SR 953-42 Research Design and Methodology 1

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Date (June 5, 2023)

Professor

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Assignment

**60-Day** – **Developmental Readings**

Complete developmental readings using a combination of the following types of resources:

* two (2) Research Design textbooks (Statistics books addressing Research Design can be used, e.g., Statistics Translated (Terrell), to address key elements introduced in the syllabus and videos.

• Minimum of three (3) journal articles that use research design and analysis as a key part of the research.

* Minimum of three (3) journal articles addressing research design, methodology, and concepts addressed in this course (six journal articles total).

• Remaining sources (books and journals) that identify recent content that identifies research in your area of interest, or contributes to your understanding and gaps in the literature, or your preliminary understanding of proposed dissertation research

Each program and Core have specific grading criteria. Follow the **Fall 2022 Developmental Reading Rubric** for the **required number of sources, comments, and quality criteria**.

See the **General Helps** in **AA-101 The Gathering Place in DIAL**for the following resources:

* Refer to the “NEW Student Guide to Developmental Readings” for updated information on sample comments, rubrics, and key definitions related to developmental readings.
* Download the “NEW Developmental Reading Assignment Template” Word document to begin writing your developmental reading assignment.
* For **grading criteria**, go to the “NEW Developmental Reading Rubrics” document.
* Document all sources in APA style, 7th edition ([APA 7 Reference Example](https://drive.google.com/file/d/1MOW2xmjS9fBRboojA-ADFQBlpahm2iFM/view?usp=sharing), [APA 7 Quick Guide](https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/documents/APA%20Poster%2010.22.12.png)) for in-text citations and Works Cited. Include page numbers.
* Include a separate **Works Cited** page, formatted according to APA style, 7th edition.
* Submit through **DIAL** to the professor.

**Source 1:** Jeong, J. (2020). An Exploration of the Experience of Teachers in Facilitating Meta-Learning Among Students in Christian Montessori Schools [Ph.D., Trinity International University]. In *ProQuest Dissertations and Theses*.

**Comment 1:**

**Quote/Paraphrase:** As basic qualitative research, this study employs mainly in-depth interviews, auxiliary documents, and observation when necessary. The use of in-depth interviews alone is a powerful tool (Seidman, 2013, p. 6) in selecting, reflecting, and interpreting to make meaning (Seidman, 2013, p. 7). An in-depth qualitative interview uses “an open-ended, discovery-oriented method, which allows the interviewer to deeply explore the respondents’ feelings and perspectives on a subject” and to get “rich background information that can shape further questions relevant to the topic” (Guion et al., 2011, p. 1) (Jeong, 2020, p. 83).

**Essential Element:** This comment is associated with research types.

**Additive/Variant Analysis:** This is additive to the discussion of qualitative data, which is non-numeric and usually consists of interviews and recordings. Qualitative data typically involves more exploratory research, and in-depth analysis is needed to make sense of the findings. Also, it introduced the term meta-analysis as it relates to “what to learn,” “why to learn,” and meta-learning analysis (Salkind & Frey, 2019, pp. 314–315).

**Contextualization:** I was interested in this article because I need to gain knowledge or experience regarding Christian Montessori Schools. Until now, I was not aware that any existed. However, I am aware that Maria Montessori was a Christian. She was Catholic, and she was also a scientist. She developed two origins of life lessons; one called, The God with No Hands.” It is often not taught in the traditional Montessori Schools.

**Comment 2:**

**Quote/Paraphrase:** As the author’s detailed conclusion, the following sections of the last chapter provide four major points of the whole study and research. First, the discussion of the findings puts the two unexpected findings at the beginning, highlighting the significance of these about the study of meta-learning. Then, it is followed by three broad and five specific findings. Second, the following section invites the reader’s consideration about the study’s practical implications and recommendations for Christian research and education, and Christian mission for the non-Christian Montessori, and education in general. Moreover, the last part of this chapter presents a few further study questions (Jeong, 2020, p. 230).

**Essential Element:** This comment is associated with language and the role of research design and methodology in social research.

**Additive/Variant Analysis:** This is additive to the discussion of qualitative data, which is non-numeric and usually consists of interviews and recordings. Observations are also needed with this kind of research. Observations help us to understand the world around us. It is also a reminder that only some things can be analyzed from a numerical only standpoint.

**Contextualization:** I applaud the researcher for taking on this study. Her method of teaching children is one of the most effective ways of teaching that I have ever experienced, and it is still holding firm over 100 years later. She used the constructivist theory of Brunner, combined it with the developmental theory of Piaget, and formulated the best teaching method, bar none. Children that are taught using this method want to learn, they want to come to school, and they typically excel to their fullest potential.

**Source 2:** Hudson, L. (2023). *An Investigation of Montessori Education Efficacy versus the Traditional General Education Classrooms for Improved Achievement* [D.Ed., Southern Wesleyan University].

**Comment 3:**

**Quote/Paraphrase:** The purpose of this causal-comparative quantitative study was to examine the influence of Montessori teaching on the academic success of elementary school students in a rural school in South Carolina. Montessori students were selected because they are required to complete the MAP reading and math assessments. Students in a traditional classroom were selected based on race, gender, and ability to complete tasks independently. The purpose was to determine if students in a Montessori classroom would have higher academic success or those in a traditional classroom setting will have higher achievement on the MAP reading and math assessment (Hudson, 2023, p. 13).

**Essential Element:** This comment is associated with dependent and independent variables.

**Additive/Variant Analysis:** This information is additive to my knowledge as a methodology. They are used to identify cause-and-effect relationships between independent and dependent variables. Also, causal-comparative methods can help provide conclusive answers to research problems.

**Contextualization:** The MAP R assessment is an assessment that I am familiar with because it is also used in my state and county. We only use MAP reading and not MAP mathematics. However, it would not surprise me that Montessori students would score higher than traditional students on this assessment because of how reading is taught and the time and effort students utilize to complete book reports, especially in the intermediate grades. In addition, the level of engagement in teaching Montessori is very different from traditional. The students take ownership of their learning; in conventional schools, students often learn for others and not themselves.

**Comment 4:**

**Quote/Paraphrase:** All data and participants originated from the same rural elementary school in South Carolina, including the pre-existing assessment data from students who had attended the Montessori classrooms for three years. The researcher taught in the same school district as the students, and her son attended the Montessori classes during the timeframe of the study. To mitigate bias, the researchers’ son’s test scores were not included. In previous years, students were screened before enrolling in the Montessori classroom setting. The students were screened to ascertain how well they could independently complete tasks with only the teacher there. Enrollment in the program was based on how well the students could perform activities by themselves. While the design of this study allowed for a comparison between the study groups, it is impossible to definitively conclude from the results due to the lack of any descriptive information about the programs comprising the study. The screening process is the only difference in Research Question 3. The Montessori Method was still applied during the school year for those screened and when the screening process ended (Hudson, 2023, p. 23).

**Essential Element:** This comment is associated with research types.

**Additive/Variant Analysis:** This is additive to my knowledge as it relates to limitations found in the research. The researcher had a son who attended one of the schools she researched, so her research could have been more extensive due to bias. In addition, the study mentioned that she needed more descriptive information regarding the schools associated with the program.

**Contextualization:** I am familiar with how Montessori is taught as I was a Montessori teacher for 15 years. Also, my children were Montessori students. In our county, it is considered a Magnet School, and you must be entered into a lottery to attend. Our program does not have a screening process. My children were blessed to start at ages three and four, and as they were very independent, they would have qualified if our district had a screening process. To date, it was the best way for my children to learn, and they both have done well in high school and beyond, and I attribute a large part of their success to the early start in Montessori School. They attended through middle school. I also have former students that I have taught who are thriving adults. I still consider that time to be the best time of my career. I was happy in the classroom, and I enjoyed teaching very much.

**Source 3:** Jackson, J. R. (2022). *Maintaining the Montessori method in Louisiana public schools: A qualitative descriptive study* [Ed.D., Grand Canyon University].

**Comment 5:**

**Quote/Paraphrase:** Culclasure and Riga (2019) noted that the steady growth of public Montessori programs has many questioning the authenticity of its implementation in the public sector due to federal and state mandates. As Montessori in the public sector continues to grow solidly around the country, teachers face challenges implementing its constructivist teaching strategies due to SBR (Powell & Kalina, 2009). SBR is designed to improve education by developing rigorous standards to increase student learning (Vohs et al., 2000). *A Nation at Risk* magnified the national dialogue surrounding SBR. Between 2000 and 2020, a flurry of reform legislation, such as NCLB and ESSA, altered the established educational landscape. These reform initiatives required states to construct academic standards, test students annually in reading and mathematics, and hold districts and schools accountable for test results (Um, 2019) (Jackson, 2022, pp. 12–13).

**Essential Element:** This comment is associated with language and the role of research design and methodology in social research.

**Additive/Variant Analysis:** This is additive to my knowledge of applying key research concepts. In addition, the research speaks to the significance of this study and describes the problem space leading to the limitations found in the analysis.

**Contextualization:** This study resonates with me because I was still teaching Montessori in the classroom, and we did so with fidelity. Then, in early 2000, we were required to teach the Common Core Curriculum (CCC), the Standards-Based Reform (SBR) for Maryland. Our students were excelling following the Montessori Curriculum, and we were assessing the students with the district’s assessments and implementing the MD state assessments. However, when No Child Left Behind (NCLB) entered the scene, followed by the Every Student Succeeds Act (ESSA), it became extremely challenging to implement the Montessori Method with fidelity. Instead, we were challenged to find ways to teach Montessori and CCC.

**Comment 6:**

**Quote/Paraphrase:**  Despite the challenges with aligning the Montessori Method’s unique features with state and federal accountability standards, it remains a public school option for parents. The challenge within public Montessori schools has been to determine how many of the original methodologies will remain intact in public schools (Lillard & Else-Quest, 2006). Scott (2017) conducted a longitudinal case study to examine how teachers balanced the Montessori curriculum with state accountability measures. Teachers noted it was a challenge balancing both the Montessori Method and state accountability measures (Scott, 2017). Public Montessori schools strive to provide students with an educational experience closely aligned with the Montessori guiding principles. Montessori educators take many steps to ensure that their students are not disadvantaged because of their educational experience (Scott, 2017). Instead of following the Montessori curriculum with fidelity, Montessori educators are beginning to utilize state pacing guides to prepare students for state assessments (Culclasure & Riga, 2019) (Jackson, 2022, p. 20).

**Essential Element:** This comment is associated with language and the role of research design and methodology in social research.

**Additive/Variant Analysis:** This is additive to my knowledge of applying key research concepts. In addition, the research speaks to the significance of this study. Finally, it describes why more studies of this nature are needed to prove that even with the implementation of SRB, public Montessori Schools are still standing a cut above the traditional schools.

**Contextualization:** Finding studies like this one in my research encourages me to look even further into pushing towards the Montessori Method as the best method to teach our children. It has stood the test of time, and even with the limitations, I have found very few studies regarding academic achievement that Montessori is unable to best. In addition, this study also shows the need for teachers to continue to become Montessori certified. It used to be a requirement when I started teaching it years ago, and now, because of the standards-based reform initiatives, it is no longer a requirement. However, because the public Montessori schools in our district are Magnet schools, the district should still mandate teachers who teach in those schools to have dual certification. My study could prove that this requirement is necessary.

**Source 4:** Kiran, I., Macun, B., Argin, Y., & Ulutaş, İ. (2021). Montessori Method in Early Childhood Education: A Systematic Review. *Cukurova University Faculty of Education Journal*, *50*(2), Article 2.

**Comment 7:**

**Quote/Paraphrase:** The main purpose of this research is to examine the articles about the Montessori method in Turkey with a systematic review method. A systematic review is the art and science of identifying, selecting, and synthesizing primary research studies to provide a comprehensive and reliable framework for the subject under study. In systematic review research, findings are synthesized and interpreted in a balanced and neutral way (Crompton et al., 2017). Findings are questioned according to clear contexts and research objectives, and the research is grounded on studies with a clear and rigorous design. Therefore, a comprehensive, evidence-based review process is conducted by distinguishing between “evidence” and “experience” (Bettany-Saltikov, 2012) (Kiran et al., 2021, p. 3).

**Essential Element:** This comment is associated with descriptive and inferential statistics.

**Additive/Variant Analysis:** This is additive to my knowledge because I was unaware of a systematic review. A systematic review is a research study of research studies. A systematic review identifies various criteria, selects, and synthesizes primary research. Then gives an analysis of its findings.

**Contextualization:** This author is researching studies in Turkey around the Montessori Method. He found 22 articles, put them in various categories, and examined the evidence. His findings confirm why I chose it for my children and why I have been a proponent of this method ever since I learned of it. It is child-centered, and everything taught is from a holistic approach. I would tell my colleagues in traditional schools that Montessori teaches whole to part, whereas they were teaching part to the whole with the hope that their students will be able to formulate the entire picture in the end. Having taught using both methods, learning part to whole is a very disjointed and often confusing way to learn.

**Comment 8:**

**Quote/Paraphrase:** In the study, 29 articles were examined in depth, and a Weight of Evidence/WoE table was developed for each article. The studies were examined in three sub-d dimensions, and a total WoE score was obtained by scoring 0-none, 1-somewhat, 2-mostly, and 3-completely. In addition, the overall quality of the study was evaluated in WoE A, the methodological suitability and selected research designs in WoE B, and the scores obtained from the relevance/adequacy of the findings and the ethics of the research in WoE C. WoE D presents the average weight of evidence (Kiran et al., 2021, p. 5).

**Essential Element:** This comment is associated with dependent and independent variables.

**Additive/Variant Analysis:** This is additive to the discussion of variables. Before this article, I did not know the Weight of Evidence (WoE). I now understand that it helps to support your answer to your hypothesis or scientific question.

**Contextualization:** The Montessori Method has been taught all over the world. What I find interesting about this research is that the systemic review is designed to help you see the research gaps. I think about the various countries and articles I can locate that prove that the Montessori Method is one of if not the best ways in which children should be taught, especially during their formative years. I cannot emphasize this enough. We are experiencing the difficulties children had this school year trying to fill in the academic loss due to the pandemic. One of the previous articles I have listed showed the comparison between Montessori students and traditional during the years of the pandemic, and they still faired much better than the traditional students.

**Source 5:** Rice, E. H. (2017). *The impact of Montessori public elementary experiences on high school students* [D.Ed., Capella University

**Comment 9:**

**Quote/Paraphrase:**  Through the perceptions and personal experiences of students and teachers, current research studies reflect theory. The participants provided insight into the Montessori principles and observations in action. The discoveries of this study could provide insight into how children learn, make choices, movement, and cognitive awareness, and show their desire towards mastery vs. being led by extrinsic rewards. The findings from this study could be shared with Montessori organizations, fellow researchers, school district administration, educators, and parents. Educational institutions and stakeholders must continue to seek research-based practices to educate and prepare children for the 21st century. Student perceptions and experiences also assist the researcher in gaining insight as to how children might learn more effectively (Rice, 2017, p. 9).

**Essential Element:** This comment is associated with language and the role of statistics in social research.

**Additive/Variant Analysis:** This is additive to my knowledge of applying key research concepts. In addition, the research speaks to the significance of this study. There is a need for educational institutions to have research-based practices in educating and preparing students for the 21st century, especially when policies like NCLB and ESSA mandate public school systems.

**Contextualization:** One issue that bothers me with our district regarding whether or not Montessori works is that we have it as an option now through our magnet program. It is a lottery based, however. In addition, we have become a data-driven district, and the data is there for them to view regarding the effects of Montessori. I have been working in elementary schools again, and I see how much the curriculum has changed to apply some of Montessori’s teaching strategies. However, they miss the mark because they are using bits and pieces of those strategies, which sometimes complicates the mathematics for students. While the system embraces teaching from concrete to abstraction, and the use of manipulatives, much of the learning of many standards is still tough to teach because early conceptual knowledge is not present.

**Comment 10:**

**Quote/Paraphrase:** Diverse studies have been conducted that center around Montessori education in the public sector. Dohrmann et al. ( 2007) studied the longitudinal outcomes of high school students that attended two Montessori elementary public school programs in Milwaukee from 1990-1994 and graduated from high school between 1997-2001. High school graduates that participated in a Montessori elementary program were compared to students that attended a traditional elementary school with matched groups based on their high school, gender, ethnicity/race, and socio-economic status. The outcomes of performance on the Wisconsin Knowledge and Concepts Examination (WKCE), a standardized achievement assessment, and the ACT, a standardized achievement assessment for college admission, were compared in Social Studies, Mathematics, Science, Foreign Language and English subject areas, and the Grade Point Average (GPA) for each student participant. The results reflected that Montessori students performed equally compared to traditional students in Social Studies, English, and GPA and were significantly higher in mathematics and science. Dohrmann et al.’s study utilized quantitative data to compare the variables applied using statistical data. In contrast, a qualitative study discovered that students that attended non-traditional schools, including Montessori, adapted to higher educational settings favorably and somewhat better than traditional students (Rice, 2017, pp. 43–44).

**Essential Element:** This comment is associated with types of data.

**Additive/Variant Analysis:** This is additive to my knowledge of applying key research concepts. In addition, the research speaks to the significance of this study. Being able to research the progress Montessori students make at the high school level is essential information to know and reflect upon.

**Contextualization:** My children were Montessori students, as I have stated previously. They had very few difficulties in high school and were able to self-manage. One of the concepts that Montessori teaches is that freedom comes with responsibility. In elementary and middle school, the students would work on projects in the hallways. They needed minimum supervision, and if it appeared that they were playing as opposed to working, then the liberty of working in the hallways was removed until you proved otherwise. The same could be said for attending the school library. Students would be permitted to go to the library without an adult and could complete their work there if they were proven responsible by the librarian. Having these concepts and expectations presented to students early in their education helped make the transition to high school much smoother.

**Source 6:** Toot, T. (2019). *A comparison study: The impacts of Montessori and conventional elementary standards-based language arts curricula on preschool students? Phonemic awareness and reading readiness skills* [Ed.D., The University of Findlay].

**Comment 11:**

**Quote/Paraphrase:**  This study looked at the kindergarten test scores of children who attended two different preschool settings, a Montessori preschool and a traditional elementary standards-based preschool, comparing phonemic awareness learning and preparing a child for reading readiness that took place at each. At the preschool level, reading readiness is taught through social interactions with teachers and peers. Therefore, social constructivist theory and sociocultural theory can be used to help understand how these settings help build knowledge in their students. Montessori preschools use Maria Montessori’s Montessori Method to design the classroom, build the curriculum, and guide a teacher on his/her interactions with students (Elliott, 1967). Conventional elementary standards-based preschools in Ohio use the Common Core standards adopted by Ohio to guide their curriculum and learning (Ohio Department of Education, 2015). Both settings differ significantly, which is the rationale for using both theories in this study. Chapter two of this study addresses the differences in preschool settings (Toot, 2019, p. 10).

**Essential Element:** This comment is associated with research types.

**Additive/Variant Analysis:** This is additive to my knowledge of applying key research concepts. In addition, the research speaks to two similar programs currently being taught by the schools in my state.

**Contextualization:** Reading about this study mirrors the same concerns in my state and the school district where I teach. We even use the same assessments as Ohio. Many similarities tell me this study could easily be replicated in my school district. However, because we have become so data-driven, it concerns me that we cannot see how much better our Montessori students are doing academically at the pre-K and kindergarten levels. The data is at our fingertips if we bother to look at it. Many of the students in the Montessori program are reading at the kindergarten level. Usually, students who are not reading by the time they enter 1st grade may have learning disabilities. In my traditional elementary school, I have been supporting 2nd grade, and more than a 1/3 of the students are struggling readers. Granted, these students are the students who would have been in Kindergarten during the pandemic of COVID-19. I am also interested to learn if their 2nd graders need help with reading.

**Comment 12:**

**Quote/Paraphrase:**  Results showed that compared to a conventional elementary preschool education program, the Montessori method makes a more positive, more efficient contribution to children’s readiness for primary school. They found that general school readiness post-test mean scores of experimental and control groups show statistically significant differences (U=27.000, p < 0.05). General school readiness post-test mean scores of the children in the experimental group who received preschool education with the Montessori method were higher than those of the children in the control group who were educated with the conventional standards-based elementary preschool. Findings showed that the experimental group made statistically significant gains in all assessments. The authors believe the findings of their experiment support the Montessori method as being more effective for primary school readiness than conventional elementary standards-based preschool. Montessori children were found to have higher language skills in primary school than those that attended the conventional elementary standards-based preschool (Kayili and Ari,&11) (Toot, 2019, p. 32).

**Essential Element:** This comment is associated with populations and samples.

**Additive/Variant Analysis:** This is additive to my knowledge of applying key research concepts. In addition, the research speaks to the significance of this study. Until now, I was unaware that similar research had been done that mirrors many of the same concerns we focus on in our school system.

**Contextualization:** A study of this nature would support my school district. I plan to see if there are any similar studies in our state and county. Someone at least two decades ago thought the Montessori program was great for children in our district. They offered it as one of our special schools and required teachers to be trained in Montessori to teach at those schools. Granted, they were housed inside the traditional schools initially. However, Montessori’s parents and teachers convinced the school board that Montessori needed a school building that they did not have to share. It took several years, but it was finally granted. Shortly after, however, we changed superintendents, and the authenticity of our program began to weaken. Soon after that, the state mandates showed up, and although the Montessori programs are still being offered and still doing better academically than the traditional schools, it constantly has to prove themselves. Studies regarding Montessori are across the globe, and Maria Montessori schools have been functioning for over 100 years. But, ours are in trouble keeping their effectiveness. Many studies I have read have “teaching with fidelity” as a limitation. I would hate to see a practical and valuable program lose its effectiveness. Trying to prove to my school district that sticking as closely to the authenticity of the Montessori Method is essential to our program feels like a huge undertaking. I plan to continue to research and read more regarding this subject matter, and maybe I will be able to determine “what” I am going to investigate so that I can come up with a “good” problem statement (Terrell, 2012, p. 8).

**Works Cited**

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