 40–46.

The 5-year-old study TIMPANI (Toys That Inspire Mindful Play and Nurture the Imagination) evaluated popular toys used in classrooms. In this article, the Montessori cylinder blocks are identified as an effective toy for enhancing children's cognitive development. The authors also provided practical knowledge to preschool teachers for incorporating different toys.

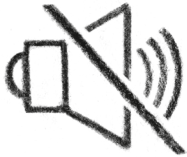
Van Buuren, O., Heck, A., & Ellermeijer, T. (2016). Understanding of relation structures of graphical models by lower secondary students. *Research in Science Education*, 46, 633–666.

This physics education research included classroom experiments that took place in a secondary Montessori school in the Netherlands. Eighty-two students participated in this study of graphical modeling structures knowledge after receiving instruction on the content. The authors stated that formal

in-depth interviews were not needed as part of the research design because the Montessori approach naturally allows for “in-class impromptu interviews.”

Van der Ploeg, E. S., Walker, H., & O’Connor, D. W. (2014). *The feasibility of volunteers facilitating personalized activities for nursing home residents with dementia and agitation.* *Geriatric Nursing, 35*(2), 142–146.

These authors examined the willingness of volunteers to complete training on working with nursing home patients and implement Montessori-type personalized activities with residents with dementia



and challenging behaviors. Sixteen volunteers completed the program. Posttest data results indicated that the majority of the volunteers exceeded the requirements.

Verstraete, P. (2017). *Silence or the sound of limpid water: Disability, power, and the educationalisation of silence.* *Paedagogica Historica, 53*(5), 498–513.

Verstraete examined the use of silence in the worlds of Jean-Marc Itard, Édouard Séguin, and Maria Montessori. He began the article discussing how silence has been adopted as an educational tool starting in the 19th century. For educators of students with disabilities, silence has been linked with power and authority in the classroom.

Volland, J., & Fisher, A. (2014). *Best practices for engaging patients with dementia.* *Nursing, 44*(11), 44–50

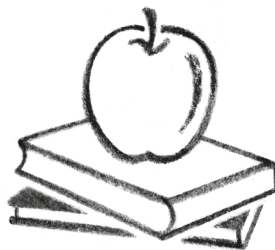
This descriptive article discussed the use of the Montessori Method to help both patients suffering from dementia and their families. Nurses and families could be trained to use these methods with their patients in a variety of care settings. The authors conclude that these methods may result in better caregiver training and decreased costs for families.

Williams, R., Gumtau, S., & Mackness, J. (2015). *Synesthesia: From cross-modal to modality-free learning and knowledge.* *Leonardo, 48*(1), 48–54.

These researchers examined a mode of learning called the *synesthetic enactive perception*, which is described as an “integrated view of perception and action.” This learning occurs in environments that activate all senses of the body. The authors discussed this approach in two environments where this learning occurred: a Montessori preschool and MEDIATE, a place where children on the autism spectrum can engage.

Wu, H. S., Lin, L. C., Wu, S. C., Lin, K. N., & Liu, H. C. (2014). *The effectiveness of spaced retrieval combined with Montessori-based activities in improving the eating ability of residents with dementia.* *Journal of Advanced Nursing, 70*(8), 1891–1901.

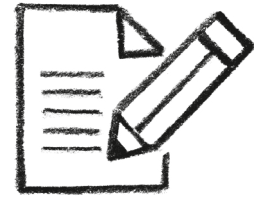
This study examined the impact of Montessori activities and spaced retrieval on the eating abilities of 90 residents with dementia, in four veterans’ homes in Taiwan. The study employed repeated measures of a single-blinded and quasi-experimental design. Data showed that the interventions improved the eating abilities, amounts of food consumed by the residents, and resident body weights.



Yildirim Dogru, S. S. (2015). *Efficacy of Montessori education in attention gathering skill of children.* *Educational Research and Reviews, 10*(6), 733–738.

This study evaluated the use of Montessori materials in improving the attention skills of 15 preschool students who had been diagnosed with attention-deficit/hyperactivity disorder (ADHD) or attention deficit disorder (ADD). Results indicated that stu-

dents in the intervention group who used Montessori materials showed significant improvement in the pre- and posttest scores on the attention test used in the study.



Zieher, A. K., & Armstrong, J. (2016). *Teaching in a public Montessori school: Contexts, quandaries, and thinking schemes.* *Person-Centered & Experiential Psychotherapies, 15*(1), 37–54.

This qualitative study described the experiences of seven teachers working in Montessori charter schools. Using an inductive process to analyze the interviews, the authors reported results that were associated with an “effective person-centered practice” that enhanced the teachers’ coping strategies.

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