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Literacy Approaches in Montessori 3-6: An Action Research Project

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Abstract

The purpose of this research study was to examine connections between the early introduction of Montessori phonograms and increased student-led writing with the Movable Alphabet. This paper discusses the politics of literacy instruction and common literacy approaches used in Montessori early childhood settings, and examines best literacy practices for early childhood students. The study gathered data from Montessori early childhood educators and 19 students in a Montessori early childhood classroom. The classroom data was collected over four weeks, introducing phonograms alongside individual Sandpaper Letters. Children were then given the choice between using objects to guide their writing with the Movable Alphabet and writing their own words without object prompts. The findings indicate that when given the choice, children choose to write their own words. Based on the conclusions from this study, the Montessori education community could benefit from further study on literacy instruction and high-fidelity Montessori practice.

Keywords: literacy, Montessori, early childhood, phonograms, Movable Alphabet

The Montessori method views education as an aid to natural development. Dr. Maria Montessori created this method nearly a century ago in Italy, meticulously designing hands-on learning materials and scaffolded lessons. Through scientific observation of young children, Dr. Montessori came to see education as a beautiful, natural unfolding. She did not aim to teach facts but instruct children in a way that sparked curiosity and interest in academic areas. This was done by preparing an environment that inspires spontaneous learning, and by providing a well-trained, spiritually prepared adult to act as a guide. Dr. Montessori's original work on language is inspiring. She did not view language as merely reading and writing but viewed language as "an instrument for collective thought" (Montessori, 1967, p. 98). Montessori found that children can learn the sound-symbol association for every sound in a multisensory way with the Sandpaper Letters (see Figure 1). Once they know the graphic symbol for each letter sound, the Movable Alphabet is introduced. The Movable Alphabet is a set of cut out letters, the consonants are pink or red and the vowels are blue (see Figure 2). This material allows them to express their thoughts with written words before they have mastered the mechanics of pencil and paper. This pattern of activity leads to reading with joy and ease (Montessori, 1949). Dr. Montessori wrote about language development in Italian, a phonetic language. As a result, many different reading sequences have been developed for Montessori early childhood classrooms to support writing and reading in English. Different Montessori teacher training organizations can train teachers in various literacy approaches and in different approaches with original materials like the Movable Alphabet. Some Montessori schools have their own conventions for literacy instruction that teachers must adapt to, regardless of their own training. Often, veteran teachers adapt

the information in their training manuals to meet specific needs of students in the

classroom. The Montessori language curriculum is open in many ways. This can free

teachers to adapt to students needs and culture. This can also leave Montessori educators

on their own when it comes to literacy instruction in English that reflects high fidelity

Montessori practice.

Figure 1: The individual Montessori Sandpaper Letters. The style of the letters depends

on the handwriting conventions in the classroom. The set pictured is in the style of

cursive, which was the style used in this study.

Figure 2: The Movable Alphabet. This original Montessori material allows children to manipulate the letters of the alphabet to write before they have mastered the mechanics of handwriting. There are several Movable Alphabets, but the first one presented has the largest letters and differentiates the vowels in blue. The Movable Alphabet is in the same style as the Sandpaper Letters. The style pictured is in cursive, which is the style used in this study.

The language sequence used in a classroom can largely depend on a teacher's training organization and on the culture of a school, which can impact student outcomes (Lillard, 2012). There are several literacy approaches that Montessori teachers utilize in their classrooms. The Muriel Dwyer Approach and the Pink Blue Green Approach are two common methods used in Montessori early childhood setting to teach reading. During my time in both public and private schools, I found that literacy approaches varied not only from school to school, but from classroom to classroom. When I was a teacher at a public Montessori school, the Muriel Dwyer method of literacy was utilized. Children who had limited access to books and rich language at home found joy in exploring writing and reading using this method. When I transitioned to a private school

in an affluent suburb, the Pink Blue Green method was used. I began to notice that these

children, who had endless exposure to literacy experiences at home and in extra-

curricular activities, explored with language materials less and were reading at lower

levels than the children in the public program. There is a significant lack of research in

literacy methods for early childhood Montessori settings, as well as a lack of consistency

(Soundy, 2003). Teachers can be left to navigate best practices in literacy that align with

high fidelity Montessori.

  Maria Montessori only designed four language materials, leaving teachers to fill

in gaps based on the language and culture of students. Sandpaper Letters and the

Movable Alphabet are two original Montessori language materials for the English

language, but practices with both these materials can vary greatly between classrooms

and schools. Sandpaper letters are a didactic language material. The letters of the

alphabet are etched in sandpaper and mounted on wood. The vowels are mounted on blue

and the consonants are mounted on pink or red, just like the color coding of the Movable

Alphabet. Some teachers use green double Sandpaper Letters, which are the digraphs in

English (Figures 2 and 3) As I spoke with teachers about literacy, I found there are not

only differences in practices, but frustrations and controversy over literacy, specifically

between early childhood teachers and lower elementary teachers. I became interested in

different literacy trainings and different literacy conventions taken on in school cultures. I

was curious to see the differences between outcomes and individual teacher practices and

preferences. This study is built on data from teachers on their preferences and practices

with the Movable Alphabet. It also reviews data collected from students' work with the

Movable Alphabet when phonograms are introduced early, which is a key component to

the Muriel Dwyer method. Data was collected over a four-week period at a suburban

private school in a mixed age classroom with twenty-one children. This study aimed to

answer the question: do children write more freely with the Movable Alphabet when they

are introduced to Montessori double letter phonograms alongside individual Sandpaper

Letters?

Figure 3: The phonogram Sandpaper Letters. This material represents the graphic symbol

for digraphs, the sounds in English that require two letters. Like the individual Sandpaper

Letters, the style depends upon the handwriting convention in the classroom. The style

pictured is cursive, which was the style used for this study.

Theoretical Framework

This study uses the lens of Maria Montessori's theory of spontaneous activity, as

well as theories on emergent literacy. Through careful study and observation, Dr.

Montessori came to understand that children learn spontaneously and with joy. In *The 1946 London Lectures*, she writes: "The child must enjoy learning because he is an intelligent, free creature in the world. The characteristic of man is intelligence and so it certainly should be a joy to exercise one's intelligence." (Montessori, 2012, p. 27). Children spontaneously develop and learn not because of the promise of reward, but because they are naturally inclined to do so. Montessori classrooms provide a prepared adult and environment that help this spontaneous activity flourish. Research supports this theory. It has been shown that children can learn to read with ease when there are meaningful connections made to their life experiences (Giles & Tunks, 2014). The theory of spontaneous activity impacts the preparation of both the teacher and the environment. Literacy instruction in a Montessori environment must capitalize on this understanding of spontaneous activity.

Research shows that student outcomes are better in high-fidelity Montessori environments with minimal supplemental materials (Lillard, 2012). Theory-based practices are vital to a high-fidelity Montessori environment. Student outcomes depend on theory-based practices. When theory is not woven into literacy practices, students do not reap the full benefits of a Montessori education. With the pressure of standards and elementary readiness, Montessori educators can lose focus of their understanding of spontaneous activity. This can result in the implementation of literacy approaches that do not inspire the exploration and joyful learning that come with spontaneous activity.

Emergent literacy theories compliment Maria Montessori's work on spontaneous activity. Emergent literacy approaches are child-centered and place value on early learning experiences like play and exploration (Giles & Tunks, 2014). Developed in the

1970s, this theory emerged which placed value on activities and experiences that prepare

young children for reading. Along with decoding words, emergent literacy theory places

value on prereading skills like print awareness, vocabulary and alphabetic knowledge

(van Kleek & Schuele, 2010).

Review of Literature

Montessori education views exploration as fundamental to academic learning.

Through scientific observation, Dr. Montessori noted that children learn spontaneously

and with joy when given a prepared environment filled with opportunities for exploration

and repetition. Three to six-year-old children have an almost supernatural absorbent

mind. This superpower allows them to take in everything from their environment and

learn with ease. "…the tiny child's absorbent mind finds all it's nutriment in its

surroundings. Here it has to locate itself and build itself up from what it takes in."

(Montessori, 1967, p. 88). In the Montessori classroom, trained Montessori teachers

capitalize on this absorbent mind by preparing a rich learning environment that indirectly

prepares children for academic work. These endeavors lead to what Montessori referred

to as spontaneous activity from the child. Through careful preparation and opportunities

for repetition, children spontaneously engage in activities that support their growth and

development. The Montessori language curriculum is constructed on the idea of

spontaneous activity. Through indirect preparation and developmentally appropriate

activities, young children are eager to write and then read with ease. Current research in

literacy practices supports Dr. Montessori's views on the importance of preparation and

exploration for literacy learning. In fact, children are more likely to learn to read with

ease when there are significant connections made to their early life experiences (Giles &

Tunks, 2014).

Literacy is political. Policy often guides literacy instruction models. Montessori

schools, even when they aim to educate based on child development, are not immune to

this. When the focus is on benchmarks and elementary readiness, Montessori educators

can implement literacy approaches that do not utilize the absorbent mind or inspire the

exploration that comes from spontaneous activity. An approach too rigid and systematic

can diminish the ease and joy in literacy learning. If not careful, educators can also

develop approaches to literacy that perpetuate language inequity in the classroom. A lack

of research in the area of literacy in a Montessori early childhood setting can leave

teachers on their own to navigate authentic Montessori practices and current research in

literacy instruction. This literature review focuses on the history of literacy, two common

approaches to literacy in Montessori three-six classrooms, and best practices for

developmentally appropriate literacy instruction.

History of Literacy

Literacy has a long history, and what it means to be functionally literate in society

is ever-changing. In past centuries, only a privileged few learned to read. With the

invention of the printing press and historical events like the Protestant Reformation,

literacy became more accessible. For centuries, the family was responsible for teaching

children how to read. Formal schools took over this responsibility in the early 1900s. In

the past forty years, there has been growth in attendance of formal preschools that now

take on responsibility for early reading skills (van Kleek & Schuele, 2010).

Within the history of literacy itself, there have been longstanding debates on the best way that literacy is acquired. In modern educational contexts, there is no universal agreement among reading scholars on the best way to teach literacy to young children. In fact, research suggests that there may not be one prescribed method that can teach all children to read (Giles & Tunks, 2014). As early as the 1st century AD, there were arguments about whether literacy was possible before age seven. Some argued that children should wait until they enter formal school at seven to begin literacy instruction. Others believed that children younger than seven could begin playing games that support literacy (van Kleek & Schuele, 2010).

There are currently debates surrounding two approaches to teaching literacy: reading readiness approaches and emergent reading approaches (van Kleek & Schuele, 2010). Reading readiness is an older, skills-based approach that focuses on systematic, explicit instruction. Most reading readiness approaches are teacher-led and advocate for waiting until a child has matured to a point in which he or she is ready to learn new concepts (Giles & Tunks, 2014). Reading readiness was developed on the idea that reading was a visual skill, which drove the focus on decoding as the most important reading skill (can Kleek & Schuele, 2010). Emergent literacy approaches tend to be more child-centered and view exploration and play as vital pre-literacy skills (Giles & Tunks, 2014). Emergent literacy balances it's focus between pre-reading skills and literacy instruction. For pre-reading, the focus in on two sets of pre-reading skills. The first skill is learning about the alphabet. This includes becoming aware of phonological sounds within words and then learning to combine letters and sounds for letter-sound correspondence. The second set of preliminary skills involves reading comprehension.

These skills are vocabulary development and semantic and syntactic skills (van Kleek & Schuele, 2010).

These debates concerning reading-readiness and emergent literacy are never-ending. Trends in literacy research go back and forth between the two. Educators teaching in the same context often have different views. Research suggests that teachers with more years of experience show preference to emergent reading methods, while teachers with fewer years of experience often advocate for reading readiness approaches. Not only do educators differ in literacy approaches, but their approaches differ based on the socio-economic status of their students. Children in income-eligible classrooms experience significant disparity in literacy learning opportunities, which directly affects the approach to literacy instruction (Giles & Tunks, 2014). Teachers' attitudes around teaching literacy instruction have a significant impact on classroom practices and pedagogical decision making.

Common Literacy Approaches in Montessori Classrooms

Sensitive periods, or learning explosions, inform much of the practice in a Montessori three-six classroom. During sensitive periods, children experience a burst of growth in specific areas of development (Montessori, 2012). These periods take place outwardly after a period of inner growth and indirect preparation (Haines, 2003). The sensitive periods are order, coordination of movement, sensory perception, and language. Sensitive periods are universal to the human child, regardless of their place in the world (Montessori, 1967). From birth to age six, children are in their sensitive period for language. The prepared environment is designed to be rich in opportunities that support the sensitive period for language. Understanding the sensitive period for language can

impact the type of literacy approach offered in a Montessori primary classroom. Support

for the sensitive period for language is not limited to supporting proficiency in standard

English with materials on the shelf. When educators focus on a child's knowledge of

standard English, language inequity can be perpetuated (Christensen, 2014). While many

stories of language inequity and instances of language supremacy occur with upper-level

students, Montessori early childhood educators can perpetuate language inequity through

the literacy approaches implemented. Primary teachers must evaluate their own practices

and ask themselves the question: am I supporting the sensitive period for language or a

sensitive period for English?

Montessori laid out a clear path for writing and reading in her language

curriculum work (Montessori, 1949). After indirect preparation with sensorial materials,

practical life activities and oral language exercises, children are introduced to Sandpaper

Letters. Through this multi-sensory experience, children learn the graphic symbols for the

sounds that make up words. Children are then introduced to the Movable Alphabet,

where they are free to express their thoughts with the graphic symbols of the alphabet

before mastering the mechanics of handwriting. Handwriting is perfected through

drawing with the Metal Insets. After much work with the Movable Alphabet, children

show readiness for reading and begin reading activities spontaneously and with joy. This

method is built on the links between language and motor development, as well as the link

between oral and written language, which current research has validated as an effective

approach (Hald, Nooijer, van Gog, & Bekkering, 2016). Dr. Montessori created this path

to reading in Italian, which is a phonetic language. Translating this into a path for writing

and reading in English has led to several different literacy approaches in English-

speaking Montessori programs. Even in robust Montessori programs that clearly teach children writing and reading, there is little research on how language and literacy develop in a Montessori classroom, especially in programs that focus on early childhood (Soundy, 2003). This literature review focuses on two commonly followed literacy approaches in Montessori classrooms: The Pink Blue Green approach and the Muriel Dwyer approach.

The Pink Blue Green literacy approach is a systematic approach to literacy. After indirect preparation with sensorial and practical life activities, as well as vocabulary building activities, children are first introduced to the twenty-six individual sandpaper letters, sometimes in a specific order. Once children show some mastery, they move on to the Movable Alphabet. Writing with the Movable Alphabet is done with initial sounds, followed by short phonetic words using objects or pictures. Children are then introduced to three-letter consonant-vowel-consonant reading through a series of many activities. Once children have completely mastered the CVC activities on the pink level, they move to the blue level, which consists of phonetic blends. After the blue reading activities are completed, children move on to green level lessons, which are words with two-letter phonograms. Phonograms are the 14 key digraphs in the English language. Each phonogram has several reading activities to be mastered before moving on to the next. Children often follow this pattern when working with the Movable Alphabet, as well. Children begin writing simple CVC words and continue through the Pink Blue Green sequence in their writing (Montessori training album, 2018). The Pink Blue Green approach is a systematic method of reading and writing that ensures mastery before new layers of difficulty are added.

The Muriel Dwyer (2004) approach also offers a systematic approach to literacy. Dwyer came about this method by offering children what she referred to as "keys" to the English language. The first key is built into the language rich classroom. Through spoken language games, children gain a strong understanding that words are made up of individual sounds. After indirect preparation from sensorial materials, practical life lessons and spoken language games, children are introduced to the graphic symbols for all forty sounds in the English language. This includes the individual Sandpaper Letters alongside the phonogram Sandpaper Letters. Children then move to the Movable Alphabet, where they are able to freely express their thoughts through writing. Children remain in the writing stage, often writing but unable to read what they have written. When children show readiness, phonetic then phonogram reading activities are introduced. After children can read with phonograms, they are introduced to further exploration of reading through alternate spelling patterns of phonograms (Dwyer, 2004). The key to Dwyer's approach is building a foundation of pre-reading skills that support the child through the process. This idea follows Montessori's ideas on indirect preparation and exploration through spontaneous activity (Montessori, 1949). Current research supports the ideas presented in Muriel Dwyer's work. It is commonly agreed upon that learning works best when students can link the information they are trying to learn with the information they have already learned (Hald, Nooijer, van Gog, & Bekkering, 2016). The strong foundation of spoken language provided in the Muriel Dwyer approach to Montessori literacy builds a robust vocabulary that will support later reading and writing. (Dwyer, 2004).

Research suggests that the goals of quality early literacy instruction must elevate children's daily language experiences and appropriately scaffold skills being developed in the classroom each day (Soundy, 2003). These two methods meet those goals in different ways. Both of these methods support indirect preparation through other Montessori curriculum areas. The significant difference between the Dwyer method and the Pink Blue Green method is the early introduction of two-letter phonograms. The Pink Blue Green method sees that children master some phonetic reading before being introduced to double letter sounds. The Dwyer method introduces the key phonograms alongside the single Sandpaper Letters, offering a wider range of opportunities for the child to freely explore in writing with the Movable Alphabet.

Conclusion

Montessori is built on a pedagogy that sees exploration and spontaneous activity as universal to the human child. Through indirect preparation, a language rich environment and sensorial experiences, children can learn to read and write with joy (Montessori, 1949). Current research supports this as a developmentally appropriate pathway to literacy. Research suggests that the focus should not be on one prescribed method for literacy instruction but should center the focus on a language rich environment, with opportunities for meaningful exploration (Giles & Tunks, 2014). Montessori educators must reflect on their practices to ensure that exploration can flourish in an educational climate often fueled with academic pressures and back and forth trends in literacy instruction. Different approaches to literacy can be successfully implemented to maintain a high-fidelity Montessori program as long as teachers keep the understanding of spontaneous activity and the absorbent mind at the center. There is a

lack of research in the field of literacy in an early childhood Montessori context. Further research in this area would guide Montessori educators as they navigate implementing authentic Montessori programming and current research to support a diverse body of students in the best way possible.

Methodology

This study examines literacy practices with didactic materials in a Montessori early childhood classroom. The children in this four-week study were three-six-year-olds in a private, suburban Montessori school in the southern US. There were twenty-one students total. Eighteen attended school all day, three children delayed coming to school in person due to Covid-19, and one left at 12pm each day. All students except one attended five days a week. One student was absent every Friday. Five of the students were kindergarteners. Five students were new to Montessori and sixteen students were returning to the classroom from the previous year or moving from the school's Montessori toddler program. There were nine boys and nine girls in the classroom participating in in-person learning.

This was my fifth year as a lead classroom teacher and my third year in this classroom. I completed my Montessori credential through the American Montessori Society in 2018. The experience transitioning from a public Montessori program to a private Montessori program inspired many of the questions that led to this study.

The study had two goals. One was to examine teacher practices with the Moveable Alphabet, a Montessori material designed to help children manipulate the alphabet to express themselves before mastering the mechanics of pencil and paper. The second goal was to see how introducing sandpaper phonograms alongside individual

Sandpaper Letters increased student-led work with the Movable Alphabet. These goals

were met through several different means: a teacher survey on practices with the

Movable Alphabet (See Appendix A), a tracker for Sandpaper Letter lessons (See

Appendix B), a teacher journal on Sandpaper Letter lessons (See Appendix C), a rubric to

analyze work with the Movable Alphabet (See Appendix D) and observation notes (See

Appendix E).

　　　The teachers surveyed hailed from both public and private Montessori schools in

both suburban and rural settings (see Appendix A). The educators were all female and

had varying years of classroom experience, from one year to over ten years' experience.

The survey included seven questions, ranging from multiple choice questions to open

ended questions. The teachers were asked about their Montessori teacher training, their

definition of writing, and their classroom practices with the Movable Alphabet, one of the

original Montessori language materials (see Figure 2).

　　　The intervention included introducing a phonogram each time a Sandpaper Letter

lesson was given (See Figure 3). A tracker was used to document the letter sounds that

were presented to the students (see Appendix B). Each student had a notecard with the

tracker printed on it. The sound was circled after it had been introduced to the child. A

teacher observation journal was used to note any differences in recalling phonogram

Sandpaper Letters compared to individual Sandpaper Letters (see Appendix C). Once the

child had at least thirty sounds mastered, they were introduced to the Movable Alphabet

(See Figure 2). The rubric was used to see if their work was student-led, writing words

from their own mind, or more teacher-driven, writing words from a predetermined list of

objects or pictures. The style of Sandpaper Letters and the Movable Alphabet is based on

the handwriting conventions in the specific classroom. In this study, both the Sandpaper

Letters and the Movable Alphabet were in cursive.

Muriel Dwyer laid out the forty key sounds in English (2004). The sounds in

English are as follows and were presented three at a time (two individual letters and one

phonogram) and in no particular order: *a, b, c, e, f, g, h, I, j, k, l, m, n, o, p, r, s, t, u, v, w,*

x, y, z, ch, sh, th, oy, qu, ai, ar, er, or, ee, ie, oa, oo, ue. (see Appendix B).

Several times a week, I gave lessons on the Sandpaper Letters and included a

phonogram Sandpaper Letter in each lesson. The lessons were given to children who had

shown phonemic awareness through oral language games and teacher observation. This

mastery included identifying the beginning, ending and middle sounds in words through

the game I Spy, sometimes called The Sound Game, as laid out in the Dwyer approach to

literacy (Dwyer, 2004). The lessons were given in a classic Montessori three-period

lesson. In the Montessori environment, new concepts and vocabulary are taught in what

is called a three-period lesson. Dr. Montessori laid out these three periods in her original

writing (Montessori, 1949). The first period identifies the new information or concept by

name. In this case, it is graphic symbols for letter sounds. "This is what the sound /g/

looks like," was the phrase used to introduce the children to the graphic symbols for letter

sounds in the first period. The second period asks the student to identify the new

information. "Point to /g/" was the phrase used during lessons. The second period can last

for several lessons. Second period reviews of new information can include different

games and activities. During the second period, the name or concept is repeated often to

support retention. "Point to /g/." "Bring me /g/." The third period asks the child to recall

the new information by name. "What's this?" is asked when pointing to a specific letter.

Three-period lessons are a common assessment tool in a Montessori classroom to gauge a

child's understanding of new information (Montessori, 1949). Montessori teachers do

not ask a child to recall information in the third period until a child shows confidence and

mastery in recalling information in the second period. This study only includes data from

children recalling the Sandpaper Letters in the second period. I took notes in a journal

after each lesson, noting differences in recalling phonograms in the second period

compared to recalling individual letters in the second period (see Appendix C). Lessons

were also tracked on small notecards with all forty key sounds (see Appendix B), with

markings to indicate which letters children had been introduced to. My goal was to

introduce a child to all forty key sounds within a two-week period to further support

mastery, as suggested in the Muriel Dwyer pamphlet (2004).

Once children showed mastery of the graphic symbols for at least thirty sounds in

English, they were introduced to the Movable Alphabet. The first presentation of the

material included games to orient to the box of letters. The children were asked to take

out specific letters and return them to their spot in the box. This initial lesson was used as

an assessment to note any difficulty a child had identifying letter sounds. After one or

two orientation lessons on the Movable Alphabet, children were invited to write words

with the letters. The children were asked a simple question before each lesson: "Would

you like to use objects from the box, or would you like to think of your own words to

write?" An attractive box of objects representing phonetic words was placed next to the

Movable Alphabet on the shelf. Data was collected through a rubric (See Appendix D)

on whether children chose to use the objects or write their own words.

Analysis of Data

This study was designed to examine literacy practices in the Montessori early childhood classroom. Quantitative data was collected from teachers through a survey on their practices with the Movable Alphabet (see Appendix A). Data was also collected in the classroom over four weeks from observation notes (see Appendix E), a teacher journal recording Sandpaper Letter lessons (see Appendix C), and a rubric rating student writing with the Movable Alphabet (see Appendix D). Presentations of sounds were tracked on a tracking sheet for each child (see Appendix B).

Twelve early childhood Montessori teachers were surveyed for this study. Teachers surveyed were from both public and private schools in rural and suburban environments. They were asked seven questions, including questions about their practices with the Movable Alphabet. Below are excerpts from the survey. Teachers surveyed varied from one year in the classroom to over ten years of classroom experience and were all female. Teachers surveyed received training from different Montessori organizations, including The American Montessori Society, The Center for Guided Montessori Studies, and Association Montessori Internationale. All teachers surveyed held a credential from a teacher training institution accredited by the Montessori Accreditation Council for Teacher Education. Montessori teacher trainings can vary on language training. The table below shows how the teachers responded to the question "Do your classroom practices with the Movable Alphabet align with your training?"
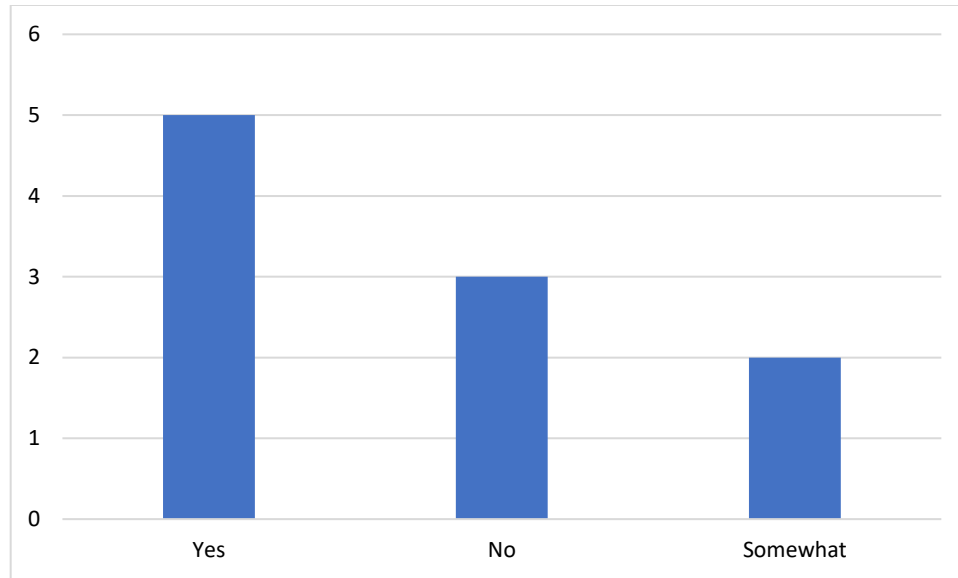
Figure 4: Responses for "Do Your Classroom Practices Align with Your Training on the Movable Alphabet?"

Of the twelve teachers surveyed, ten teachers answered the question "Do your classroom practices align with the Movable Alphabet align with your training?" 50% of teachers responded yes. The other 50% responded no or somewhat. Teachers did not elaborate on the discrepancies between their teacher training and their classroom practices.
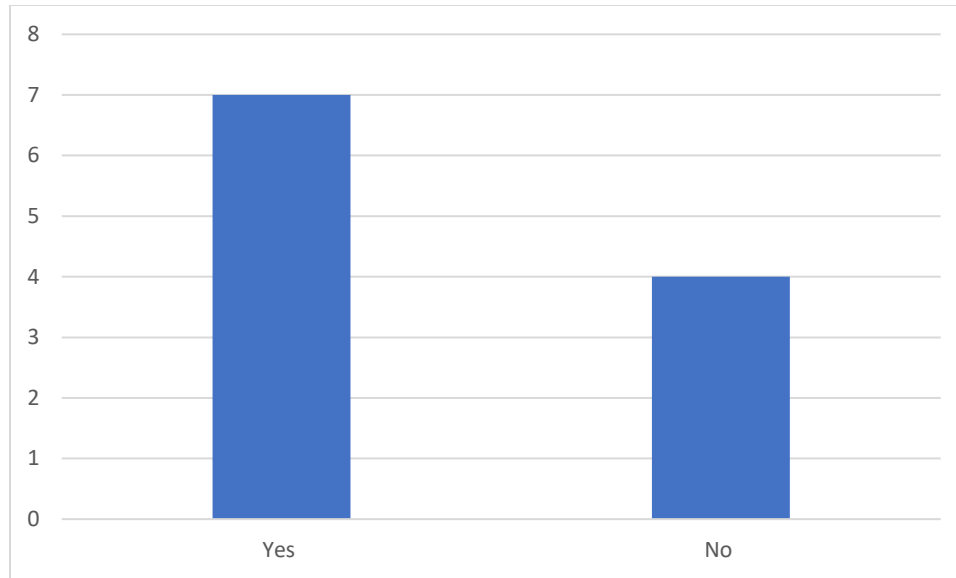
Figure 5: Teachers' responses for "Do teachers view writing as the expression of the child's own thoughts?" Each bar represents the number of teachers.

In her original writings, Montessori stated that writing is taught before reading. Writing, in that context, meant authorship. It meant that children could manipulate the alphabet to express their thoughts before they were able to read. Some teachers surveyed see writing as the mechanics of handwriting. Others view writing as simply encoding words from a determined list of phonetic words. The above graph shows how the Montessori teachers surveyed define writing. Seven teachers viewed writing as expression of thoughts, while others view writing as simply encoding predetermined words. Others see writing as handwriting. One of the questions asked in the survey was: "The Montessori curriculum teachers writing before reading. Please define what you understand writing to be." One teacher with over ten years' experience answered: "All the preliminary works like pin pushing, practical life, art shelf activities, sensorial, etc are all precursors to actual writing. The salt tray, Sandpaper Letters, Metal Insets are all used to prepare children to write in the technical sense." Other teachers answered

specifically addressing expression of thought. Some answers include: "Expressing your

thoughts without talking," and "Your own thoughts. Writing is internal. Writing is

about connecting the sounds you hear in words and putting a symbol to those sounds to

create a written word." Other teachers described encoding and handwriting, but not

expression of thought: "Writing in the 3-6 environment can look like many things:

scribbles, outrageously misspelled words with the movable alphabet, or perfectly

formed cursive sitting properly on a line." (Teacher Survey, September 2020). In this

survey, 64% of the teachers surveyed defined writing solely as expressing an individual's

own thoughts. 36% defined writing as something outside of expression of thought,

whether encoding pre-determined words or as handwriting.

      Quantitative data was taken from students in the classroom using a teacher journal

to track Sandpaper Letter lessons (see Appendix C) and a rubric (see Appendix D).

Qualitative data was collected using observation notes (see Appendix E). Each time a

Sandpaper Lesson was given, a sandpaper phonogram was included. The children were

assessed on their ability to recall the sounds in the second period, following the model of

the three-period lesson. The three-period lesson is a common Montessori practice to

introduce new concepts or information. It is also a commonly used tool for assessment in

a Montessori early childhood setting. This assessment was given by asking the child to

point to a specific letter sound. The assessment was also used by playing a second period

distance game. The children moved each letter that was presented to a table across the

classroom. The children were then asked to retrieve specific letters by their sound. Data

was collected on whether children showed difficulty recalling the phonogram Sandpaper

Letters. Quantitative data was collected in the form of observation notes in a journal (see

Appendix C) to note any difficulties recalling the phonograms over the individual

sandpaper letters. Qualitative data was arecorded in observation notes (see Appendix E).

Out of nineteen lessons on the Sandpaper Letters, only three children showed

difficulty recalling phonograms in the second period. Two of the children who showed

difficulty recalling phonograms showed difficulty recalling all the sounds they were

presented with, including individual Sandpaper Letters. Three children consistently

showed difficulty tracing the phonograms, but showed no difficulty recalling them by

their sound in the second period (Classroom Observations, 2020).

The following table shows whether children showed difficulty recalling sandpaper

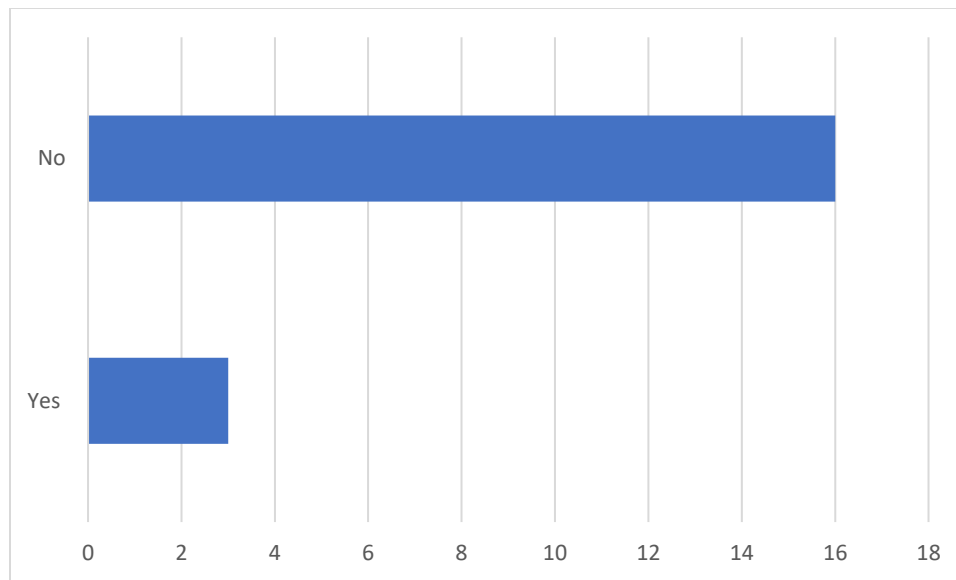phonograms compared to individual Sandpaper Letters:

Figure 5: Data collected from Sandpaper Letter Lessons. "Did Children Show Difficulty

Recalling Sandpaper Phonograms compared to Individual Sandpaper Letters?" Each bar

represents the number of students.

Children's Preferences for Creative Writing

Quantitative was also collected from the children's writing with the Movable Alphabet (see Appendix C). Once the children showed mastery of at least thirty sounds, they were introduced to the Movable Alphabet. This is the Montessori material designed for children to manipulate letters before mastering the mechanics of handwriting (see Figure 2). The children that participated in these Movable Alphabet lessons were second year students in the classroom. The students were asked, "Would you like to use the objects for writing, or would you like to write your own words?" This question was asked each time the children were invited to work with the Movable Alphabet. Data was only collected from children being introduced to writing with the Movable Alphabet, not children who already had experience working with the material in more advanced ways or children who had been introduced to the material the previous year. The graph below shows the times children chose to write their own words over writing words from a prepared box of phonetic objects to guide their writing.
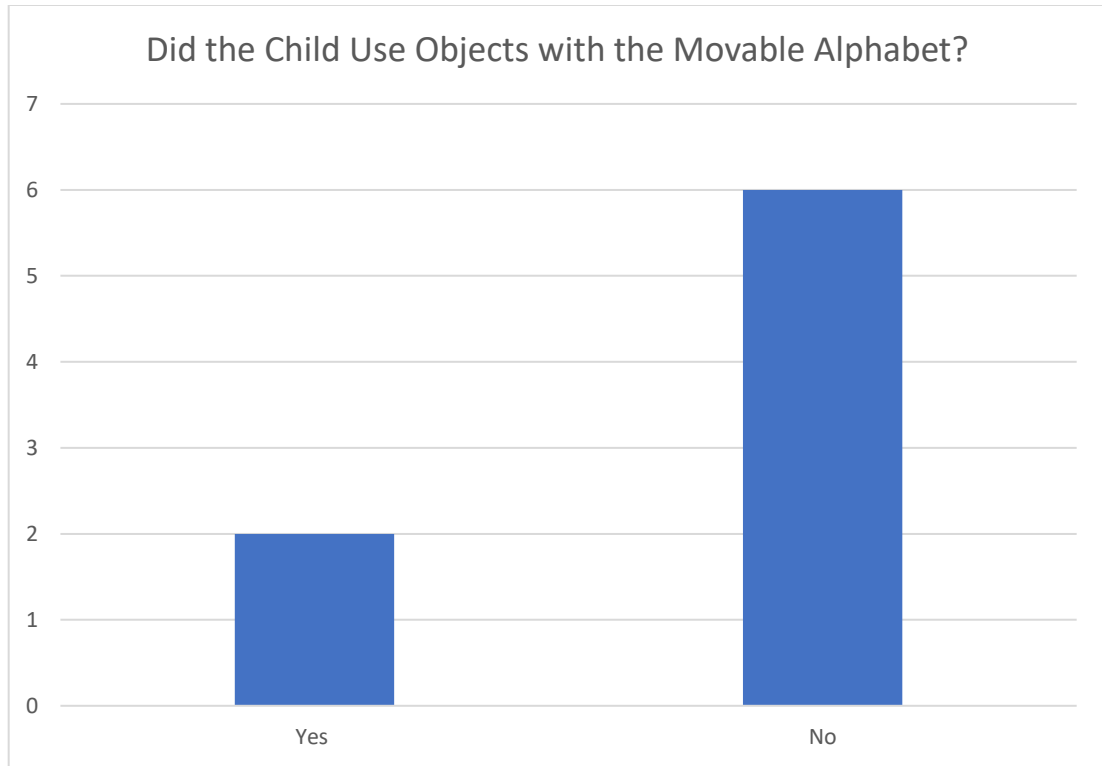
Figure 6: Data collected from writing with the Movable Alphabet. "Did the Child Use

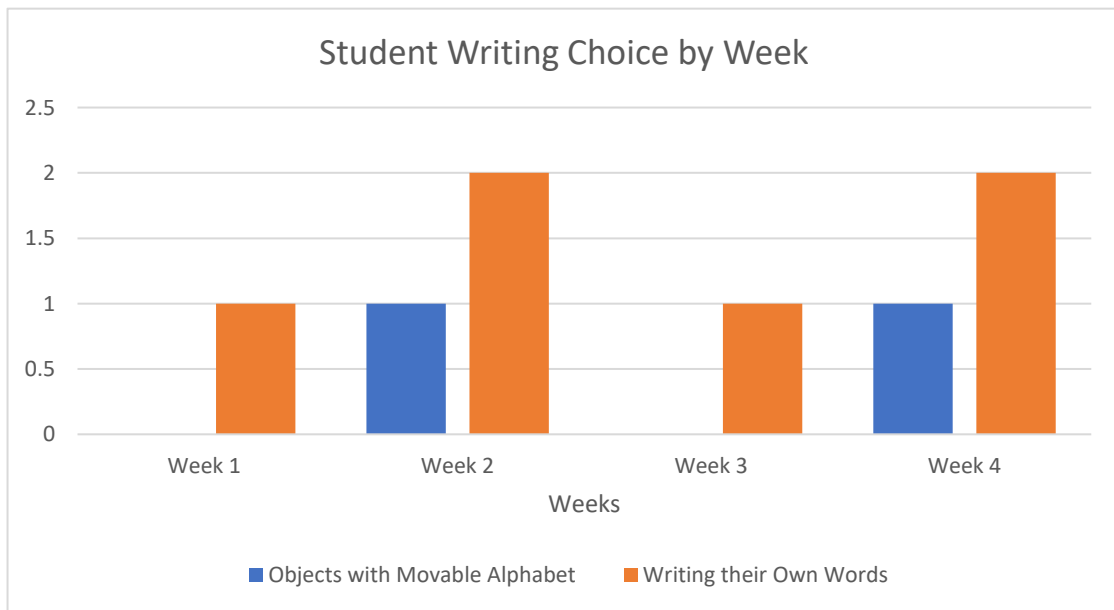Objects with the Movable Alphabet?"

Figure 7: Data collected from student writing choice week by week.

The object box included small objects that represented the following phonetic words: log, box, hand, insect, cat, ax. In the teacher survey, 36% of teachers stated they do not offer objects with the Movable Alphabet. 64% of teachers answered that they did use objects to guide writing with the Movable Alphabet (Survey, September 2020). This data shows that students chose to write their own words instead of using the prepared objects 71% of the time. Students chose to use the objects 29% of the time. Three times, students who chose to write their own words wrote a list of their family members. One child made a list of his family's favorite foods. He wrote "sald" for salad, "fesh tacos" for fish tacos, "tee" for tea, "cofee" for coffee (Classroom Observations, Oct. 2020).

In summary, the data collected demonstrated three principles: Teachers vary in their understanding and practices with the Movable Alphabet. Children do not show difficulty recalling phonograms compared to individual Sandpaper Letters. Children show a preference toward creative writing with the Movable Alphabet.

Action Plan

The purpose of this study was to examine the effects of the early introduction of phonogram Sandpaper Letters on student writing with the Movable Alphabet. Data was collected from a teacher survey, and from lessons on Sandpaper Letters and the Movable Alphabet. The study aimed to answer the question: do children write more freely with the Movable Alphabet when introduced to phonograms alongside individual Sandpaper Letters?

Based on the research conducted in this study, children showed little or no difficulty recalling phonograms compared to individual Sandpaper Letters. The study also demonstrated children's preferences for creative writing, which can have an impact

on teacher practices. According to the study, children often chose to write their own words with the Movable Alphabet when given a choice. The practice of offering objects or pictures to guide writing with the Movable Alphabet is common in many Montessori classrooms (Montessori Training Album, 2018). Data collected from the teacher survey found a disconnect between children's preferences for choosing their own words and teachers' practices of using objects with the Movable Alphabet. Understanding children's preferences for creative writing can have a direct impact on daily classroom practices.

These findings can impact practices with the Movable Alphabet and the language curriculum in general. Research shows that high fidelity implementation of the Montessori curriculum affects student outcomes (Lillard, 2012). Dr. Montessori developed her literacy curriculum in Italian, a phonetic language. In her original writings, Dr. Montessori described an almost seamless literacy process (Montessori, 1949). English is quite different from the phonetic language of Italian. There are digraphs and spelling rules, with an exception for nearly every rule. I'm sure we can all hear, "I before e except after c or when sounding like /ai/ as in neighbor and weigh," in our minds right now. The Montessori literacy approach has been adapted to accommodate these intricacies. Although Dr. Montessori designed the language curriculum in Italian, children who learn to read and write in English still show a strong interest in language during their sensitive period for language (Haines, 2003). Often, necessary adaptations are made to the original Montessori language curriculum to translate from Italian to English. These adaptions can include systematic writing with the Movable Alphabet, guided by objects and pictures. This study validates that children can experience the joy of spontaneous activity within the language curriculum, just like they did in Dr.

Montessori's original writings. Further research can be conducted on best practices in literacy instruction in Montessori early childhood classrooms. Research confirms that student outcomes are higher when supplemental materials are not utilized in the Montessori classroom (Lillard, 2012). Further study can be directed on supplemental literacy approaches and the use of commercial literacy materials in Montessori environments.

The study had two limitations: time and a lack of pre-research and post-research data collected from teachers. One limitation of the four-week study was time. Although Muriel Dwyer suggests that all forty key sounds be introduced with Sandpaper Letter lessons in two weeks (Dywer, 2004), this does not mean that children will transition from Sandpaper Letters to the Movable Alphabet after two weeks. There is a period needed for second-period review of the letter sounds before mastery. This study aimed to link more spontaneous student-led writing with the early introduction of phonograms. Three of the children made it to the Movable Alphabet after the Sandpaper Letter intervention. These three children were all second-year students in the classroom who had indirect preparation for Sandpaper Letters through work with other materials in the classroom.

There were also limitations in the data collected from teachers. Data collected from the teacher survey showed that trained Montessori teachers vary in their understanding of and practices with the Montessori language curriculum. The survey showed that teachers within the same school vary on their attitudes about student writing and about their practices with original Montessori materials, like the Movable Alphabet. A pre- and post-intervention survey for teachers would help in future studies.

In her writings, Dr. Montessori described writing, or authorship, before reading (Montessori, 1949). The survey showed that modern Montessori teachers might have shifted in their view of what writing means. This opens extensive options for further investigation. Future studies can be done to explore practices within teacher training programs to explore literacy instruction at the teacher training level. This can not only impact individual training centers, but national accrediting associations as they seek to provide high-fidelity Montessori teacher education.

One recommendation for future study is increased time. Literacy is a continuum that follows a path early on in childhood until children reach fluency in the elementary years. Data was collected in four weeks in one classroom. A longitudinal study that follows the children from early introduction of phonograms to the Movable Alphabet to reading lessons could give a better picture of the impacts of introducing phonograms early. Montessori's work on writing before reading (Montessori, 1949) and emergent literacy research (Giles & Tunks, 2014) can be used to better understand the link between early writing skills and reading development. A more extended study that introduces phonograms early and links spontaneous writing to reading outcomes would be valuable. Research can be extended to follow children from early introduction of phonograms all the way through elementary. This can have an impact on the way early childhood and elementary teachers provide continuity to children during transitional periods as they move between levels.

The conclusions of this study can impact the daily practices of Montessori early childhood teachers. Developmentally appropriate practices are at the center of the Montessori philosophy. Even the most well-intentioned Montessori teachers can lose

sight of the philosophy's foundation and developmentally appropriate practices,

especially in an educational climate that emphasizes elementary readiness and

standardized testing. Can supplemental language materials and commercial literacy

programs stifle the exploration-based approach to literacy in a Montessori environment?

The Montessori method is time tested and evidence based. This study concluded what Dr.

Montessori realized more than a century ago: children can and will learn spontaneously

and with joy when given the right conditions. We can trust the method, and we can trust

the children.

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Appendix A

Movable Alphabet Survey Consent and Questions

You are invited to participate in this research project because you are a trained Montessori teacher. This project is being conducted by Margaret Beagle at St. Catherine University. The purpose of this survey is to hear about teachers' trainings and practices with the movable alphabet in 3-6 Montessori classrooms . The survey includes items about Montessori language and literacy. The data that we collect from this survey will be used for an action research project examining literacy approaches in Montessori 3-6 classrooms. It will take approximately 10 minutes to complete.

Your responses to this survey will be anonymous and results will be presented in a way that no one will be identifiable. Confidentiality will be maintained to the degree permitted by the survey technology used, Google Survey. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties.

Your participation is voluntary and your decision whether or not to participate will not affect your relationships with the researcher or St. Catherine University. If you decided to stop at any time you may do so. You may also skip any item that you do not want to answer. If you have any questions about this project, please contact Margaret Beagle, margaretbeagle@gmail.com , or the Institutional Reviewer Board Chair: John Schmitt, PT, PhD, 651.690.7739; jsschmitt@stkate.edu. By responding to items on this survey you are giving us your consent to allow us to use your responses for research and educational purposes.

1. How many years have you been in a 3-6 classroom?
2. From what organization did you receive your training?
3. Describe the Movable Alphabet.
4. Montessori language curriculum focuses on writing before reading. Please define what you see as writing.
5. Describe the sequence you use in the classroom with the movable alphabet in relation to reading lessons?
6. Do your classroom practices with the Movable Alphabet align with your training?
7. Do you use objects with the Movable Alphabet?

Appendix B
Sandpaper Letter Tracker

a   b   c   d   e   f   g   h   i   j   k   l

m   n   o   p   r   s   t   u   v   w   x   y   z

sh   ch   ee   oa   ie   qu   th   au

oy   er   or   ai   ou   ue   oo   ar

Appendix C

Sandpaper Letter Presentation Teacher Journal

Did the student show difficulty recalling phonogram sandpaper letters compared to individual sandpaper letters:

Yes	No
Phonogram:	

Notes:

Sandpaper Letter Presentation Teacher Journal

Did the student show difficulty recalling phonogram sandpaper letters compared to individual sandpaper letters:

Yes	No
Phonogram:	

Notes:

Sandpaper Letter Presentation Teacher Journal

Did the student show difficulty recalling phonogram sandpaper letters compared to individual sandpaper letters:

Yes	No
Phonogram:	

Notes:

Appendix D

Moveable Alphabet Writing Rubric

Child _____
Date_____

	Yes	Sometimes	No
Uses objects			
Uses pictures			
Writing words independently			

Circle one:

Teacher initiated use of Moveable Alphabet

Child initiated use of Moveable Alphabet

Appendix E

Observation Notes

Child:	Movable Alphabet or Sandpaper Letters	Lesson Notes: