The Effect of Seesaw Technology on Parent Engagement at Private Montessori Schools

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The Effect of Seesaw Technology on Parent Engagement at Private Montessori Schools

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Abstract

The researchers looked at how using Seesaw technology, in a six-week parent education intervention, would affect parent engagement with their children in learning at home as well as parent understanding of Montessori principles. The research participants were 31 parents and 2 teachers at two private, urban Montessori schools. Data was collected through pre and post-intervention questionnaires, teacher logs of parent questions, and Seesaw usage data. Through the intervention, we saw parent knowledge of Montessori principles, parent engagement, parent efficacy, and parent confidence in Montessori education beyond preschool increase. Parents also enjoyed interacting with each other as a community of parents, building a school community.

The research supports Seesaw as an effective tool for parent education in today’s digital world. Technology is something that is familiar to today’s parent and can be utilized more specifically and intentionally by schools to connect parents to student learning activities, to their community, and to encourage their own growth as parents. This growth was demonstrated by a shift in parents’ focus from the external (child’s behavior) to the internal (adult’s role in preparing the environment) consistent with Montessori’s prepared adult.

Keywords: technology, Montessori, parent education, parent engagement, parent efficacy, parent involvement, parent confidence, Seesaw, prepared adult, student retention, building school community
The Effect of Seesaw Technology on Parent Engagement at Private Montessori Schools

In our experience as teachers and administrators in Montessori schools, we have seen firsthand the success our students have experienced when their parents understood the Montessori philosophy and implemented Montessori practices at home. Children thrive when the adults in their lives approach learning consistently. “When parents and teachers work together and honor children’s natural process of development, the more children will be able to manifest their greatest potentials and lead us to a brighter future” (McFarland, 2013, p 39).

Montessori education is quite different from traditional education. Most parents were not educated in the Montessori method. This makes the need for Montessori parent education even more critical. Despite research indicating that parent involvement is key to positive student outcomes, parents do not seem to have enough time or know the right ways to be involved in their children’s education and development.

Our schools have typically offered parent education workshops in the evenings or on the weekends. However, attendance at these in-person events has dwindled. Working with families at private Montessori schools in an urban area, we have found that “busyness” and “not having enough time” are grave barriers to families engaging with their child’s education at home.

Seesaw (https://web.seesaw.me) is a digital communication platform where teachers can post and provide vital information, allowing parents to easily access it through an app on their phone or computer. The parents can read and view all posted information and respond and interact with the teacher, offering a convenient, digital avenue for parent and teacher communication.
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The purpose of our study is to research if the use of Seesaw technology can be effective in communicating parent education topics, increasing parents’ levels of involvement, understanding of Montessori principles, and implementation of Montessori practices in the home. By posting small nuggets of information about how we, as Montessorians, approach different aspects of a child’s growth, development, or challenges families face, we shared knowledge and encouraged families to practice Montessori philosophy at home with their children. Just like in-person parent education workshops, Seesaw builds community through opportunities to interact with other families as they seek to implement Montessori practices in the home.

Research Questions

Primary: What effect does using Seesaw for parent education have on parent understanding of Montessori philosophy in private Montessori early childhood classrooms (2.5-6 years)?

Secondary: What effect does using Seesaw for parent education have on parent implementation of Montessori practices at home?

Review of Literature

The trend of declining parent involvement and engagement is happening in schools nationwide (Flynn & Nolan, 2008). This is especially concerning as research studies have shown parent involvement to be connected with better outcomes for students (Henderson & Berla, 1996). Busy parents are leveraging computer and smartphone technology to allow them to access information in convenient ways. These technologies could be the answer to how we can get families “to show up” for important information that can help their child succeed in school.
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Definition of Terms

In our research, several important terms need to be defined. The first is “parent education.” “Parent education” is a process for helping parents understand children’s development, needs and uniqueness, and their own parental roles and responsibilities. “Parent education” offers strategies, tools, and insight for observing, interpreting, and responding to children’s behaviors to maximize positive outcomes for both children and families (Virginia Statewide Parent Education Coalition, 2013).

“Parent involvement” includes both home-based behaviors (homework, reading, projects) and school-based activities (school events, volunteering in the classroom). It also includes parent and teacher communication that happens in parent-teacher conferences, in person, and through electronic communication (Olmstead, 2013).

Ferlazzo (2011) described a deeper level of parent involvement which he termed “parent engagement.” Moving from parent involvement to “parent engagement” involves a paradigm shift on the part of school leaders and parents. Parent involvement is often more of a "doing to," while engagement is a "doing with." Ferlazzo explained that with involvement, schools tend to lead with their mouth by generally telling parents what they should be doing. Engagement, on the other hand, has schools leading with their ears by listening and responding to parent’s needs, questions, and ideas (Ferlazzo, 2011).

However, the right kinds of school-family connections—those built on relationships, listening, welcoming, and shared decision making—can produce multiple benefits for students, including higher grade point averages and test scores, better attendance, enrollment in more challenging courses, better social skills, and improved behavior at home and at school (Ferlazzo, 2011, pg. 10).
Home and school communication is defined as the ongoing conversation between parents and the school. This conversation should flow both ways. Technology is defined as an electronic communication tool (i.e. email, social media, text messaging, Seesaw).

Theory Base

As Montessori educators conducting research in Montessori schools, we are approaching our research through a constructivist lens. Constructivism is a theory of learning based on the idea that humans construct their own knowledge through direct experience, as opposed to being taught concepts in the abstract. Constructivists believe that learners make sense of new situations based on their existing understanding. Learners do this by actively linking new information to their previous knowledge (Ültanır, 2012). Constructivists do not see knowledge as a product, rather they see knowing as a process. Dewey and Piaget both agreed that knowledge is subjective: “Knowledge is not external and objective reality but a process that includes the action itself” (Ültanır, 2012, p. 199). Dr. Montessori built upon the work of Dewey and Piaget with her ideas of the decentered teacher and the classroom environment as a teacher (Ültanır, 2012). We structured the Seesaw Parent Education Intervention to help parents construct their own knowledge through hands-on activities, just like our students learn in the Montessori classroom.

 Epstein’s theory of the Six Types of Parent Involvement has also influenced our approach to parent education. This is a framework which defines six aspects of parent involvement that will have a positive effect on student success. The six types are: parenting support, facilitating communication, encouraging volunteering, fostering home learning, involve parents in decisions, community activities (Hatter, 2017). Through Seesaw, our intervention delivered workshops for parents through a convenient online portal. Our intervention disseminated information on topics that address a parent’s need for support, encourage opportunities to get involved with the school
community, and foster their child’s learning at home. Epstein’s first type of parent involvement, parent support, looks to the school to help parents understand child development and refine parenting skills. Table 1 redefines “workshop” to include various ways for information to be shared with families.

Table 1: Epstein’s Framework of Six Types of Involvement. Type 1: Parenting (Epstein, 2017).
Epstein’s second type of involvement is communicating. For schools and parents to partner successfully, clear and consistent two-way communication is necessary. Table 2 highlights that two-way communication should actually be redefined as “many way” communication between schools, families, students, and communities.

### Epstein’s Framework of Six Types of Involvement
(Including: Sample Practices, Challenges, Redefinitions, and Expected Results)

<table>
<thead>
<tr>
<th>TYPE 2</th>
<th>COMMUNICATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design effective forms of school-to-home and home-to-school communications about school programs and children’s progress.</td>
<td></td>
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**Sample Practices**
- Conferences with every parent at least once a year, with follow-ups as needed.
- Language translators to assist families as needed.
- Weekly or monthly folders of student work sent home for review and comments.
- Parent/student pickup of report card, with conferences on improving grades.
- Regular schedule of useful notices, memos, phone calls, newsletters, and other communications.
- Clear information on choosing schools or courses, programs, and activities within schools.
- Clear information on all school policies, programs, reforms, and transitions.

**Challenges**
- Review the readability, clarity, form, and frequency of all memos, notices, and other print and nonprint communications.
- Consider parents who do not speak English well, do not read well, or need large type.
- Review the quality of major communications (newsletters, report cards, conference schedules, and so on).
- Establish clear two-way channels for communications from home to school and from school to home.

**Redefinitions**
- "Communications about school programs and student progress" to mean two-way, three-way, and many-way channels of communication that connect schools, families, students, and the community.

**Results for Students**
- Awareness of own progress and of actions needed to maintain or improve grades.
- Understanding of school policies on behavior, attendance, and other areas of student conduct.
- Informed decisions about courses and programs.
- Awareness of own role in partnerships, serving as courier and communicator.

**Results for Parents**
- Understanding school programs and policies.
- Monitoring and awareness of child’s progress.
- Responding effectively to students’ problems.
- Interactions with teachers and ease of communication with school and teachers.

**Results for Teachers**
- Increased diversity and use of communications with families and awareness of own ability to communicate clearly.
- Appreciation for and use of parent network for communications.
- Increased ability to elicit and understand family views on children’s programs and progress.

Table 2: Epstein’s Framework of Six Types of Involvement. Type 2: Communicating (Epstein, 2017).
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Epstein’s third type of involvement, volunteering, invites families to participate in helping support schools. Table 3 redefines “volunteer” to mean anyone who supports school goals and children’s learning and development in any way, at any place, and at any time— not just during the school day at the school building.

Table 3: Epstein’s Framework of Six Types of Involvement. Type 3: Volunteering (Epstein, 2017).

Epstein’s fourth type of involvement, learning at home, encourages parents to support their child’s academic learning at home through homework and other curricular activities. Table
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4 redefines “help at home” to mean encouraging, listening, reacting, praising, guiding, mentoring, and discussing— not teaching school subjects.

*Epstein’s Framework of Six Types of Involvement (Including: Sample Practices, Challenges, Redefinitions, and Expected Results)*

<table>
<thead>
<tr>
<th>TYPE 4</th>
<th>LEARNING AT HOME</th>
</tr>
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<tbody>
<tr>
<td>Provide information and ideas to families about how to help students at home with homework and other curriculum-related activities, decisions, and planning.</td>
<td></td>
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</table>

**Sample Practices**
- Information for families on skills required for students in all subjects at each grade.
- Information on homework policies and how to monitor and discuss schoolwork at home.
- Information on how to assist students to improve skills on various class and school assessments.
- Regular schedule of homework that requires students to discuss and interact with families on what they are learning in class.
- Calendars with activities for parents and students at home.
- Family math, science, and reading activities at school.
- Summer learning packets or activities.
- Family participation in setting student goals each year and in planning for college or work.

**Challenges**
- Design and organize a regular schedule of interactive homework (e.g., weekly or bimonthly) that gives students responsibility for discussing important things they are learning and helps families stay aware of the content of their children's classwork.
- Coordinate family linked homework activities, if students have several teachers.
- Involve families and their children in all-important curriculum-related decisions.

**Redefinitions**
- “Homework” to mean not only work done alone, but also interactive activities shared with others at home or in the community, linking schoolwork to real life.
- “Help” at home to mean encouraging, listening, reacting, praising, guiding, monitoring, and discussing—not “teaching” school subjects.

**Results for Students**
- Gains in skills, abilities, and test scores linked to homework and classwork.
- Homework completion.
- Positive attitude toward schoolwork.
- View of parents as more similar to teacher and of home as more similar to school.
- Self-concept of ability as learner.

**Results for Parents**
- Know how to support, encourage, and help student at home each year.
- Discussions of school, classwork, and homework.
- Understanding of instructional program each year and of what child is learning in each subject.
- Appreciation of teaching skills.
- Awareness of child as a learner.

**Results for Teachers**
- Better design of homework assignments.
- Respect for family time.
- Recognition of equal helpfulness of single-parent, dual-income, and less formally educated families in motivating and reinforcing student learning.
- Satisfaction with family involvement and support.

Table 4: Epstein’s Framework of Six Types of Involvement. Type 4: Learning at Home (Epstein, 2017).
Epstein’s fifth type of involvement, decision making, includes families as participants in school decisions, governance, and advocacy activities. Table 5 redefines “decision making” to mean a process of partnership, of shared views and actions toward shared goals.

Table 5: Epstein’s Framework of Six Types of Involvement. Type 5: Decision Making (Epstein, 2017).

Epstein’s sixth type of involvement, collaborating with community, suggests the formation of partnerships of schools with local businesses, agencies, cultural and civic
organizations, and colleges or universities. Table 6 redefines “community” to represent a broader and more diverse group of people with the shared interest in quality education.

Table 6: Epstein’s Framework of Six Types of Involvement. Type 6: Collaborating with Community (Epstein, 2017).
The Decline of Parent Engagement

A survey of one hundred forty-four school principals found that parent involvement had declined in recent years (Flynn & Nolan, 2008). Reasons cited for a lack of parental involvement include parents’ feelings of intimidation, lack of understanding of the importance of their role, a lack of self-efficacy, preexisting negative feelings about school, belief that teachers do not care, language barriers, the fact that parents generally only hear from teachers when there is a problem, and being overwhelmed by day to day responsibilities (Flynn & Nolan, 2008). We are seeing a similar trend in our urban, private Montessori schools.

The Importance of Parent Engagement

The Every Student Succeeds Act of 2015 (ESSA) considers parent engagement as a key component in ensuring student success. Recognizing important similarities, overlap in goals, responsibilities, and mutual influence of both families and schools is critical to student success. These two environments simultaneously affect children’s learning and development and offer the opportunity for a positive alliance to be formed that will guide students throughout their education (Epstein, 2001). Students with involved parents, no matter what their income or background, were more likely to earn higher grades and test scores, and enroll in higher-level programs; be promoted, pass their classes, and earn credits; attend school regularly; have better social skills, show improved behavior, and adapt well to school; and graduate and go on to postsecondary education (U.S. Department of Education, 2002). Henderson and Berla reviewed sixty-six empirical studies that documented positive relationships between some form of parental involvement in a child's education and measurable benefits for children, their families, and schools. The authors state: "The evidence is now beyond dispute. When schools work together with families to support learning, children tend to succeed not just in school, but throughout life" (1996, p. 1).
The Importance of Parent Engagement for Montessori Schools

Parent engagement is especially important in Montessori schools, where the style of education is quite different from what most parents experienced when they attended school. Because of this, parents at Montessori schools need additional understanding of the educational philosophy and pedagogy. Murray (2012) surveyed a large sample of American adults about their understanding of Montessori education. Murray found two-thirds of the sample had heard the term “Montessori education” and those who had were significantly older, with higher levels of education and income than those who had not heard of Montessori education. Those who had heard of Montessori scored an average of sixty four percent on a test of basic Montessori questions. Less than ten percent understood Montessori’s avoidance of extrinsic rewards. Ninety percent believed that teachers motivate students by praising their good work. Many participants also mistakenly thought that Montessori classrooms included pretend play and multiple sets of each activity. Almost ninety percent of participants erroneously believed that teachers frequently change activities during the day to keep students interested. Seventy five percent inaccurately believed that teachers schedule breaks or rest time during the work cycle. About half of the participants incorrectly believed that Montessori teachers most often evaluate students learning by giving tests. Forty percent falsely believed that Montessori teachers gave whole class lessons. This study provides strong evidence of the need for educating the public about Montessori education to clarify these misconceptions.

Irving (2017), a Montessori teacher, found that much of her time was being taken up with parents asking many basic questions about Montessori education. She researched various forms of parent education and found that, through her parent education interventions, the amount of
What Kind of Parent Engagement is Most Effective?

“In education superpowers, parents were not necessarily more involved in their children's education, just differently involved” (Ripley, 2013, p. 18). Specifically, the literature suggests that parent involvement is most effective when parents engage with their children at home rather than at school. Three separate research studies found positive relationships between parent involvement and school success when parents engage with their children’s education at home (Englund, Luckner, Whaley, Egeland, & Harris, 2004; Jefferies, 2011; Vooris, Maier, Epstein, & Lloyd, 2013). Variables suggesting engaged parenting include high academic expectations, engaging in learning activities, and valuing education (Ripley, 2013). Parents show they value education by taking courses themselves, making reading a habit in the home, and spending time in educational family activities such as visiting libraries and museums. Students thrive when parents see education as an activity and not just a place. Ripley (2013) found that children who had “coach” parents, those who see education as one of their jobs to do systematically and directly had children who scored higher on the Programme for International Student Assessment (PISA) above those whose parents felt the only contribution needed was participation in the Parent Teacher Association (PTA).

Often, families do not know what learning activities to focus on which is why they need specific direction from their child’s school and teachers. When schools and teachers positively recognize parents for engaging with their children at home, parents are encouraged to continue being engaged (Vooris et al., 2013). Alegre (2011) also reported that school interventions were most effective when they included a parent lesson component, showing parents specific things
they could implement at home. Olmstead (2013) found that parents who monitor their child’s schoolwork, work with teachers, and help create work plans have students who are more likely to graduate and pursue higher education. In addition to higher academic achievement, the children of involved parents also have better behavior. Interestingly, Olmstead (2013) found that when parents help their children learn at home, the impact is greater than when parents participate in school events. Parents who spend time learning with their children at home, who understand and know what they can and should be working on with their children, and who create a home environment that supports learning are more likely to contribute to their children’s success than parents who attend school events such as PTA meetings or book fairs (Olmstead, 2013). Parents who are warm and find a sweet spot of trust and respect with their children help their children experience greater educational success (Ripley, 2013)

McFarland (2013) discussed how parents implementing Montessori practices at home could benefit their children. McFarland suggested that parent education could help deepen the relationship between parents and their children. “When parents and teachers work together and honor children’s natural process of development, the more children will be able to manifest their greatest potentials and lead us to a brighter future” (McFarland, 2013, p. 39).

**What are the Barriers to Parent Engagement?**

There are several barriers to parent engagement. Mendez (2010) found ethnicity and socioeconomic status to be barriers to parents becoming involved in their child’s Head Start preschool program. Barriers to parent engagement can be structural (e.g., child care, transportation, time constraints) or attitudinal (e.g., perceptions of treatment, beliefs about mental health services or researchers). Mendez (2010) noted that low socioeconomic status, single-parent families, difficult living circumstances, stress, family dysfunction, and ethnic minority
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group membership are among the characteristics most frequently found to be related to parent attrition from family services. Parents and school personnel at a predominantly African American inner-city high school completed in-depth interviews regarding the barriers to involving parents in their children’s education (Williams & Sanchez, 2013). They identified four types of barriers: 1) time poverty, 2) lack of access, 3) lack of financial resources, and 4) lack of awareness. Williams and Sanchez (2013) suggest that taking family context into consideration during the planning phases of school-based programs and events can improve parental involvement. Karlie (2009) also found lack of time due to busy schedules as a barrier to parent involvement. In addition, Karlie (2009) discovered that the lack of financial resources for schools to help engage families also an obstacle to parent engagement (Karlie, 2009). Lunts (2003) found that language can also be a barrier to parent engagement. When families do not speak the same language as the school faculty, this language barrier can prevent families from becoming engaged in their children’s education. Klugman, Lee, and Nelson (2012) suggest that a large Hispanic presence in a child’s school can help increase immigrant Hispanic parents’ involvement in their children’s schooling. Another barrier is a lack of parent efficacy and confidence (Loomans, 2014).

How Can These Barriers to Parent Engagement Be Overcome?

Several researchers have found that building positive relationships can help overcome the barriers to parent engagement. Mendez (2010) found the quality of the parent and teacher relationship was significantly correlated with parental participation in a Head Start preschool program. Program participation by parents and the parent and teacher relationship were correlated with higher levels of children’s school readiness abilities. Constantino (2003) explained how the involvement of parents or families included the engagement of families in the
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instructional and non-instructional (co-curricular, extracurricular) lives of their children as well as the family’s educational experiences and values about the importance of education. The style with which parents and families are involved in their children’s school lives has more to do with the educational culture of the family rather than the socioeconomic level or other factors that are more widely perceived by educators. Epstein (2001) discovered that strong relationships could be a way to overcome the barriers to parent involvement in their children’s education. “Teachers’ practices to involve families are as or more important than family background variables such as race or ethnicity, social class, marital status or mother’s work status for determining whether and how parents become involved in their children's education” (Epstein, 2001, p. 45).

Haakmat (2015), the head of school at Brooklyn Heights Montessori School (BHMS), explained that the school and parent partnership is at the heart of the school’s success. BHMS has experienced how thoughtful parent programming leads not only to buy-in, but also more parent excitement about Montessori education, well beyond the walls of the school.

Other research suggests that improving parent efficacy can increase parent engagement. Loomans (2014) discovered that parents were more involved with their children’s education when they felt confident about what skills to work on with their children at home. School communication can empower families to focus on certain homework or home behaviors, making parents feel more confident that what they would do would directly and positively impact their child’s experience in school (Loomans, 2014). Hoover-Dempsey et al. (2005) found parent and teacher efficacy to be a predictor of parent involvement in school, classroom, and home activities. Teachers with a higher sense of the importance of family involvement create classroom environments that provide substantial opportunities for family involvement activities. Parents, in turn, are likely to respond to such environments and become more involved in their
students’ classroom and school. Hoover-Dempsey et al. (2005) described constructs that focus on parents’ motivations for involvement. These constructs included parents believing that they should be involved, having a positive sense of efficacy for helping the child learn, perception of invitations to involvement from the school, as well as important elements of parents’ life context that allow or encourage involvement.

**What Parent Behaviors Help Children Thrive?**

Kehily (2010) notes that childhood is a social construction that has been affected by popular media, changes in technology, and family structure. The current concept of childhood is based on a romantic notion of children as innocent and in need of protection. This is in stark contrast to Dr. Maria Montessori’s view of the child as capable and independent (Montessori, 1949).

The child has to acquire physical independence by being self-sufficient; he must become independent by using his own power of choice; he must become capable of independent thought by working alone without interruption. The child’s development follows a path of successive stages of independence. (Montessori, 1949, p. 257)

Alegre (2011) found the specific parenting practices of parental warmth, parental monitoring, and parental emotional coaching are positively associated with higher child self-regulation, lower antisocial behavior, higher self-esteem, and better children’s emotion knowledge, understanding, and regulation. Authoritative parenting behaviors are found to lead to higher scores on childhood adjustment, attachment, resilience, school achievement, and prosocial behaviors (Alegre, 2011). Parents who have clear and firm expectations and use non-punitive discipline have children with more positive outcomes. Alegre also noted that parents who are
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emotionally expressive themselves and encourage their children to express and discuss emotions have children with more emotional competencies.

How Can Technology Promote Parent Engagement?

Technology has been cited as a way to overcome barriers to parent engagement. Technology provides an avenue for linking schools, families, and students by reducing or eliminating barriers such as costly events and busy schedules (Karlie, 2009). Clemente (2002) found that parents rated electronic communication more favorably because they liked that they were faster than traditional means of communication. Modern technology offers more opportunities for parents to be more involved in their children’s education. Pew reported that 84% of adults have internet access at home or work (Pew, 2010). Many parents do not communicate with their children's schools due to a vast number of reasons. Lunts (2003) found that some parents avoided communicating with their child's school primarily because they do not feel comfortable talking with teachers (e.g., ESL parents), they do not think their concerns will be heard and responded to promptly, or they are burned out by their own work. Lunts suggested that telecommunication technology should be considered to establish a link between families and schools. Electronic communication technology allows parents to connect with their child’s school when it is convenient for their busy schedules. Electronic communication can also help today’s parents feel more comfortable communicating with schools and teachers because most parents are very familiar with technology in their daily lives (Lunts, 2003). Electronic media can also make communication easier for people who struggle with shyness or busy schedules. Lunts highlighted that unless the school asks parents to support specific learning goals and to implement specific activities, parents will not know how to align with the school’s educational practice. When parents understand the school’s educational philosophy and the purpose of the
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lessons they are better able to help their child with their work at home (Lunts, 2003). Electronic communication technology is a tool for parents to achieve this understanding and alignment with their child’s school (Lunts, 2003).

Ellis (2015) sought to improve parent communication with the parents in her primary classroom in a private Montessori school using technology. Ellis investigated if Montessori Compass Parent Communication software could provide the more detailed information parents seek and increase parent-teacher communication. Montessori Compass had features such as photo albums, messaging, and daily activity reports. Data about parent usage was collected from Montessori Compass. Parent surveys were also given before and after the implementation of Montessori Compass. Ellis also kept a communication journal detailing phone, in person, and e-mail communication. The results of this study showed that parents felt more connected to the classroom after using Montessori Compass. Montessori Compass increased parent-teacher communication and proved effective in the delivery of information. In fact, some parents were so satisfied by Montessori Compass that they did not need to attend parent-teacher conferences. Ellis wrote that she would continue to use Montessori Compass in her classroom even if she had to pay for it herself.

What are the Drawbacks to Using Technology to Promote Parent Engagement?

Hernandez and Leung (2004) warn that electronic communications, while convenient and time-saving, can never replace the value of face to face conversations. The nuances of body language and facial expressions are lost in electronic communication and can lead to misunderstandings. Shackelford and Griffis (2006) also suggest that a face-to-face interaction makes communication more precise. Study after study has shown that effective communication between people comes through body language and tone of voice. In fact, ninety-three percent of
communication happens through non-verbal means. Phrases like "read between the lines" and "your actions speak louder than words" attest to that fact. (Shackelford & Griffis, 2006)

DiJohn (2015) suggests that with today’s technology, we live in an "immediate feedback" world. Many people feel guilty if they must wait to respond to email sent to them on their smartphone. With technology making teachers more accessible, some educators feel like they are working twenty-four hours a day. This may cause teachers additional stress.

Aleissa (2016) reported that even though many teachers expressed gratitude for the use of digital technologies in improving communication with parents, most of their strategies for reaching out to uninvolved parents were non-technological strategies. Aleissa (2016) found the use of non-technological strategies were influenced by three factors: parents’ lack of access to technology, concerns for being misunderstood, and a preference for personal interaction over impersonal ones.

In our Montessori schools, opportunities for face-to-face communication are available. We have found that face-to-face communication is imperative for addressing challenges when body language and tone of voice are a key component of the success of the conversation. However, parent education seems to be well suited for electronic communication. Based on our review of the literature, technology reaches parents faster and more efficiently and allows a new opportunity to share information with parents about engaging in their children’s education at home. This gives teachers an advantage of catching parents as they are available and imparting information parents need to know in a way parents in today’s specific time and place can understand and access. When parents are engaged and partner with their children’s schools, children thrive.
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Methodology

The action research method was used to study the effectiveness of technology as a tool for parent education. The majority of our data was qualitative in the form of inquiry data. We collected feedback from both teachers and parents on the levels of engagement and understanding of Montessori principles before and after our intervention. This study also collected quantitative data in the form of tracking parent usage of Seesaw.

The population for our Action Research Study was comprised of parents and teachers of preschool students (ages 3-6) at two private Montessori schools: one in Indiana and one in Virginia. Our sample consisted of 41 parents (20 from Indiana, 21 from Virginia) and 2 teachers (1 from each school).

We collected quantitative data from Seesaw on parent usage and qualitative data from the classroom teachers to include a log of parent questions during the intervention and a feedback form about parent engagement (before and after the intervention). We also collected qualitative data from parents through a questionnaire (before and after the intervention) about their understanding of basic Montessori principles and their level of Montessori implementation in the home (See Appendix A).

Our research used Seesaw technology to address common parent misconceptions about Montessori and increase parent ability to implement Montessori at home. Seesaw is a digital parent communication application. At the beginning of the school year, parents were invited to join Seesaw as well as complete a questionnaire, before and after the intervention, about their understanding of basic Montessori principles and their parent engagement. The teachers completed a feedback form about parent engagement both before and after our intervention (See Appendix B). Teachers also kept a log of parent questions asked during the 6-week intervention.
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The feedback form and questionnaires were designed to tell us if parents, using our Seesaw intervention, had increased their knowledge of Montessori principles and if parents had increased their implementation of Montessori practices at home. The parent questionnaire asked questions about the parent’s understanding of basic Montessori principles and their parenting activities at home.

We used Seesaw to provide six weeks of weekly parent education. Each week’s parent education included information on a specific topic and a “Work of the Home” suggestions for parents to implement a Montessori practice at home with their child. Parents were asked to share their experience doing the “Work of the Home” each week through comments or photos on Seesaw that were shared with the other parents in their child’s classroom. It included short readings and videos about Montessori philosophy and practice. Parents also had the opportunity to respond to the posts of other parents in their child’s classroom.

All information is shared through SeeSaw.com. You will be e-mailed an invitation to join.

**Week 1: August 12th– 18th**
- Topic: Separation Anxiety
- Work of the Home: Establishing a Goodbye Routine/Ritual

**Week 2: August 19th– 25th**
- Topic: Independence
- Work of the Home: Helping children dress independently

**Week 3: August 26th– September 1st**
- Topic: Montessori Discipline
- Work of the Home: Implementing clear and consistent expectations

**Week 4: September 2nd– 8th**
- Topic: Intrinsic Motivation
- Work of the Home: Stop Saying Good Job

**Week 5: September 9th– 15th**
- Topic: The Importance of Practical Life
- Work of the Home: Food preparation with children

**Week 6: September 16th– 22nd**
- Topic: Preparation of the Environment & the Adult
- Work of the Home: Set up the kitchen to allow for the child’s independence

*Figure 1.* Flyer with topics and work of the home from the intervention
Dear Parents,

The knots you feel in your stomach and the throbbing in your temples (which you are trying to ignore as you read this) are symptoms of what we call “separation anxiety”. You’re normal! Now, don’t you feel better?

The only good thing about separation anxiety is that it does end. “Not soon enough,” right? Right. Not before a few sleepless nights, a few tearful partings with your child at the door, not before you wonder if you’ve made the right decision to send your little one off to school. But, it does end.

Please believe me when I say that we all empathize with you. We’ve all been through it with our own children and we understand that there is nothing more difficult than leaving your child, whom you’ve loved and cared for since she or he was born, with people you barely know. I have two children. I remember well the day that Sue hac to pry my son’s hands from my leg so that I could leave. I got into my car and sat there – a little shaky and tearful – for a good ten minutes before realizing that he was no longer crying, but actually playing happily with the other children inside. Brendan is going into his second year in the Elementary Class this week and plans to go to New England next summer by himself. We both look back on his early days of school with a smile now, but at the time it was difficult for both of us. Even though these next few days may not be easy for you and your child, just remember, “This too shall pass”.

There are a few tricks to getting some of these worrisome things in life to pass more easily than they otherwise might. One of the tricks to separation anxiety is understanding that it is the **moment** of separation that is most difficult. Making that moment brief makes the separation shorter and therefore, the anxiety less. Please make your good-bye brief. Just say, “Good-bye. I’m going to work or to school or to the library, etc. See you soon!” Make your separating brief.

Trick number two is that this brief separating also needs to be honest. Please do not slip away when your child isn’t looking. We do not distract children so that their parents can leave. We want the children to learn to trust you and us and so we are very honest with them. They soon learn their teachers and parents can be relied upon. We tell the children that school is for children, not moms and dads, and that you will be back very soon to get them. And that we have lot’s of fun things to do first!

The teachers here are masters at helping children quickly feel comfortable. They will do just about anything to bring a smile to your child’s face. So, have heart! Your child will soon be crying when you come back at the end of the day because she or he won’t want to go home!

With a little help from my friend, Brenda. 1991

P.S. In a week we will be leaving Brendan at Northeastern University in Boston and I will be the one clinging to his leg. He will be the one assuring me and saying, “Good-bye”. 2002

P.P.S. Brendan and Ellen have both left home now and are really fine young adults. And sometimes there are still a few tears shed when they go. Ms. Lorna 2009

*Figure 2. Example of a reading from the intervention (Week 1: Separation Anxiety)*
Each week, parents were given a work of the home, which gave the parent a specific activity to try at home with their child. Parents were encouraged to post comments, photos, or videos sharing how these activities went. Following are two examples of the parent work of the home assignments.

**Work of the Home: Independence**

Dr. Montessori said to never help a child at a task which he (or she) feels he can succeed. Please post a photo (or short video) showing your child practicing his or her independence at home. Young children are very eager to do things, including picking out their clothing and dressing, themselves.

Post a photo of your child picking out his or her clothing, putting on socks, shoes, or jacket, or grooming (brushing teeth or hair) independently.

*Figure 3. Work of the home: Independence (Week 2: Independence)*
Work of the Home: Stop Saying "Good Job"

This week, stop yourself from saying "Good Job" to your child and try one of Kohn's (from the article "5 Reasons to Stop Saying 'Good Job'" by Alfie Kohn) other strategies instead:

* Say Nothing
* Say What You Saw
* Talk Less, Ask More

How did this work with your child? What did you notice?

Please post your response to the group.

Figure 4. Work of the home: Stop saying “good job” (Week 4: Intrinsic Motivation)

The Montessori parent education offered was consistent with Montessori parent education offered at Montessori schools. Montessori educators have been practicing a consistent philosophy and theory of child development that has withstood the test of time for over 100 years. What Montessorians do in the classroom and what Montessorians encourage parents to do at home has been consistent for over a decade. Unlike popular parenting trends, Montessori parenting recommendations have not changed with the ebb and flow of popular culture.

The researchers analyzed the feedback from teachers about their observations of parent engagement during the intervention. The feedback form asked for short responses about what types of questions and concerns parents shared with teachers, what evidence teachers observed of students engaged in Montessori at home, and what aspects of parent education took the most time for teachers.

The pre-intervention and post-intervention teacher and parent questionnaires included the same questions. We coded the qualitative responses and analyzed them for changes after the
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intervention. We coded and analyzed the teacher question logs for parent understanding of Montessori principles. We used the same code to analyze the parent responses on Seesaw. The researchers looked for evidence of changes in parent engagement. Specifically, the researchers looked to see if using Seesaw technology affected parent knowledge of Montessori principles and implementation of Montessori practices at home.

We used this Rating Scale for coding responses:
A = Question/concern shows significant understanding of Montessori education
B = Question/concern shows a partial understanding of Montessori education
C = Question/concern shows little or no evidence of understanding of Montessori education

Analysis of Data Findings

The purpose of the study was to research if Seesaw technology could increase parents’ understanding of Montessori principles, and increase parents’ implementation of Montessori practices in the home. Our research design used quantitative and qualitative data in the forms of multiple choice responses, short answer responses, a teacher log of parent questions, and Seesaw usage data. This data was collected over the course of a six-week Seesaw parent education intervention.

The subjects for this study were teachers and parents with children in primary environments (ages 2.5-6) in private, urban Montessori schools. One teacher and twenty-one parents at a private, urban Montessori school in Virginia, participated in the study. One teacher and eleven parents at a private, urban Montessori school in Indiana, participated in the study.

Parents’ Understanding of Montessori Principles

Our primary research question was “What effect does using Seesaw for parent education have on parent understanding of Montessori philosophy in private Montessori early childhood
classes (2.5-6 years)?” To answer this question, the researchers provided six-weeks of Montessori parent education (the intervention) delivered through Seesaw. Each week, the parents learned about a Montessori principle and were asked to implement a Montessori activity at home. Seesaw also provided opportunities for parents to interact with other parents in their child’s classroom. The researchers collected data from teachers and parents in pre and post-intervention questionnaires. Data was also collected during the intervention through Seesaw and teacher logs of parent questions. The researchers analyzed the data and the key ideas in the responses were highlighted, coded, and counted.

The pre and post-intervention questionnaires offered to the teachers and parents asked questions about the parents’ understanding of Montessori principles and their practice of Montessori with their child at home. The teacher question log and the Seesaw usage data also provided data about parents’ understanding of basic Montessori principles and their practice of Montessori with their child at home. The data was analyzed, highlighted, coded, and counted to determine changes in parents’ understanding of Montessori principles at the end of the intervention.

Parents’ Implementation of Montessori at Home

Our secondary research question was “What effect does using Seesaw for parent education have on parent implementation of Montessori practices at home?” The secondary research question was addressed in the same manner as the primary research question.

The researchers coded the Seesaw usage data and the teacher’s logs of parent questions with an ABC quality of response coding system:

A = response shows significant understanding and developmentally appropriate implementation of Montessori practice
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B = response shows a partial understanding and developmentally appropriate implementation of Montessori practice

C = response shows little or no evidence of understanding and developmentally appropriate implementation of Montessori practice

The six-week Seesaw Montessori parent education intervention included weekly posts for parents to read or watch on a specific Montessori topic. Each week the parents were given an activity to try at home with their child. Parents were asked to post a photo of their child engaged in this activity. Parents could respond to the posts of the other parents as well. The data collected from Seesaw included whether the parent had viewed the parent education posts each week, the specific responses to the assigned home activity, and whether the parent had responded to another parent, the specific responses to the assigned home activity were coded using an ABC rating scale.
Figure 5. Parents’ quality of response to work of the home

The response offered by parents to our Work of the Home “homework” was coded using the ABC quality of response coding system. C quality responses went from 18.2% in week one to 0% in the remaining weeks. B responses went from 9.1% in week one to peak at week three and week four at around 54% and then decrease to 26.7% in week six. Illustrated in Figure 5, in week one, A quality responses represented 72.7% of responses. A quality responses were the lowest in weeks three and four around 46%, and reached their peak in week six 73.3%.

Figure 6. Parents’ activity during the intervention

100% of parents at the private, urban Montessori school in Virginia and 55% of parents at the private, urban Montessori school in Indiana participated in the Seesaw parent education intervention by signing up and viewing the weekly content. During the six-week intervention, we saw an increase in the number of parents who responded to work of the home and interacted with another community member each week. Figure 6 illustrates this increase in parent engagement.
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During week one, 35.5% of the participating parents responded to the work of the home and 16.1% interacted with another community member. During week six of the intervention, 60.9% of parents responded to the work of the home and 52.2% interacted with other community members.

It was noted that the quality of responses and parent interaction decreased during weeks three and four of the intervention. The topic of week three was Montessori Discipline and the topic of week four was Intrinsic Motivation.

The researchers collected short-answer responses from two teachers (one at each school) to a pre and post intervention teacher feedback form. Pre-intervention, the teachers reported that parents asked questions such as “How is my child doing in school? and “What is Montessori? Post-intervention, parents asked about what they could do at home. Pre-intervention, teachers reported the most time-consuming part of parent communication was answering questions that required an in-depth response explaining Montessori philosophy and principles. Post-intervention, teachers spent the most time in conversations about goal setting and increasing consistency between home and school.

Pre and post-intervention, teachers reported on “What should parents know about Montessori that they don't seem to.” Pre-intervention teachers thought parents should know about, supporting independence, the use of mantras, parenting confidence, grace and courtesy, aims (direct and indirect) of Montessori lessons, and practical life. Post-intervention, the only report of “What should parents know about Montessori that they don't seem to” was parenting confidence.

Pre and post-intervention, teachers reported on what aspects of Montessori they saw being implemented at home. Pre-intervention teachers reported that children were helping in the
kitchen and practicing with letters and numbers at home. Post-intervention responses included practicing letters and numbers at home, as well as positive discipline, environmental design, and the use of mantras.

Post-intervention, teachers reported several changes in parent engagement since the intervention. These changes included the use of mantras, exposure to real-life, concrete experiences, more academic practice with letters and numbers, and parents’ asking deeper questions.

**Figure 7.** Parents’ preferred form of communication

In Figure 7, we see 75.8% of parents prefer to communicate electronically via text or email. Far less, only 24.2% of parents preferred to communicate in person.
Figure 8. Parent responses to “How much does your busy schedule prevent you from engaging in your child's education at home?”

As illustrated in Figure 8, parents’ responses about their busy schedule preventing them from engaging in their child’s education at home “Quite a bit” and “A tremendous amount” decreased from 42.4% to 20.8% after the intervention. “Not at all” and “Somewhat” increased from 57.6% to 79.2% after the intervention.
Figure 9 illustrates that before the intervention, most parents were unsure of how to implement Montessori at home and were not implementing Montessori at home. After the intervention, most parents not only knew how to implement Montessori at home, they were actually implementing Montessori at home with their child!
Figure 10. Parent responses to “How confident do you feel in your ability to help your child learn to do things for him/herself?”

Figure 10 illustrates the changes in parent confidence in supporting their child’s independence. Between pre and post-intervention, parent responses that they felt somewhat, slightly or not confident at all decreased from 71.9% to 37.5%. Parent responses that they felt quite confident increased from 28.1% to 62.5%. This growth in parent confidence in their ability to help their child learn to do things for him/herself is connected to the growth in Montessori implementation at home illustrated in Figure 9. An important part of implementing Montessori at home is supporting children’s independence. So, it makes sense that parents implementing Montessori at home would feel more confident helping their child learn to do things for him/herself. The data in both Figure 9 and Figure 10 reinforces that our present education intervention increased parents’ feelings of confidence in their abilities to implement Montessori at home.
Figure 11. Parent responses to “How often do you engage with your child in learning activities at home?”

Figure 11 shows the changes in parents’ engagement with their child in learning activities at home. Before the intervention, almost half of parents only engaged in learning activities with their child at home “Sometimes.” The intervention supported frequent parent/child interaction at home through specific work of the home suggestions. Parents responding that they engaged with their child “Frequently” increased by 43.8 percentage points after the intervention. Parents responding that they engaged with their child “Sometimes” decreased by 35.4 percentage points after the intervention.

Both pre and post parent questionnaires asked if the following statement was true or false: “Children in Montessori classes often receive certificates, stickers, praise, or other forms of recognition and encouragement.” Pre-intervention, almost 40% (39.39%) of the parents surveyed...
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erroneously believed this statement to be true. Post-intervention, 100% of the parents answered this question correctly (false).

Both pre and post parent questionnaires asked if the following statement was true or false: “Montessori classrooms often have areas for pretend play.” This statement is false. Pre-intervention, 76.67% of parents surveyed believed this statement to be true. All the parents surveyed had their child enrolled in a private Montessori school. Post-intervention, the number of parents with this misconception decreased to 13.04%.

![Parent responses to: "On a scale of 1-10, how confident are you in the ability of Montessori education to educate your child beyond primary/preschool?"

<table>
<thead>
<tr>
<th>Location</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indiana</td>
<td>6.9</td>
<td>8.0</td>
</tr>
<tr>
<td>Virginia</td>
<td>4.0</td>
<td>8.0</td>
</tr>
</tbody>
</table>

*Figure 12. Parents’ responses to “On a scale of 1-10, how confident are you in the ability of Montessori education to educate your child beyond primary/preschool? (1 being not confident at all, 10 being my child will continue in Montessori education as long as possible)”*

During the intervention, parent confidence in Montessori education beyond preschool increased. At one school, pre-intervention responses averaged a score of 6.9 and increased to an
average score of 8 post-intervention. The other school noted an increase in the average score from 4.4 to 5.3 from pre to post-intervention.

Figure 13. Parent response to “What is the best way to deal with separation anxiety?”

Figure 13 illustrates that parent understanding of effective ways to deal with separation anxiety increased during the intervention. The intervention focused on creating a consistent goodbye routines and talking with the child about the schedule and when the parent will return. Parents responses of both consistent routines and talking about the schedule and when the child will return both increased post-intervention. Importantly, Pre-intervention, some parents had the misconception that sneaking out was the best way to deal with separation anxiety. Our intervention discussed the traumatizing effect sneaking out can have on the child. Post-intervention, zero parents thought that sneaking out was the best way to deal with separation anxiety.
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Pre-intervention, several parents responded with talking about feelings/emotional support and distraction as being the best ways to deal with separation anxiety. Post-intervention, these both decreased. Long discussions of emotions and feelings can be counterproductive approach to separation. Implementing consistent routines would naturally decrease the need for lengthy discussions of feelings. Distraction is often used in conjunction with sneaking out and instead of directly communicating with the child about the schedule. So, it makes sense that distraction would decrease when parents began to talk to their child about the schedule.

Figure 14. Parents’ response to “What is the biggest challenge you face with your child at home?”

Interestingly, the decrease in parent’s challenge of their child following directions/listening was almost the same as the increase in the challenge parents had implementing Montessori at home. These may both be connected to parents implementing Montessori at home. Implementing Montessori at home includes supporting the child’s
independence, which is likely to lead to a decrease in struggles with listening/following directions. Figure 14 illustrates that the challenges of implementing Montessori at home and navigating adult roles increased post intervention. This connects to figure 9, which illustrated that parents increased in their knowledge of how to implement Montessori at home as well as the actual implementation of Montessori at home. Parents who are more aware and have begun to more actively implement Montessori at home are going to find it challenging as it is new to them. Our intervention focused on supporting parents with their important role of helping their children learn to listen and follow directions. Figure 14 illustrates that parents felt that their child’s behavior was less of a challenge after our intervention.

![How are children involved in daily family life?](image)

*Figure 15. Parents’ response to “How is your child involved in daily family life?”*

As figure 15 illustrates, both pre and post-intervention, children participated in household chores at around 27%. Post-intervention saw a 32.5 percentage point increase in children being
accountable for their own things and having regular routines. Helping children be accountable for their own things and creating regular routines were both topics taught to parents during the intervention.

Figure 16. Parents’ response to “What questions do you have about Montessori philosophy and practice?”

Post-intervention there was a significant decrease in the questions parents had about what they can do at home. This is evidence that the parent education intervention helped to answer parent questions about implementing Montessori at home. Although parent questions about Montessori academic curriculum decreased post-intervention, they remained by far the most popular parent question post-intervention. This may be because the intervention did not address specific Montessori classroom curriculum. Post-intervention saw an increase of 22.1 percentage points in parent questions about observation, socialization, and peace education/grace and
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courtesy. This shows a shift to a more holistic view of the child, consistent with Montessori’s vision of the child.

Contributions of the Study

The work done in this study illuminates the powerful tool that technology can be as a bridge between home and school. For parents whose time is very limited, technology can connect them to school, benefitting their children. Technology can overcome many barriers to parent engagement and support educators and parents in making learning an activity, not a place.

Limitations of the Study

Our study was limited by its small sample size of 31 parents and 2 educators. Our sample also lacked diversity: parent participants were mostly well-educated and upper middle-class parents of children under six years old. Well-educated, upper middle-class parents are likely to use technology in their professions. Parents of young children may have different attitudes toward technology than parents of older students. Parents of young children may also be more interested in parent education than parents of older children because they are newer to parenting and navigating the educational system. There was a 45% higher rate of parent participation at the school where the researcher was part of the school faculty. This makes sense as the researcher/faculty member had already developed relationships with the parents and was able to encourage them to participate in the intervention. The majority of our data was qualitative in nature and coded based on a system created by the two researchers. The intervention in our study was only six weeks long. A school year intervention would provide more longitudinal data. An even longer intervention may provide data about student success and student retention rates. The researchers are both technophiles and embrace new technology which could have biased the research in favor of technology. On the flip side of the coin, the researchers embrace new
technology in large part because of their previous experiences of connecting with parents through technologies such as Montessori Compass and Transparent Classroom.

**Action Plan**

This study investigated Seesaw technology as a way to increase parents’ understanding of Montessori principles and increase parents’ implementation of Montessori practices in the home. Our research intervention was a six-week Montessori parenting course delivered via Seesaw, an online media platform. This intervention was implemented at two private, urban Montessori schools, one in Virginia and one in Indiana. Our goal was to answer the following research questions:

1. “What effect does using Seesaw for parent education have on parent understanding of Montessori philosophy in private Montessori early childhood classrooms (2.5-6 years)?”

2. Our secondary research question was “What effect does using Seesaw for parents education have on parent implementation of Montessori practices at home?”

Based on the literature review and our own research data, Seesaw has a positive effect on parent understanding of Montessori philosophy, thus making Seesaw an effective Montessori parent education tool. The researchers also found that Seesaw has a positive effect on parents’ implementation of Montessori at home.

**Conclusions**

Our research supports the conclusion drawn by other researchers that technology provides an important avenue for linking schools, families, and students by reducing or eliminating barriers such as a lack of understanding and busy schedules (Clemente, 2002; Ellis,
In our study, 75.8% of parents preferred digital forms of communication.

One advantage of online parent education is that more parents attend. A far greater number of parents showed up for the Seesaw parent education intervention than we have seen for many years at in-person parent education events at our schools! In recent years, attendance at in-person parent education events at the researchers' schools averaged far below 25%. In our study, 100% of parents at one school and 55% of parents at the other, participated in the Seesaw parent education intervention.

Our research also suggests that Seesaw parent education can increase parent efficacy. Loomans (2014) discovered that parents were more involved with their children’s education when they felt confident about what skills to work on with their children at home. Seesaw parent education can empower families to focus on specific parenting activities, making parents feel more confident that their actions would directly and positively impact their child’s experience in school.

How parents interacted with their children at home changed during the intervention. Seesaw parent education increased the frequency of parent engagement with their children at home. This is important in light of the research indicating that students with involved parents, no matter what their income or background, were more likely to have more successful educational, social, and behavioral outcomes (U.S. Department of Education, 2002).

Parents began to implement Montessori practices at home and through doing so their parenting challenges and questions changed. Throughout the intervention, children participating in household chores remained consistent. Figure 14 and 15 illustrate that our parent education intervention helped families as their children participate in household chores by increasing the
consistent routines children are involved in, while, at the same time decreasing the challenges of children listening and following directions.

The form of involvement or engagement also matters. Three separate research studies found positive relationships between parent involvement and school success when parents engage with their children’s education at home (Englund, Luckner, Whaley, Egeland, & Harris, 2004; Jefferies, 2011; Vooris, Maier, Epstein, & Lloyd, 2013). Using Seesaw for parent education can increase parent implementation of Montessori practices at home. Online platforms can give the parent concrete examples of work they can do at home. Photographs and short videos help parents take Montessori from theory to practice. Loomans (2014) found that many parents did not know exactly what to do with their children at home. This barrier to parent involvement can be overcome by giving parents practical examples with clear directions.

Interestingly, the two weeks of the intervention that included less concrete work of the home showed a drop in the parent quality of response as well as less interaction with other parents. The topics of Montessori discipline and intrinsic motivation (praise) involve relational and internal constructs. They are also long-term parenting skills which required habits to be developed. The word discipline tends to have a negative connotation and thus, may have been a less popular topic for parents. Parents may also have felt reluctant to share about their personal discipline practices or comment on another parent’s discipline practice. Praise is also a topic where Montessorians differ from mainstream parenting trends. Being counter-cultural, many parents also found the topic of intrinsic motivation and eliminating praise hard to buy into. Many parents asked bewildered, “If I can’t say good job, then what can I do?” The work of the home for these topics (implementing clear and consistent expectation, stop saying “good job”) are far more open ended and ambiguous than the specific tasks modeled as the work of the home in the
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other weeks of the intervention. The topics of separation anxiety, independence, practical life, and preparation of the home each included specific work of the home suggestions that could be implemented right away and allowed for easy documentation of results with photos or videos. Allowing your child to peel their own clementine is much easier to implement than creating and maintaining consistent discipline expectations. Loomans (2014) discovered that parents were more involved with their children’s education when they felt confident about what skills to work on with their children at home. A parent who picks up clementines at the store and demonstrates peeling will likely feel confident and successful. Parents learning about Montessori discipline are likely to feel confused and full of self-doubt as is likely different than how they have experienced discipline themselves. Discipline and intrinsic motivation are practices are likely to create initial resistance in the child, causing some stress as the parent attempts to implement expectations and new habits of encouraging the child. Well designed topics and works of the home have the potential to work as a cycle to build parent confidence and encourage further parent engagement.

Future implementation of Seesaw for parent education could be improved by intentionally pairing each topic with a very specific and concrete work of the home suggestion. Broad topics such as discipline and independence may need to be broken down into much smaller, more digestible pieces for parents. More topics on Montessori academic curriculum could also be added to a longer Seesaw parent education intervention.

Using technology can allow parents to connect when convenient for them, align with the school's educational goals through specific activities, and understand the school’s educational philosophy (Lunts, 2003). This points to Seesaw parent education positively affecting student outcomes.
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Seesaw parent education can increase parent understanding of Montessori principles. This is extremely important due to the wide misunderstanding of Montessori education (Murray, 2012). Our study revealed that even many parents who have chosen and enrolled their child in a private Montessori school misunderstood the Montessori educational approach. If families are attempting to implement Montessori at home, it is important for them to have a basic understanding of Montessori philosophy.

Although we had not set out to study school community building, that was definitely something that stood out in our data findings. In our study, using Seesaw for parent education increased parent engagement with other parents in the school community. This leads us to conclude that Seesaw parent education can be an effective tool for building school community. Schools may want to utilize Seesaw to further educate parents and encourage stronger relationships between all community members.

One of the most interesting conclusions is that using Seesaw for parent education can shift parents’ focus from the external to the internal. Parents originally were most concerned about their child’s specific behavior, but by the end of the intervention, their focus had shifted to how their own behavior can be maximized to positively affect their child. This aligns beautifully with Montessori philosophy in which the adults prepare the environment for the success of the child. "Now the adult himself is part of the child's environment; the adult must adjust himself to the child's needs if he is not to be a hindrance to him and if he is not to substitute himself for the child in the activities essential to growth and development." (Montessori, 1966, p. 106)
Student retention is vital to the sustainability of Montessori schools. Private Montessori schools often struggle to retain students beyond preschool. The results of the study suggest that using Seesaw for parent education has the potential to increase parent retention. At the school in Indiana, parent confidence in Montessori education beyond preschool increased 1.1 point (on a 10 point scale) in the six week intervention. At the Virginia school, parent confidence in Montessori education increased .9 point (on a 10 point scale) in the six week intervention. These increases are substantial, especially for a six-week intervention. What might the increases in parent confidence look like in a year-long intervention or even an intervention over the Montessori three-year cycle?
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Interestingly, the Virginia school’s average score of parent confidence in Montessori education beyond preschool were lower than the school’s average score in Indiana. This was surprising because the demographics of the samples were quite similar and the responses to other questions did not show this kind of difference. The researchers suggest this may be due to the difference in the educational climate and opportunities in each area. The Virginia school is located amongst school districts with some of the highest test scores in the country. The area is one where many families move to in order to enroll their children in the area public schools and the amount of choice and options for families is varied, numerous, and highly competitive. Conversely, the Indiana school is located in an average school district that offers typical neighborhood schools with few choice school options. This may explain the higher level of skepticism about Montessori beyond preschool at the Virginia school.

Recommendations

These results are important for teachers and school leaders. Our study suggests that Seesaw parent education can help schools connect with families, build school communities, retain students, and ultimately support student success.

Schools and teachers may want to consider leveraging electronic media to connect with families. Communicating in this way leads to greater access for parents. Parents check their phones often and are accustomed to receiving important information in this way. Digital technologies, such as Seesaw, allow schools to leverage this culture of technology to reach parents on a daily basis and communicate important information that will be read, most likely, immediately. The advances in smartphone technology have made Seesaw and other online applications almost universally accessible for parents, regardless of income. Seesaw is a free application, thus making it an attractive option for tight school and family budgets. Parents who
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speak a different language than the school also benefit from parent education delivered online because of the easy translation offered by technology applications such as google translate.

Montessori schools specifically, may want to consider Seesaw as a tool for parent education to help parents learn about Montessori philosophy, increase the implementation of Montessori at home, increase parents’ confidence in their parenting role, and increase student retention beyond preschool. These all increased during the six-week intervention in this research study. The researchers recommend implementing a year-long program of parent education using Seesaw. A year-round parent education tool could have an even more profound impact on parents, students, and schools. A year-round intervention would also enable schools to time to break down the larger, more theoretical Montessori topics into smaller chunks and offer concrete ways for parents to learn and practice them. As the most common parent question post-intervention was about Montessori academic curriculum, a longer intervention could also provide time to educate parents on specific aspects of Montessori curriculum. Using Seesaw for parent education answered parent questions about how to implement at Montessori at home, allowed them to move on to think about and be curious about other questions, and expanded what they wanted to know (Figure 16). This learning cycle has the potential to be repeated and spiraled, leading to greater understanding, just like the Montessori spiral curriculum. Imagine the impact of a three-year cycle of parent education coinciding with the three-year cycle of their child’s education.

The visual nature of online communication makes it an excellent avenue for communicating about Montessori education, which utilizes methods and materials that are different from what most parents experienced when they were in school. The ability of parents to see Montessori in action utilizes the tremendous power of observation to communicate minute
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details of utmost importance- seeing is believing. Videos and photographs are way for parents to see Montessori in action. Palmer’s (2004) video “A Montessori Morning,” utilizes time-lapse video to show an entire morning three-hour work cycle in a short five-minute video. This video has almost one million views and 264 comments.

There are a variety of electronic communication options for schools (i.e. Seesaw, ClassDojo, Transparent Classroom, Montessori Compass, Facebook) that offer opportunities for parents to interact electronically with each other. Parents want to feel connected with other peers, however, many find it challenging to find time for socializing. If schools can use technology to allow parents to communicate and interact while they are shuttling their children to classes, during commutes on public transportation, or waiting in car lines, they can take advantage of the limited time parents do have.

Potential for Future Research Investigation

When parents are able to connect with each other through online applications such as Seesaw, will community continue to build? When parents make connections online, will they want to and make time for more interactions? Will further interactions include in-person interactions? A study more closely looking at parent interactions over time would be helpful in answering these questions.

We would like to know more about the relationship between Seesaw parent education and student success in the classroom. What effect does Seesaw parent education have on children’s behavior or work in the classroom? Can we see evidence of improvement in specific children’s behavior with specific suggestions and practices to implement at home? Can we increase parent confidence and efficacy and see it translated into action with students for an increased positive outcome? Ideally, a randomized controlled study could compare the behavior
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and work of similar students whose parents have randomly been assigned to either participate in Seesaw parent education or not. Teachers could also powerfully implement action research using Seesaw to provide parent education to address specific topics that they observe are needed.

The impact of Seesaw parent education on student retention at Montessori schools warrants further study. Our study showed that Seesaw parent education increased parent confidence in Montessori education beyond preschool. A longer study looking at the impact of Seesaw parent education on actual student retention in Montessori schools, especially beyond preschool would help us learn if this growth in confidence in Montessori education led to enrollment in Montessori kindergarten and elementary programs.

It would also be interesting to know the number of parents using specific devices for Seesaw such as cell phone, computer, or iPad. The type of device used to access Seesaw has implications for content as well as presentation. This could easily be a question added to a questionnaire in a future study.

Further studies may want to compare first year Montessori parents with second and third year Montessori parents. Are new parents more receptive to learning about Montessori? Have second and third year parents already learned about Montessori principles through their experiences having their child enrolled in a Montessori school? Are second and third year Montessori students practicing independence at home and are their parents are following their lead?

Imagine the tiny sapling. Can you change its nature? Can you make it become a different kind of tree? Of course not. But you can make sure it has sufficient light. You can make sure it has rich soil and a fertile ground. You can offer it support when it needs it, just as you can remove the supports when they begin to intrude on the tree’s ability to stand
alone. Our support, forced beyond when it is needed, leaves scars on the trunk of the growing tree, and yet the tree insists on growing. Its environment will determine if it grows strong and upright or if it is forced to bend and twist to be assured its needs are met. (McTamaney, 2007, p. 95-96)

"Now the adult himself is part of the child's environment; the adult must adjust himself to the child's needs if he is not to be a hindrance to him and if he is not to substitute himself for the child in the activities essential to growth and development." (Montessori, 1966, p. 106)
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Virginia Statewide Parent Education Coalition (VSPEC)*, 2013. Retrieved from:
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Montessori Parent Questionnaire: Pre and Post-Intervention

Completion of these questions is voluntary and confidential. We encourage you to be as honest and open as possible. There are no wrong or right answers. You may skip questions, or stop doing the questionnaire at any time. This tool will not collect any personal information from the participants. We appreciate your time in helping us research technology and parent education.

These questions will take approximately 5 minutes to answer.

1. How is your child involved in daily family life?

2. Please choose the most appropriate answer:
   A. I would like to continue, however, prefer not to have my responses included in the study.
   B. I would like to continue, and I am comfortable allowing my responses to be included confidentially in the study.

3. How much does a busy schedule prevent you from becoming involved with your child’s education at home?
   Not at all   Somewhat   Quite a bit   A tremendous amount

4. What is the biggest challenge you face with your child at home?
   Your answer:

5. Montessori classrooms often have areas for pretend play.
   True   False

6. How do you feel about implementing Montessori at home?
   I am not interested in implementing Montessori at home
   I am not sure how to implement Montessori at home
   I feel like I don’t have time to implement Montessori at home
   I am actively implementing Montessori at home

7. How confident do you feel in your ability to help your child learn to do things for him/herself?
   Not confident at all   Slightly confident   Somewhat confident
   Quite confident   Extremely confident
8. On a scale of 1-10, how confident are you in the ability of Montessori Education to educate your child beyond Primary/Preschool? (1 being not confident at all, 10 being my child will continue into Montessori education as long as possible)

1  2  3  4  5  6  7  8  9  10

9. What questions do you have about Montessori philosophy and practice?
Your answer:

10. What do you feel are the best strategies to deal with separation anxiety?
Your answer:

11. How often do you engage with your child in learning activities at home?
Almost never  Once in a while  Sometimes  Frequently  Almost all the time

12. Children in Montessori classes often receive certificates, stickers, praise, or other forms of recognition and encouragement.
True  False

13. When you think about good communication with your school/teacher, what forms of communication work best for your family?
Email  In-Person  Phone  Social Media  Text
Appendix B, Montessori Teacher Feedback Form

Montessori Teacher Feedback Form: Pre and Post-Intervention

Completion of these questions is voluntary and confidential. We encourage you to be as honest and open as possible. There are no wrong or right answers. You may skip questions, or stop doing the questionnaire at any time. This tool will not collect any personal information from the participants. We appreciate your time in helping us research technology and parent education.

These questions will take approximately 5 minutes to answer.

1. What aspects of Montessori do you think your student’s parents are implementing at home? What evidence of this do you see at school?

2. What do you think the parents in your classroom should know about Montessori Philosophy and work of the home that they don’t seem to?

3. What parts of parent communication take up the majority of your time?

4. What are the most frequent questions you receive from parents?

Question added to the post-intervention teacher questionnaire:

5. What changes in parent understanding of Montessori education have you noticed since the Seesaw Parent Education Intervention?