

Montessori Teacher Training Online Program Review: Preliminary Data from a 21st Century Blended and Prepared Environment

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Program Review Introduction & Purpose

In 2007, MACTE approved this Montessori training distance learning pilot program as a part of their Alternative Delivery Study. According to Akkoyunlu and Soylu (2010) "blended learning integrates the advantages of distance learning (e-learning) with some advantageous aspects of traditional learning (face to face) interactions. Singh (2003) proposed to refine this definition as "blended learning focuses on optimizing achievement of learning objectives by applying the "right" personal learning technologies to watch the "right" personal learning style to transfer the "right" skills to the "right" person at the "right" time. Additionally, blended learning is described by Thorne (2003) as "a way of meeting the challenges of tailoring learning and development to the needs of individuals by integrating the innovative and technological advances offered by online learning with the interaction and participation offered in the best of traditional learning" (as cited in Akkoyunlu & Sulu, 2010, p. 184). This focus on optimizing achievement is also emphasized by Montessori as an "optimized learning experience as a result of a prepared environment" (Rathunde, 2001, p. 28).

Just as Montessori emphasized that the prepared environment for children should be optimized for learning, so according to Montessori's approach should a Montessori teacher training program be prepared for optimizing learning and training for each future Montessori teacher. The purpose of this program review is to examine how a distance-learning program can evolve by incorporating the principles of Dr. Montessori's prepared environment in preparing a blended learning environment for Montessori teacher candidates. Therefore, by evaluating formative and summative data from four cohorts of a Montessori teacher training program; this program review will inform Montessori teacher training instructional designers and program planners by comparing teacher candidate's overall satisfaction with (less structured) and (more structured) blended online prepared environments that are increasingly more aligned with Montessori practices, principles, competencies, and innovative and technological advances.

Research Question

Are there significant differences in overall student outcome satisfaction with the Montessori online course component delivery in terms of instructor quality and course mechanics when comparing a less structured prepared Montessori teacher training virtual environment (Cohorts 1-3) to a more structured prepared Montessori teacher training virtual (blended) environment that is better aligned with principles of Montessori prepared environments (Cohort 4)?

Literature Review:

Akkoyunlu, B., & Soylu, M.Y. (2008). A study of students' perceptions in a blended learning environment based upon different learning styles. *Educational Technology & Society*, 11 (1), 183-193.

Rathunde, K. (2001). Montessori education and optimal experience. *The NAMTA Journal*, 26(1), 11-44.

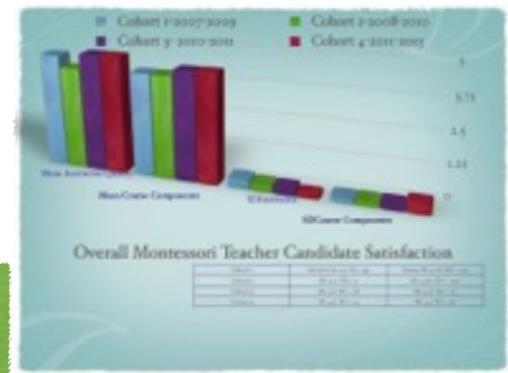


Methods

Setting: Chaminade University of Honolulu campus; Montessori Foundation Online Courses via Online Management System; Elluminate Synchronous Online Platform; LRobert Allen Montessori Laboratory School
Participants: Four cohorts of Montessori teacher candidates from 2007-2011 (N = 32).

Cohort 1: (N=6) **Cohort 2:** (N=6) **Cohort 3:** (N=5), **Cohort 4** (N=15).

Data Sources: Data were collected from 2007-2011. The data included course evaluation 5-point Likert Scale surveys, individual and focus group interviews, and online content and process evaluation surveys. **Procedures:** A mixed methods convergent parallel design (Creswell, 2012) was used to compare both quantitative and qualitative formative and summative data during, and after each cohort of Montessori teacher candidates participated in a Montessori teacher education program; conducted online (both asynchronously and synchronously) and face to face classes (blended). Data collection began with each participant completing an online course evaluation 5-point Likert scale survey (summative data) that determined their overall satisfaction with the Montessori foundation course components on two variables (Instructor Quality and Course Mechanics) and followed with individual and focus group interviews conducted after each cohort completed their student teaching practicum coursework. As the fourth cohort of Montessori teacher candidates only completed one Montessori foundation course, these teacher candidates provided formative qualitative data in the form of online responses to module evaluation surveys. Data analysis consisted of quantifying the multi-item specific means for the data on the Likert scale and comparing the summated item-specific average means and standard deviations for two variables Instructor Quality and Course Mechanics. Whereas, qualitative data analysis was conducted based upon the constant comparison method (Glaser, 1978) and hand coding of the online (transcripts) until four major categories emerged.



Preliminary Data Findings & Recommendations

Based upon the quantitative data analysis from all four cohorts teacher candidates' overall outcome satisfaction with the course components on two variables (instructor quality and course mechanics) item specific means were highest for the more prepared and structured courses for Cohort3 and Cohort 4. Interestingly, the lowest variability (SD) scores were for Instructor Quality in Cohort 4 (SD = .13); whereas the highest variability in mean scores was for Course Mechanics in Cohort 1 (SD = .395 and Cohort 4 (SD = .3 respectively). An analysis of the quantitative data then revealed that Instructor Quality Means were highest with Standard Deviation lowest while for Course Mechanics the Means were also Highest for the more structured blended prepared environment however Standard Deviation of scores was also highest for this variable in both Cohort 1 and Cohort 4.

Based upon the qualitative analysis four major categories emerged that aligned with the Montessori principles of a prepared environment. Teacher candidates reported that the use of a more structured virtual and blended format of content delivery enabled teacher candidates: More independence from instructor assistance and space and time to access content; Increased control of error, self-correction, self-evaluation, and self-reflection with the use of mastery quizzes; The ability to construct knowledge from a variety of sources that accommodate different learning styles (audio, visual, textual, video) that made learning more learner centered and enjoyable; Social interactions in online discussions and in creating assignments while participating in a blended online prepared environment improved learning of Montessori competencies, technology literacy, and other skills.

Limitations, Implications, & Future Montessori Research

Limitations: The sample of Montessori teacher candidates was small N= 32. Additionally, there was no Chronbach's Alpha run to test the internal consistency of the nineteen-item Montessori Teacher Candidate Overall Satisfaction Survey (5-point Likert Scale). Finally, the primary researcher who conducted the individual and focus group interviews was the program planner and this may have influenced how participants responded and increased potential researcher bias. Additionally, all data sources were corroborated and only Cohort 4 survey data were member checked.

Implications for Practice and Future Montessori Research: Based upon the quantitative data analysis because there was the highest standard deviation of scores on responses to questions related to the course mechanics in both Cohort 1 and Cohort 4 this indicates that additional training may be necessary for teacher candidates in the use of the blended online course components (much like students are trained to use the prepared environment in a Montessori classroom. Based upon the qualitative data analysis teacher candidates' are utilizing all of the blended components of this online prepared environment and are enjoying the more structured blended design however, some have expressed that a greater balance of synchronous or face to face interactions could be integrated which would assist the teacher candidates' ability to engage more in social interactions and gain more from collaborating with other Montessori teacher candidates.

Therefore, implications for future research could include increasing the "blend" of the blended prepared online environment to find the appropriate mix of synchronous, face to face, and asynchronous components and to provide an experimental study which examines the satisfaction of Montessori teacher candidates who have had an intervention of training in the use of the online prepared environment components with those who have not been trained or prepared before engaging in the course. Additionally, a future study can be conducted with other populations of Montessori teacher candidates that participate in this program from different cultural contexts to potentially develop a theoretical model of stages of developing a curriculum and structure for a blended prepared environment that optimize learning, development, to meet the training needs of diverse Montessori teacher candidates.