Student Experiences during Unstructured Play Periods

By

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Abstract
The action research was an observational study that utilized a phenomenological lens to better understand the play experiences of a group of children in a Lower Elementary Montessori classroom. There are various types of play all of which the child engages in while exploring their environment. The study considers play as communication between children and their surroundings. The research was conducted in an urban setting through student interviews, an audio recorder and transcriptions as well as a tally chart. The study aims to learn about the connections between Montessori philosophy and unstructured play. Data was referenced with the Montessori Planes of Development and found that many sensitivities that exist in the Second Plane of Development can be positively supported through unstructured play periods implemented in the classroom. Various foundations of Montessori philosophy such as adult observation, empowerment of student voices and learning through movement were found to be important aspects of an unstructured play period. The study found that children successfully solved problem-solved with peers, engaged in elaborate play scenarios and took on multiple roles while experiencing their unstructured play period in the classroom.

Keywords: student-directed, Montessori, unstructured play, community building
Introduction

The motivation behind this study is rooted in the researchers' experience with various field placements during their undergraduate program in early childhood education. They worked in classroom environments where unstructured play was allowed, encouraged and even sometimes put into the structure of the school day. There were also classroom environments where play was discouraged, continuously redirected by adults and not a typical part of a child’s school day. As the researcher began to gain experience in various school conditions, they felt interested in the classrooms where play was an expected part of the child’s day. It was in those classrooms that warmth and joy could be most felt. This sparked a general curiosity about how child-directed play may relate to learning.

As the researcher continued with their educational path, interest in the relationship between play, learning and the classroom carried on. Working as a Montessori guide-in-training in a Lower Elementary classroom, the researcher had the opportunity to conduct an action research project on the topic of interest. In this Lower Elementary classroom students had varying access to play materials due to environmental factors, material resources and the heavy influence that technology plays in children’s lives today. Also due to the school location and lack of adequate outdoor play equipment, children may not have had many opportunities where their imaginations could be engaged for long periods of time. Due to the researcher observing lack of chances for children to exercise their imaginations, creatively express themselves and successfully problem solve with peers, they felt emphasis on unstructured play in their classroom was important. Unstructured play was implemented at the end of the day in the Lower Elementary classrooms prior to the researcher being there. The routine was continued with their class and used the name that already existed for the time period; “choice,” further discussed in the “Methods” portion of the paper.

The researcher finds great value in observing their students and discovered they were able to deepen their knowledge of the children with observation of play. Finding value in allowing play in the
school setting, the researcher was aware of tension felt where play and fantasy meet Montessori philosophy. This further motivated the researcher to study play in the classroom to investigate if the unstructured play that occurred was in the best interest of the child. The researcher became interested in the child’s experience during their unstructured play period and the alignment of sensitivities in Montessori’s Second Plane of Development.

There is information about the setting, participants and environment they created in their space that is crucial in giving context to the action research project. The classroom contained core values that the students engaged in, respected, and enforced amongst themselves. Beginning with inclusion, the student population served is diverse in both physical abilities, race, and cultural backgrounds. Around 35% of children in the classroom received SPED services based on IEP needs and the school believed in learning as a community which allowed for much more push-in services for those children. Children in this classroom were accepting of all abilities, strong advocates for their classmates and understanding about meeting the needs of individuals.

Along with the environment of inclusion, children held encouraging attitudes about their artwork, expressing creativity and truly felt ownership over the classroom itself. Below are some pictures to exemplify this. Often students could be seen creating and hanging their own artwork (in a designated art area within the room) and consulting peers about where it should be placed and how it looked hung up. Children took great pride in their creations and spent much of their unstructured play period collaborating with peers to make art projects together for their classmates.
Considering the students’ level of advocacy for their peers and honor of creative expression, this led to an easy acceptance of tangible objects in the classroom that were used for many things. Prior to the beginning of study, children were already deeply connected with some objects that were involved in the classroom. As pictured below, one of the individuals loved to bring small objects (usually horses or dinosaurs) from home and often, holding an object brought them comfort. They were not the only child that had an item that was accepted into the classroom with grace and understanding. The other students were not confused about why they had those things or frustrated that they had them at school. It was a common occurrence that if a particular child was feeling dysregulated, the adult would go to the windowsill (pictured) and ask if they would like to hold one of their items. After this being modeled for the children, they began to ask some of the students if they could help by bringing a windowsill item. By the time of the study, the researcher observed that the children were using the tangible objects as a bridge of kindness between them and their peers. The objects were used as tools for regulation, building community and meeting the needs of individuals. This is not a typical situation in a Montessori classroom which is why it is important to know for context of this action research project. In this environment, the tangible object held meaning beyond being exclusively a play item.
Literature Review

Play is the child’s way of learning about their world. It is supported by many renowned researchers that play is an integral part of a child’s learning experience. Piaget (1962), Montessori (2017) and Paley (2005) theorize that play is the work of the child. Additionally, Vygotsky believed that while playing, children were functioning above their perceived maturity levels and that there is much to learn from the way children interact with their environment. While these well-regarded human development theorists each had slightly different conceptions of play, all agreed that play is natural and foundational to development. This naturally occurring phenomenon provides a developing child with an opportunity to explore surroundings and experiment with the environment. Healthy play supports the development of social-emotional and problem-solving skills, while supporting opportunities to use metacognition and self-regulation.

Many professionals that work in the field of childcare and early childhood education are aware that play is essential in supporting a child’s well-being. In their observational study, Thiessen, Gluth, and Corso, R., (2013), strived to learn more about the connection between play and creative development in the elementary classroom. Considering the importance of play periods, these researchers state that play provides an opportunity for children to learn how to work together, adapt to different situations, experiment, construct meaning, and practice expressing their individuality, (p. 1341). This study also reminds us that we can never predict the future for which we are preparing our children. These researchers acknowledge that because the world is infinitely changing we are preparing the internal capabilities of a person who will need to be able to adapt to an ever-changing society.

When a child is not provided with a safe play space, deficits occur. In A Trauma-Informed Approach to Play Therapy Interventions with African American Male Children, Olson writes, “play deprivation is the notion that play is essential to the optimal development of children and, in the absence of play experiences, physical, cognitive, emotional and social deficits, and difficulties result”
In looking at play deprivation, Olson outlines populations that have the highest risk of being play deprived: those who do not have access to safe indoor or outdoor spaces, those who are materially disadvantaged, and those who experience abuse or neglect. Unfortunately, play deprivation is experienced most by those who are already taking on undeserved disadvantages due to perpetual systemic racialization. Healthy play opportunities are not distributed equally, and therefore, play accessibility is considered a social justice issue.

Safe play is a right for every child and should be protected for all it supports in early development. Play is emphasized in the United Nations Conventions on the Rights of the Child (1989). Written in the child-friendly version of the Rights of the Child, the 31st right states, “Every child has the right to rest, relax, play and to take part in cultural and creative activities.” Play is a human right, and lacking access to these experiences can have detrimental effects on a child’s development.

**Types of Play**

What sorts of factors must occur for an experience to be considered play? Children can engage in various types of play. Starting with the physical space being utilized, this can occur either outdoors or indoors. If play is outdoors, it is more likely to be gross motor related. Indoor play provides more opportunities for fine motor development. The quality of the indoor or outdoor experience will depend on the child’s comfort with the environment, whether other children are present, and what sort of relationship the children have with each other. Outdoor play during recess time with classmates will look and feel very different from playing outdoors at a park with your family or neighbors. Outdoor play accessibility varies greatly on safety factors in the community, family values of gross motor time, and available resources.

Play can be child-directed or adult-directed, interchangeable terms for child-directed are “self-initiated” or “child-initiated.” An interchangeable term for adult-directed is “adult-initiated.” Looking at a mixed methods study that involved beginning child-initiated play groups at an elementary school in an urban setting, Bauer & Woolley (2016) define child-initiated play. For play to be considered child-
initiated, their tenets include allowing children to make their own play choices—to experiment, explore, and interact with others—in an environment responsive to their developmental interests and preferences. Bauer & Woolley (2016) believe that child-initiated play is essential for schools that are trying to move away from scripted curricula. Their study involved teachers who led adult-directed classrooms that stemmed from the implementation of No Child Left Behind (2001) and had an intense focus on teaching to the test. These researchers state that children are living out their lives through play and in order to be the most authentic it should be child initiated. Play is an organic method of communication between children and their world.

Child-directed play can occur naturally as the child interacts with their environment. Children can often be seen playing during periods of time that may not be considered explicitly for play. Soundy (2012) wrote a position statement on play as she believes that certain school environments are not providing enough play opportunities for children. When play periods are not explicitly available in a child’s day, Soundy (2012) says that children are good at finding alternative stages to playact their fantasies. Her entire study analyzes play scenes that she found occurring naturally throughout a school day where no play period was readily available to the children. Play can also occur during scheduled periods where the children can expect they will have access to play materials and can count on having this daily support for their playtime needs.

Whether or not the play is child-initiated or adult initiated, it may be task-oriented (such as STEM activities), dramatic, fantasy, structured, unstructured, or a combination of all of the above. These types of play all have various benefits. There are ambiguous overlaps where both the type of play being observed, and the advantages can overlap into more than one category. Science, Technology, Engineering, and Math activities (STEM) are normally modeled by an adult, making it structured play. The child may play with building materials as they perform a STEM task that supports their development of problem-solving skills and critical thinking. An example of a STEM task is to build a bridge using toothpicks and marshmallows that will hold weight, such as a certain number of pennies.
Dramatic play involves providing children adequate time with play materials and peers to take on child-initiated roles and act them out. Often dramatic play will contain clothing options and props. Dramatic play is usually considered unstructured since an adult has not directly suggested what to do with the materials. An interchangeal term for fantasy play is imaginary which is considered “unstructured” since the child creates their own rules, roles, and uses of the play materials. For the sake of this study, unstructured play will be the focus. The play observed may contain components of both imaginary and dramatic play in an indoor and child-directed environment.

To summarize, play can occur in both indoor and outdoor environments, and the form will vary on the resources available. Play can be child or adult-directed, but for many studies, it is not considered authentic and valuable unless it is initiated by the child. Play occurs organically, and children will find ways to play whether or not a time period is set aside for them to do so. Researchers have categorized many types of play that have overlapping benefits and qualities. This action research is specifically studying unstructured child-initiated play that is occurring indoors and may contain qualities of dramatic and fantasy play.

Play Theories

There are many researchers of children who propose theories on play. Play theories are the researcher's beliefs about the role of play in a child’s life and its impact on development. Some of these researchers with well-known play theories in education are Jean Piaget, Lev Vygotsky, Rudolf Steiner, and Angeline Lillard.

Piaget established criteria that are necessary for determining the definition of play. According to Piaget (2013), play has six criteria. The first is that play is an activity that is distinguished by itself. The second is that play occurs spontaneously or on its own. The third is that the child involved in play is experiencing pleasure. Fourth, there is a lack of adult organization, making the play child-directed. The fifth is that play is free of conflict. Lastly, the sixth Piagetian criterion for play is that the child is motivated to play on their own without outside incentives. Piaget goes on to explain how play can be
used to support where a child is in his theory of assimilation and accommodation. According to Piaget, as a child learns new information, the information is either assimilated by pre-existing knowledge or accommodated by making changes to pre-existing knowledge. He believed through observation of children at play, one can know more about how children are learning new information. Therefore, play is a naturally occurring learning device for both children and adults who are supporting them.

Vygotsky has a famous quote that states, “in play a child becomes a head taller than himself,” implying that when children are playing, they are functioning at maturity levels higher than perceived when not playing (Bodrova, Germeroth & Leong, 2013 p. 112) Vygotsky believes that learning during play occurs in the zone of proximal development. In the zone of proximal development, children are comfortable enough to explore new information with the right amount of challenge, allowing them to do this learning on their own. In their study looking at play, Vygotskian theory, and self-regulation, the authors restate three criteria that Vygotsky believes need to exist for play to be considered “real.” The criteria are as follows: children create an imaginary situation, take on and act out roles, and follow a set of rules determined by these specific roles (Bodrova, Germeroth, & Leong, 2013). Vygotsky believes that real play supports the development of self-regulation skills such as self-control and conflict resolution.

Wisneski, & Reifel (2012) contribution to a recent publication dedicated to the reconsideration of the early childhood curriculum focuses on the place of play in the early years. Within the chapter, Steiner is discussed as understanding the importance of play for the development of the young child. Steiner has theories that were used to found Waldorf schools which place a large emphasis on imagination, creativity, and free play during the early childhood years. Steiner believes that children are able to express individuality through free play and have an opportunity to build their own realities while playing. Steiner believes that an emphasis on free play is necessary for children to build their spirituality and sense of self.

Angeline Lillard writes about pretend play in Pretend Play Skills and the Child's Theory of Mind
In order for pretend play to occur, Lillard (1993) states five features that must exist. The first is that there is a pretender, a child performing the pretense. Lillard often uses the term, “pretense” as interchangeable with pretend play. The second is that a reality that exists. Third, there is a mental reality that is different from what exists. The fourth is a layering of the representation over reality, such that they exist within the same space and time. Lastly, the fifth feature is that the pretender is aware of features two, three, and four. Lillard agrees with Vygotsky in that she believes that pretend play has the ability to show what the child knows and that, often, the child shows high competency through play (as compared to non-play tasks). Of play that involves the child pretending an object has a role different than its role in reality, Lillard writes, “applying two identities to an object at once is a skill that children have in pretend play but not outside of it, indicating that pretend play is an area of special competence with respect to this skill” (1993).

**Themes Among Play Theories**

It is clear by studying the above play theorists, that play has various benefits on the development of the young child. There are a few overarching themes seen throughout the four theorists mentioned above. One of the themes observed is that play is an activity that stands on its own and is worthwhile studying for the benefit of the child. Play is naturally occurring, and of the observed theories, the benefits of play are in support of the healthy development of the child. Another overarching theme is that play is most authentic when it is child-directed, and the child is enjoying themself. These theories support that when value is seen in play, an adult can study how a child learns and what a child knows through play. Play allows children the opportunity to process what they are experiencing in reality, to use their imaginations, and to begin examining and building upon their identities. Evidently, each play scenario that a child or group of children engages in is unique. Once a play experience has occurred, that exact situation will never be repeated. Every play occurrence is distinctive and should be cherished for its rich learning opportunity.
**Play and the Development of Metacognition and Self-Regulation**

Play supports the development of many essential skills to aid the child in growing into a socially adept, empathetic, patient, and self-aware member of their community. In this research, metacognition and self-regulation are the two skills that will be examined for their relationship with unstructured play and the development of the child. In a qualitative study done with a group of 3 and 4-year-olds, Robson, S. (2010) works to show the relationship between self-initiated play and children’s metacognition and self-regulation skills. Robson takes a social cognitive approach as she defines both metacognition and self-regulation. A social cognitive approach looks at the impacts of individual experiences, actions of others, and the environment on an individual’s health and behaviors.

To define metacognition, Robson, S. (2010) cites Flavell (1979), who identifies three components on which metacognition is based. Flavell states that metacognition concerns the self as a learner. Metacognition is used for tasks and goals with the awareness that different tasks use different types of cognitive demands and problem-solving strategies. Robson clarifies that metacognition uses both declarative knowledge and procedural knowledge. Declarative knowledge is what someone knows about themselves as a learner, while procedural knowledge is used for regulating problem-solving. Metacognition is a skill that, for young children, should be practiced to strengthen a child’s declarative knowledge and procedural knowledge. As discussed, child-initiated play supports opportunities to work on self-awareness, problem-solving, and cooperation with others, thus exercising a child’s metacognition.

Self-regulation is just as multifaceted as determining metacognition. Similar to metacognition, self-regulation is drawn from the social cognitive perspective (Robson, 2010). The facets of self-regulation include social regulation, motivation, and cognition. Self-regulation is a process where children learn to monitor and control their cognition, motivation, and behavior. To do this successfully, self-regulation must be modeled for the young child, and regulatory skills should be explicitly taught before self-regulation learning (SRL) can be expected to occur. A few ways to support SRL in an
educational setting are to offer open-ended activities that provide opportunities to make choices and solve problems, (Robson). This is where unstructured play could contribute to SRL while building a child’s skills to self-regulate and provide adults scenarios where they can model self-regulation skills.

**Metacognition and Self-Regulation in Unstructured Play**

Anytime a child is categorizing information, they are using metacognitive skills to complete their goal. Examples of this in play would be arranging objects based on a child’s selected criterion (color, size, etc.), creating rules for imagined games, assigning roles to themselves and others, and constructing from given play materials. All the given scenarios would require a child to problem solve while they consider their environment and goals, therefore, using metacognitive skills through their play. Self-regulatory skills include impulse control, sustaining attention, moving with purpose, taking turns, and more. These are skills that can be observed, especially during group play situations where children have to work with their peers. Often, metacognition and self-regulation are being used at the same time. Both skills are essential for young children to develop before they are ready to take on academic demands. Providing plentiful play opportunities is one way to support the exercise and growth of metacognition and self-regulation.

**Play and Urban Schools**

To meet academic demands, children must have well-established metacognitive and self-regulatory skills. As mentioned above, learning is not as successful if children are unable to have control over their bodies, lack cooperation skills with peers, and do not know how to use metacognitive strategies to meet their goals. In childcare (from infancy to around age 3 or 4), it is common to see classrooms with dramatic play areas, access to various types of play materials, and outdoor time at least once a day. However, as a child moves into the education system around 4 or 5 years old, playtime can look very different. This does depend on the type of education the child is receiving, the location of the school, and the values the school has about play. Specifically in urban schools, once a child begins their kindergarten year, playtime decreases significantly and play opportunities are severely diminished as a
child moves through the grade levels. There is a lot of play research that focuses on toddlers to kindergarten, but there is much less research about elementary children and their play preferences. A large reason why there is decreasing playtime as age increases is due to academic minutes, which schools are legally bound to adhere to. According to Bauer & Woolley (2016), the 2001 federal No Child Left Behind Act (NCLB) imposed scripted curricula, continuous monitoring of student performance, high stakes testing, and the punishment of teachers, administrators, and students for not meeting these demands. NCLB led to increased instructional minutes as teachers tried to cram in everything they felt needed to “teach to the test.” Recess time was diminished across many school districts, and more unstructured periods such as specials and playtime were eliminated to prepare children for standardized testing.

Standardized testing can put urban schools at a disadvantage. English (2002) in *Education in Urban Society* researched bias that exists in achievement testing. They found that wealthy students were typically scoring higher on achievement tests. Of this, English (2002) states, “If IQ and other forms of achievement testing consistently show a bias toward variables of wealth, education levels, linguistic dexterity, and vocabulary breadth (all highly intercorrelated), they cannot be considered neutral to those same factors” (p. 307). Aware of the achievement gap in urban districts, there is increased pressure for teachers to catch their students up to raise test scores. English writes an entire section related to bias existing in standardized testing that disadvantages those with low socio-economic status. Problematically, the standardized tests are written through a white, upper-middle-class lens, making them biased and disadvantaging many urban schools whose student backgrounds differ from those writing the test questions (English 2002, p. 299 and 305). Play deprivation for elementary students is most severe in urban school settings where the stress of raising test scores in an underserved situation perpetuates the achievement gap.

Within the last 15 years Common Core State Standards (CCSS) were implemented in many schools around the country, eliminating the scripted curricula and teaching to the test mindset that
NCLB had created. It should be reiterated that urban schools continue to be disadvantaged as those in power of creating curriculum focuses continue to write educational expectations through an upper-middle-class white worldview. CCSS (2010) focuses on preparing children academically for college and careers and aims to provide children with real-world skills needed to succeed in a global economy (Bauer & Woolley, 2016). Some schools have been able to develop a pedagogical turnabout as they assess what students need to be successful regardless of standardized testing. Many schools are still recovering from NCLB demands and are figuring out appropriate minutes for recess and possible unstructured play periods in a school day.

A third reason that the amount of time for play is decreased with age has to do with accessibility to adequate play areas. According to Olson (2016), children who are in schools or districts that have low resources, are located in unsafe neighborhoods, or do not have accessible indoor or outdoor play areas/materials are most likely to experience play deprivation at school. As a child ages, class sizes and academic demands typically increase, resources are spread thinner and free play materials will be less abundantly accessible. Children’s metacognition and self-regulatory skills are still forming when they enter classrooms at the age of five. These skills can be supported best by giving our elementary children adequate play opportunities as we reconsider where our academic minutes are going and what we are preparing our students for, as the research shows there is a place for unstructured play in the elementary environment.

**Connections to Montessori**

Educators are under high levels of pressure to meet the needs of children in a world that is recovering from a pandemic. There is an expectation for academic rigor to align with common core state standards and standardized testing, all the while preparing a child for a future we cannot even predict. This research is concerned with education in an urban setting that specifically experiences the effects of the achievement gap caused by institutionalized racism. It is not a surprise that providing time for play periods is not the top priority for some schools. However, looking at all the
benefits unstructured play can have on the development of self-regulation and metacognition, it is an essential component of a child’s educational experience. Can play fit into a Montessori educational setting, and should it be an expected part of each child’s day at school?

Montessori education programs are based on Maria Montessori’s philosophy that she evolved over her lifetime of research and work, spanning from the late 1800s-early 1900’s to 1952. It was in 1907 that Montessori opened her school, “Casa Dei Bambini,” or Children’s House. Casa Dei Bambini was in Rome and was where Montessori began her work with children. Previous to her opening the school, she had earned a degree in medicine and became interested in studying children. Considering the amount of time that has passed since her theories of education were first put into place, there has been much adaptation and opinion added to current Montessori training programs. As with anything in the research world that has been around for over 100 years, professionals in the field have taken the time to evolve certain lessons and methods to best teach their students. Becoming a Montessori educator today, one may study Maria Montessori’s theories while referencing all those who have influenced her method. There also is the consideration of the population that is to be served. Montessori classrooms can look different from each other depending on the location of the school, resources available to the school, population of students and training of the teachers. Especially because a key component in Montessori is following the child, Montessori rooms will reflect the strengths and needs of their students.

This research specifically looks at play in a lower elementary Montessori environment and play materials, leisure time, and child rights have changed significantly since the late 1800s and early 1900s when Montessori was developing her techniques. Especially for children of the lower elementary age level (six-nine years). Since then, many play theorists have created their own philosophies while the world has continuously advanced play materials available to children.

Play in the Montessori environment can become a controversial topic depending on an adult’s classroom priorities, where the school is located, and who the school services. Depending on
the teacher’s exposure to play research, they may or may not encourage play in their rooms. The location of the school can affect outdoor play space and available resources. The school culture and the needs of the community also play into what is prioritized in a child’s day. There is controversy over play because Montessori education is grounded in reality, meaning that a child’s education should be made relevant through real-life experiences and application. When children play, they often engage in pretend play. Pretense usually involves imaginary scenarios and fantasy. When play is encouraged in the classroom, some Montessorians feel that this does not honor learning based in reality. If a Montessori school is not aware of play research and has many other student needs to meet, play may not be emphasized in the classroom.

For the sake of this research, unstructured play periods that are child directed will be looked at through the lens of the Montessori philosophy. Maria Montessori’s educational philosophy originates in presenting engaging lessons and offering materials that invite the child to learn through sensorial experiences, (Soundy 2012). Tactile learning materials are prepared carefully for children. Montessori (1946) writes, “the child gives us a beautiful lesson – that in order to form and maintain our intelligence, we must use our hands.” When a child begins a Montessori education in Children’s House, they are introduced to an environment that mirrors the comfort of a home. This involves a classroom containing appropriately sized furniture and materials that reflect the real world. Unlike many traditional educational settings for children ages three-to-six, a Montessori classroom most likely will not have a dramatic play area or shelves filled with plastic toys. Instead, students have the opportunity to learn about what they can find in the real world. An example is practical life work seen on Montessori shelves. These works may include pouring practice, tweezing small objects, or tying frames. Maria Montessori believed that young children learn best when anchored to a world of reality, where they can build relevant life skills and experiment with curiosities about their environment. Does this mean that play does not occur in the Children’s House Montessori setting?
Looking at two qualitative studies done in Montessori rooms with children ages three-to-six, researchers observed that play naturally occurred whether the teacher intended it or not. Soundy (2012), found that most of the observed play scenarios “unfolded spontaneously as children engaged in conversation and work with materials.” This finding aligns with another study Cathleen Soundy conducted in 2009, where she discovered that in classrooms where play was not sanctioned, children were exceptional at finding alternative stages to playact their fantasies. In addition, due to the learning materials being tactile-based, the children are often playing while they complete a work. This reinforces the fact that play is a naturally occurring tool that children use while processing their real-life experiences and interacting with their environment. In both studies, Soundy observed that children reflected classroom values and played with knowledge of the class norms. This was seen through children’s problem-solving dialogue, using the classroom rules as a gauge for what is fair, and taking turns with both materials and created roles.

There is abundant play research done with toddlers and children under six. Discovering research conducted with the elementary-aged child was a bit more difficult. When a child leaves Children’s House at the age of six, they enter Lower Elementary until they are nine. Therefore children in Lower Elementary experience first, second and third grade in the same classroom. Based on Montessori’s Planes of Development (Standing, 1957), when a child is in Lower Elementary, they are entering into the second plane of development. The second plane of development exists from ages 6-12, where the child primarily focuses on their local community (family, friends) and yearns for intellectual independence. The emphasis on peer relationships in this period is exceptionally strong. Of peer relationships, Standing (1957) calls this need the “herd instinct,” because it is a natural desire and necessity in a child’s life. When a child is in the second plane, they are working on developing their imagination, academic abstraction skills, morality and justice views, and peer interactions. They are heavily concerned with socialization, fairness and are growing the capabilities of their imaginations.
How does play relate to the support of the second plane? The study of the second plane of development indicates that there are many sensitive periods that Montessori shows exist, and many can be positively supported through play. First, when children are in this plane of development, it is essential to support their need for community. When play is child-directed, it provides substantial opportunities for children to problem-solve among peers, discover with who and what they enjoy playing and have a chance to bond socially with limited adult interference. In the second plane, children also need opportunities to test their views of fairness and be challenged to find solutions for situations that may feel unfair. Child-directed play is one way that children experience these situations as they sort out the rules of games, assign roles and work through the cleanup process.

Lastly, in the second plane, children are sensitive to developing their imaginative skills and need ample chances to dive into their own minds. It is during this time Soundy states, “the childhood years from 6-12 are designated as the most opportune time for an individual’s development of imagination,” (2012, p. 28). If a child is allowed to direct their play and be engaged until a natural closing point occurs, they are able to let their imaginations take charge of their time and space.

It is evident that play can be fostered in lower elementary environments and provide productive growth opportunities according to what a child is sensitive to in the second plane. Of activities that are child-directed, Montessori (1946) writes, “Free activity makes children happy” (pg. 139). Why, then, is the inclusion of play in this age group and setting controversial? Lillard & Taggart (2019) authored a discussion-based article that reviews perspectives of play and Montessori education. This article specifically focuses on fantasy play and questions if we are putting too much emphasis on activities and contexts for children that we believe are beneficial, but that might be less helpful than engaging in the real world. Lillard and Taggart (2019) build a discussion based on Montessori’s belief that children are most interested in and benefit from interactions in the real world. They use evidence from experiments where choices were offered to children that involved real materials (ex., food preparation) and toy versions (ex., plastic food sets).
Lillard & Taggart (2019) show that children preferred the real version of the activity as opposed to a pretend version every time it was offered. However, a child can engage in pretense with either material. It is less about the materials and more about the experience of the child. Of the fantasy play that does occur spontaneously in the classroom, Lillard & Taggart write that Montessori teachers use children’s fantasy play behaviors as clues to how they might help connect children to what is real.

In contrast to Lillard & Taggart (2019) beliefs, fantasy play is not always mundane. It is important to remember that Montessori believes that play is the work of the child. Out of respect for the child, we must look more closely at the individual and consider what they are experiencing while they engage in pretend play. To reiterate, just observing what materials a child prefers will not tell us whether or not they are using imaginary play. Instead, we must dive into the child’s experience while using specific materials. To truly follow Montessori’s philosophy, it is important to take a step back and observe, there is much to learn from the way a child interacts with their environment. What is the child processing while they engage in fantasy play? For example, children often enjoy playing “house,” or “family,” and can be observed role playing in scenarios that they have seen in their own homes or communities.

To once again ground ourselves in Montessori’s theory, one of her core beliefs is that following the child is the most effective, respectful, and relevant way to guide a child in their development. While providing play experiences in the Lower Elementary Montessori environment, following the child will always be kept in mind. Montessori (1946) says, “What is play if not to do those things which entail the movement of the hands? Children need to touch, to move all the things which they find in the environment” (p. 36). If the play is child-directed, appears purposeful, and is in the best interest of the child, it is in alignment with core Montessori beliefs. What better way to follow the child than to sit back and learn from how the child is processing their world through their play?
Lastly, play allows children to do things for themselves. One of Montessori’s values in Lower Elementary is growth of mental independence. The growth of skills towards independence is encouraged and fostered in Lower Elementary for many reasons. Independence gives children a sense of control over what they are learning and how they are learning it. Being able to pick a work, complete the work with appropriate materials, and find answers on your own is liberating. When a child exercises this independence, it is easier for them to know their purpose in the classroom and find joy in learning. Montessori believes that education should feel relevant to the child, and she states, “We must understand that anything which animates the child is a help to his development,” (1946, pg. 129). Independence can help a child foster a lifelong love for learning because they understand the importance of their own role in their education. If a child needs support in developing this independence, play is a natural way to practice doing things on your own while collaborating with your peer community.

In a Lower Elementary Montessori environment, children deserve to have unstructured, and student-led play experiences to support their sensitive periods in the Second Plane of Development. In addition, when children play, they often reinforce the classroom rules and deepen their awareness of community values. Creating a classroom that allows for unstructured play shows respect for the child’s individuality and concern for their self-regulatory and metacognitive development while providing opportunities for peer collaboration and problem-solving. Of our duty to serve the children to the best of our capabilities, Montessori (1946) writes,

> Every detail of a child’s life has rules, mysterious laws. Every detail is of importance, so we must respect everything, even if it does not seem logical to us. We do not know the consequences; we are not the judges, but the servants of nature. (p. 52)

Child-directed play periods in the lower elementary classroom created with intention and protected by adults are beneficial to the alignment with the Montessori philosophy.
**Methodology**

Research supports various benefits of unstructured play for elementary-aged children. Children learning in a Lower Elementary Montessori environment can experience the benefits of unstructured play that align with sensitivities in the second plane of development. As a Lower Elementary Montessori Guide and action researcher, I am interested in unstructured play experiences for children ages six-nine, which occurs in an urban public charter Montessori environment. This eight-week study aimed to highlight the voices of the students as a means to assess the impact of providing a safe play space as well as materials that supports imaginative and exploratory play. This is qualitative research with a phenomenological lens - the children’s experiences of unstructured play. The research used mixed methods to examine self-regulatory behaviors and metacognition existing while engaged in an unstructured play period lasting around 30 minutes. Specifically concerned with the child’s experience, the researcher put focus on the perspective of a student to learn more about what their play may mean to them. As discussed later in this section, all three instruments were designed to put the child at the center. In support of phenomenological methods of data collection, one of the instruments utilized student interviews to better understand what a child thinks of their unstructured play period.

**Research Question**

Due to the lack of play opportunities that the students experience, this action research examines the question, what can unstructured play offer a student when given an adequate play period in their school day? Play opportunities were severely diminished during the Covid-19 pandemic, which directly affected the students’ last few of years of social-emotional development. Also, many of the students in the study do not have access to regular outdoor gross motor time or play spaces where they can become engrossed in imaginative activities due to urban geographic setting. As discussed previously, due to rigorous standardized testing, curriculum requirements, and supporting academics, students regularly do not have time set aside in their school day during which they can
engage in unstructured play. Given these factors, the researcher saw a need to support the
development of the whole child and wanted to learn more about how play can benefit student growth.
To further analyze unstructured play in a Montessori setting, the researcher asks, what experiences
does an unstructured play period give to a Lower Elementary Montessori student?

While attempting to answer the overarching research question, the researcher looked closely at
the alignment of play experiences and Montessori values. The research helps answer why an
unstructured play period may be needed in a Lower Elementary Montessori classroom in an urban
setting, as well as how this can contribute to student growth and adult observations. Using the created
instruments, the researcher literally and figuratively honored the voice of the child as they examined
what Lower Elementary students think of their play period.

Setting and Participants

The study took place in a Lower Elementary Montessori classroom located in the Midwest.
The school is a public charter located in an urban setting. The school services students from
Children’s House (ages three to six) through Upper Elementary (ages nine to twelve). The classroom
that participated in the research is one of three Lower Elementary rooms. The class is made up of 18
students, ages ranging from six-nine. The participating students are in a classroom with one lead
teacher, an assistant, and a floating paraprofessional. The students come from diverse backgrounds
with various social, emotional, physical, and cognitive needs. The participants come from an
environment that utilizes special education services at a higher percentage than most surrounding
schools. The setting encourages children of all abilities to work with and alongside each other while
keeping inclusion as the institution's core value. In the setting, 30% of participants receive special
education services dependent upon their IEP’s.

Throughout the school day, the children complete an individualized work plan. All
participants have a work plan that guides them through both the morning and afternoon work cycle.
The setting utilizes visual schedules, explicit routines and consistency to support children in finishing
their work plans. When a child has completed a task on their work plan, an adult initials that the task is done to the best of their ability. Once a child has gotten initials on all their morning works and afternoon works, they are eligible to earn “choice time,” at the end of the day.

**Choice Time**

The research was concerned with a particular part of the classroom’s day called “choice time.” In this setting, students in Lower Elementary Classrooms all have the opportunity to earn “choice” when their work plans are complete. This is not to say that students do not experience the ability to have choices within the classroom. Due to the setting being Montessori, children have plenty of opportunities to make choices about the order of their academic tasks and activities within the work cycle. “Choice time” is simply the name for the unstructured play period that is implemented at the end of most days. The name existed in the setting for many years previous to this research, since the origin of the Lower Elementary classrooms.

In the participating classroom, students have the opportunity to earn “choice” by 2:10 p.m., four days a week. To earn “choice time,” students must complete their individualized morning and afternoon workplans along with following classroom expectations that include respect for self, the environment, and others. The daily earning of “choice” supports student needs in this population for more immediate gratification than typically offered in a Montessori environment. Around 2:00 p.m. on Mondays, Tuesdays, Thursdays, and Fridays, the class gathers on the rug in anticipation of “choice time”. Bringing with them their work plans, the students practice patience as their work plans are checked for completion with adult initials that were recorded throughout the day. If “choice” is not earned, those students continue their academic work until complete. In this classroom, it is rare that children do not earn “choice time” at least three times a week.

The routine for “choice time” has clear expectations and little variation because the children need this consistency to find solace and self-satisfaction in self-monitoring. Once confirmed which individuals have earned “choice,” the teacher instructs calm and quiet waiting on the rug, encouraging
self-regulation skills to be used. The teacher walks to the back area of the room where the choice closet is located. The curtains on the closet are pulled open, and students are called in small groups to come back and choose what they would like to play with. Once the play equipment is chosen, the children pick a table or rug to use the equipment. There is a rule that during “choice,” if one chooses to change the equipment they are playing with, the previous equipment must be cleaned up appropriately.

The choice closet is truly a treasure to the children in this classroom. The lead teacher and assistant have collected the play equipment that has been available to the students. Students have even created some of the equipment available such as paper dolls and various art projects from our previous lessons. The play equipment has been brought in based on student interests. This particular class really enjoys imaginative play with figurines, doll houses, and dish sets. They also typically engage in building materials such as Legos or play dough. Some examples of the most chosen play equipment is a wooden doll house, a schoolhouse, dough with cookie cutters and metal dishes, tea kettle and cups, stuffies, ocean animal figurines, and plastic dinosaurs.

The closet itself is four shelves high from the floor to nearly the ceiling and is approximately five feet wide (Figure 1). Although the closet is always in the room, the children exhibit vast amounts of inhibitory control as they do not go in the closet until they have earned “choice time.”

**Figure 1**

*Choice Closet*

One phenomenon that I have observed, and which contributed to my design discussed later, is that students discuss “choice” throughout the day and often talk with each other about what they plan
to play with or do. This is a remarkable period in the classroom that students look forward to, and adults can learn much from, as I will discuss in my design and results section. This “choice time” offers a rich source of information for qualitative research.

**Timeline**

The study duration of eight weeks included multiple days within that timeframe when school was not in session for students due to a mid-winter break, professional development, and inclement weather. This study is a depiction of real-time and accurately represents concurrent events that play into a child’s school experience.

**Instruments and Data Collection Process**

Three instruments were designed and used in this action research, each striving to put the child at the center and prioritize what they experienced. When creating the instruments, Craig A. Mertler’s sixth edition of *Action Research: Improving Schools and Empowering Educators* was referenced to identify the most appropriate design considering the research questions. Two qualitative instruments and one quantitative instrument were used for the eight-week study.

The “Adult Observation Instrument” (Appendix D) required the use of an audio recording device alongside the instrument. The researcher collected data by sitting near a group of participants while they were engaged in “choice time.” The Adult Observation Instrument (Appendix D) supported data collection of student conversations through an audio recording device. The audio device began recording after the researcher entered a few details into the document. The researcher recorded how many students were in the group being recorded, what materials they were playing with, and any other important details. The instrument asked the researcher to record for five minutes, recordings were anywhere from two-nine minutes. After completing the audio recording, the researcher transcribed the recording into the document. Once the audio recording was transcribed, the researcher used the color code system on the instrument to code the conversation between participants.
Using raw data from the Adult Observation Instrument (Appendix D), the researcher identified whether the conversations are related to academics, imaginary scenarios, or real-life experiences. The purpose of coding the conversations was to observe what children were interested in while they played. As previously stated, children can use play to process. The researcher considered what they were specifically saying as the foundation of understanding what they are experiencing while engrossed in “choice”. Considering Mertler (2016), this instrument is an appropriate way to qualitatively organize data as “there are multiple realities constructed by different individuals” (p. 89), as observed while studying groups of children while they play. At the study’s completion, the audio recordings were deleted for privacy reasons.

Appendix E is entitled the “Student Interview Instrument.” The researcher used this instrument to interview participants at the end of choice time. “Choice time” ends anywhere from 2:40–2:45 p.m., depending on how long the perceived clean-up took. Alongside the instrument, the researcher photographed which material a student was using during “choice”, without capturing any identifying features (ex., name tags, faces). The researcher verbally asked one participant if they may be asked some questions about their play. If the child consented, the adult guided them to a table in the hallway. The researcher showed the participant the photograph of play material, which must be from the same choice session. While showing the photograph, the researcher asked the student three questions from Appendix E.

This instrument aimed to find out what children think while they play. Appendix E examined what Lower Elementary students think about their play experiences. Considering what students may think while they play can give insight into the metacognitive skills that are being used. While using Appendix E, the interviews took anywhere from one-three minutes. The photograph was later inserted into the instrument for reference. This qualitative instrument was appropriate for evaluating student thinking because it provides an opportunity to record student narratives (Mertler 2020). Appendix E gives power to the voice of the participant and gives the researcher a look into patterns of thought
children may experience during choice time in this setting.

Appendix F is entitled the “Outside Observer Instrument.” This instrument aimed to help answer the second subsidiary question related to self-regulatory behaviors seen during unstructured play periods. The researcher arranged for an outside observer to come into the classroom to use Appendix E. For this study, an outside observer was any professional working in the school who was not with the participants for the majority of their day. The assistant, SPED teacher, and lead teacher were not able to use this instrument.

The purpose of inviting an outside observer to participate in the study was to have more than one adult perspective. Instrument three asked the outside observer to tally mark next to a list of self-regulatory behaviors. Using the research discussed in the literature review, the researcher put together a list of common self-regulatory behaviors. Each time the outside observer saw a listed behavior, they put a tally next to it. There is a section provided for anecdotal notes if the outside observer wanted to add any. The outside observer was invited to use Appendix E for five minutes during choice time. This instrument allowed data to be collected quantitively since the focus is on the frequency of observed behavior. According to Mertler (2020), a quantitative instrument is appropriate when “there is a single reality that can be objectively measured” (p. 89). The single reality being measured with this instrument was self-regulation existing in the “choice time” period within the research environment.

Data Collection

As this study was done in a real classroom, many factors interfered with planned data collection. As discussed in the timeline, there were field trips, inclement weather days, and professional development that prevented data collection. Another large factor that affected data collection during the time period of the study was illness staff outages that impeded the researcher’s ability to collect data.

Considering all the factors that go into a functioning classroom where a study is being done in
real-time, successful data collection was still completed with a result of 30 filled-out instruments. The breakdown of the used instruments is as follows, see Table 1 below. The Adult Observation Instrument (Appendix D) was completed 14 times throughout the study. The Student Interview Instrument (Appendix E) was completed 11 times throughout the study. The Outside Observer Instrument (Appendix F) was done five times. Throughout eight weeks of the action research project, 30 pieces of data were collected.

**Table 1**

*Research instruments usage*

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Times completed</th>
<th>When was the instrument completed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument #1</td>
<td>14</td>
<td>During &quot;choice time&quot;</td>
</tr>
<tr>
<td>Instrument #2</td>
<td>11</td>
<td>During cleanup of &quot;choice time&quot;</td>
</tr>
<tr>
<td>Instrument #3</td>
<td>5</td>
<td>During &quot;choice time&quot;</td>
</tr>
</tbody>
</table>

**Results**

Research was conducted in examination of the following overarching question; “what experiences does an unstructured play period give to a Lower Elementary student in a Montessori environment?” Through three instruments used in this study, multiple patterns were observed and are shown within the data in this section. The triangulated patterns are discussed in the next section.

Beginning with Figure 2, the Outside Observer Instrument’s (Appendix F) collected data was examined. All five completed instruments were studied for patterns across observations. Specifically, four self-regulatory behaviors were the most prominent. The outside observer marked through tallies that the children communicated their needs and desires 29 times. Participants were observed problem-solving and each sustaining attention 17 times during the use of the Outside Observer Instrument. The last self-regulatory behavior that was seen more times than most others was
participants using an appropriate voice level. An appropriate voice level for the classroom is considered a level, “0-1,” in school verbiage, which means all voice levels before shouting. Students used appropriate voice levels 12 times during the period the Outside Observer Instrument was used. The data supports that students used significant self-regulation skills during the observed unstructured play period. All behaviors named in Figure 2 require children to have a strong sense of self-awareness and self-control to maintain.

**Figure 2**

*Self-Regulation during Play*

![Bar chart showing the distribution of behaviors during play](chart.png)

Data from the Adult Observation Instrument (Appendix D) was organized first into Figure 3 and then into Table 2. Within the Adult Observation Instrument, transcriptions of participants’ conversations during the unstructured play period were coded into three categories. The conversations were either related to academics, personal experiences or were from the child’s imagination. The researcher studied all 14 transcriptions and concluded that the majority of the conversations had to do with personal experiences and imaginary scenarios (although both seemed to have occurred simultaneously, this is discussed in Further Steps). Conclusions of the coded transcriptions can be seen in Figure 3 where it is shown that 47% of conversations related to personal experience, 47% related to imaginary scenarios and only 6% of conversations had an academic basis. The percentages are independent of length of time in
transcribed conversations, but purely the presence of certain types of conversation.

**Figure 3**

*Coding Conversations*

![Coding Conversations](image)

All categories of conversation from Figure 3 were examined and used in creating Table 2. Using data from the Adult Observation Instrument (Appendix D), three phenomena surfaced most frequently during the students’ unstructured play. Therefore, the transcriptions were examined as a whole since the research is concerned with the participants’ experiences. Table 2 uses direct quotes from participants to support the patterns found. The researcher discovered three reoccurring themes in the transcriptions. Most often, during the unstructured play period, students were planning their play, problem-solving with peers, or acting out real-world scenarios. These three categories consumed most of the unstructured play time and are displayed in Table 2 along with the play equipment students are using for context of the quotations. In each column, quotes can be found that support either students are planning their role/tasks to be completed, students are solving problems without adult interference and or students are acting out experiences from the real-world.

As the transcriptions from the Adult Observation Instrument were studied, the
researcher recorded which transcriptions involved all three recurring themes. It is shown in Table 2 that 11 of the 14 transcriptions involved all three themes, although the other three transcriptions each had at least one of the themes. For the sake of data presentation and representing strong patterns in play across the study, those recorded play periods with planning, problem-solving, and real-world scenarios are used in the table below.

Based on the data from Table 2, students were engaging in elaborate play, which involved code switching of roles and was delicately dependent on the verbal communication more than the play equipment being used. For example, on March 10th students were playing with miniature cars. They spent time deciding to get the cars but then began to play out a scenario where they went to the doctor’s office and are taking on the role of a mother and her baby while continuing to play with the cars. Another example of when this occurred was on March 14th when students played with dough and cookie cutters. They again spent much of their time assigning roles and then engaged in play where they are creating a birthday cake with the dough, but most of the conversation is about how they are related to each other in their scenario.

Of the 11 transcriptions represented in the data below, six of them have quotes in “planning” and “real-world” that are directly related, implying that students spent their time planning roles to play out in a real-world scenario. Of the 11 transcriptions used in Table 2, there were three main types of real-world scenarios children fabricated. All transcriptions in Table 2 involved student-created scenarios based on family roles, going to the hospital, and selling a good for customers. Play involving family roles can be seen in seven of the 11 transcriptions. Play involving going to the hospital can be shown in two of the 11 transcriptions where one of them, on March 10th, has students engaged in both family and doctor roles. Lastly, play involving selling goods and a consumer is seen in five of the 11
transcriptions, where two of them, February 10th and March 13th, show students engaged in family roles while simultaneously being consumers of a good. The data shows that student-directed play can have multiple moving parts and is a process that requires careful planning as students agree upon a scenario.

Looking at the middle column of Table 2, “problem-solving,” there is a correlation between “planning” and “real-world scenarios.” The play would not have developed to scenario creation if students had not problem solved. There are significant examples of problem-solving throughout the 11 transcriptions represented. All the problem-solving was student-directed; the researcher and other adults in the classroom did not interfere. Student-directed problem-solving allows children to feel ownership of their play as they express their needs, wants, and ideas with their peers. The data show three problem-solving examples related to sharing play equipment, four problem-solving examples related to using play equipment appropriately, and four problem-solving examples where students are redirecting an idea they did not agree with. Discussed in the next section is the connection between problem-solving and classroom values in the Lower Elementary Montessori environment.

### Table 2

Transcription Takeaways

<table>
<thead>
<tr>
<th>Date and Play Equipment</th>
<th>Quotes Showing Planning</th>
<th>Quotes Showing Problem-Solving</th>
<th>Quotes Showing Real-World Scenarios</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/06 Tea set</td>
<td><em>Student 3</em>: “pretend I have issues of smiling now and you noticed and you take me to the hospital.”</td>
<td><em>Student 1</em>: &quot;oh no I overflowed it. Don’t worry about the tray the tray is not new it’s dusty and dry.”</td>
<td><em>Student 2</em>: “hey hey, pretend you peeked in the curtain because I left it a little open, and I am taking something weird out of her mouth.”</td>
</tr>
</tbody>
</table>
| 02/09 Landline phone    | *Student 3*: "but I’m the bestie, I’m the bestie"  
*Student 1*: "she’s the bestie too" (pointing to student 2)  
*Student 2*: "oh yeah can I" | *Student 3*: "I just prank called 911"  
*Student 1*: "don’t do it don’t do it" | *Student 3*: "ring-ring, ring-ring"  
*Student 1*: "my mom calling!"  
*Student 3*: "hello"  
*Student 1*: "hello mom" |
<table>
<thead>
<tr>
<th>Rotary phone</th>
<th>be your step-sister, but you’re nice to me?</th>
<th>Student 3: &quot;hello where are you?&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/10 Dough</td>
<td>Student 2: “Yes and I’m one of the kids, OK?” Student 3: “What about you? You can be a big brother?” Student 2: “No... yeah, yeah, yeah, and you can be the auntie”</td>
<td>Student 2: “I want to play with you and I need some play dough” Student 3: “also you guys mostly wanted to play shop and I wanted to play family and also I don’t like that” Student 1: “but we asked if you wanted to play shop and you said sure so that doesn't make sense” Student 3: &quot;well at least now wanna play family” Student 2: “OK can I play?”</td>
</tr>
<tr>
<td>Cookie cutters</td>
<td>Student 2: “you are supposed to have a great day” Student 1: “pretend when you are passing I tell you to have a great day”</td>
<td>Student 2: “no no we are supposed to have one kid, no two kids” Student 1: “both of us have 15” Student 2: “no no lets not, only one kid, okay so you got to pick a cute one”</td>
</tr>
<tr>
<td>02/27 Snowman stuffies</td>
<td>Student 2: “okay okay record record, hold on” Student 2: “I’m going to turn like this, and then I’m going to turn and turn again” Student 1: “ready go”</td>
<td>Student 4: “can I play on your camera?” Student 1: “okay okay record record, hold on”Student 2: “I’m going to turn like this, and then I’m going to turn and turn again” Student 1: “ready go”</td>
</tr>
<tr>
<td>Plastic camera</td>
<td>Student 4: “can I play on your camera?” Student 1: “okay okay record record, hold on” Student 2: “I’m going to turn like this, and then I’m going to turn and turn again” Student 1: “ready go”</td>
<td>Student 2: “(dancing to a beat “I just wanna agh-agh-agh. Hold on...”) (yells student 4’s name) “what was that song I was singing again? No, I was singing in the morning today, I was sitting right here you was sitting right there. What was that song again?”</td>
</tr>
<tr>
<td>03/09 Stuffies of assorted animals</td>
<td>Student 1: “I’m going to be the baby sister, no pretend I’m going to be the baby sister” Student 2: “okay you be the baby sister” Student 3: “okay I’m back, I’m going to be the dad”</td>
<td>Student 3: “why are you doing that, why do you gotta be a snitch I wasn’t even doing that?” Student 2: “yeah get him, get him, get him” Student 1: “lets go” Student 2: “hey stop fighting you little boys and girls”</td>
</tr>
<tr>
<td></td>
<td>Student 1: “No I can’t talk because I’m zero years old and I can’t talk yet and I’m a baby”</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Topic</td>
<td>Student 1</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>03/10</td>
<td>Mini cars</td>
<td>&quot;do you wanna play cars?&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;I’m getting them&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;I’m flying, where’s my monster truck at? Come and get me&quot;</td>
</tr>
<tr>
<td>03/13</td>
<td>Dough and cookie cutters</td>
<td>&quot;just got to pack the pizzas up, packing them up. Get the box ready, the strings. I need some pink play dough. Give me some pink playdough. I need pink. I am the managerrrrr!&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;I know but the problem is, hey hey we have to wait because I have to draw all the Easter bunnies first&quot;</td>
</tr>
<tr>
<td></td>
<td>Student’s doll</td>
<td>&quot;OK, pretend it was a few years later. I mean a couple seconds later. Now I’m a big boy. Fake like him 7. I'm 7.&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Am I the youngest uncle?&quot;</td>
</tr>
<tr>
<td>03/20</td>
<td>Art area</td>
<td>&quot;we should make an Easter thing for our whole class&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;ohhhh yeah! But we have to make a lot, I think that is a good idea. I think I know how we can, remember all our bracelets? That we still saw right there?&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;want me to go get them?&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;I have to draw the Easter bunnies&quot;</td>
</tr>
<tr>
<td>03/21</td>
<td>Animal figurines</td>
<td>&quot;Which peaceful animals should go in here?&quot;</td>
</tr>
</tbody>
</table>
Student 2: “I think this one. 
Student 1: Yeah, that one. Is one of the most peaceful ones.”

Student 3: OK.

Data collected through the Student Interview Instrument (Appendix E), was used to create Table 2. The Student Interview Instrument asked three questions, two of which are shown below. The third question (not shown in Table 2), was left out of the data representation due to answers that will be discussed in the “Further Steps.” A few large patterns emerged in this data and demonstrate that children in the Montessori Second Plane of Development can be supported through an unstructured play period.

A clear conclusion was that of the 10 interviews, seven of them answered either question one (Q1: when you were playing what were you thinking?) or two (Q2: what was your best idea when you were playing today?) in reference to a friend. These seven quotes all contain the word, “friend,” and relay that the participant saw their play period as an opportunity to be with peers. It is significant that so many of the participants discussed having played with a friend or created something for a friend when the questions were directed at the individual. None of the interview questions from the Student Interview Instrument ask the children to discuss who they played with, yet their response included this. Two of the 10 interviews spoke of others but did not use the word “friend.” For example, on February 7th, in response to the second interview question, the participant answered that their best idea from playing that day was, “to make a drink for the other ones. I made a milkshake.” That said, nine of the 10 interviews supported that play gives children opportunities to bond with peers and feeds a sensitivity in the Second Plane of Development. There is one interview, on February 23rd that does not match patterns seen across the others. In addition to speaking of others in their interviews, participants often mentioned they were creating something during the play period. Half of the interviewees talked about something they made either while answering Q1 or Q2. This is significant in supporting another sensitivity in the Second Plane of Development, imagination.
<table>
<thead>
<tr>
<th>Date and Photo of Play Equipment</th>
<th>Question 1: <em>When you were... (insert play action that goes with photo), what were you thinking?</em></th>
<th>Question 2: <em>What was your best idea when you were playing today?</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>02/07</td>
<td>“I wasn’t thinking anything. I was playing a game, we made it up. We pretended to have shop and then rappers come in.”</td>
<td>“To make a drink for the other ones, I made a milkshake.”</td>
</tr>
<tr>
<td>02/09</td>
<td>“I was thinking of playing with my two friends and we were playing family stuff, friends and sisters. Like big sisters and friends, no moms and dads.”</td>
<td>“My best idea was playing with them.”</td>
</tr>
<tr>
<td>02/21</td>
<td>“I was thinking of a game that I used to watch on YouTube, and uh it was like a game that had a swamp, it was a haunted. There was a girl in a dungeon and then a boy released her and escaped.”</td>
<td>“I don’t know, when I was drawing the character I was drawing it for (insert friend’s name).”</td>
</tr>
<tr>
<td>02/23</td>
<td>“I was thinking about all bad things that can happen, every time I look around and play with stuff I just think about all the bad things that happen and I cannot stop my mind. It has a mind of its own I can’t stop it.”</td>
<td>“To tell the toys that we are going on a field trip to the museum.”</td>
</tr>
<tr>
<td>02/27</td>
<td>“I was thinking about that we should play friends with it, like should we like maybe go in people’s houses and go in people’s houses and do something fun?”</td>
<td>“My best idea was to play with my friends.”</td>
</tr>
<tr>
<td>Date</td>
<td>Quote 1</td>
<td>Quote 2</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>03/07</td>
<td>“I wanted to dress up in a hat.”</td>
<td>“To play with my friend, playing moms and dads. No moms and kids.”</td>
</tr>
<tr>
<td>03/14</td>
<td>“Nothing really, I was just playing.”</td>
<td>“Was to play with the play dough with my friends. We were making McDonalds.”</td>
</tr>
<tr>
<td>03/20</td>
<td>“Me and my friend were making Easter goodie bags for the whole class. Everyone gets two of each because she is making one and I’m making one so we need a lot of white paper and bunny stuff.”</td>
<td>“I had a good day and I like the goodie bags.”</td>
</tr>
<tr>
<td>03/21</td>
<td>“I was thinking about my pets that I’m going to get and I was thinking also about my niece.”</td>
<td>“I don’t know. I liked that I am doing it with a friend.”</td>
</tr>
<tr>
<td>03/31</td>
<td>“To tell my friends if they wanted to play.”</td>
<td>“Making drinks, making the tea.”</td>
</tr>
</tbody>
</table>

**Discussion**

According to the collected data in this setting and with these participants, there are benefits for both the child and adult when an unstructured, student-directed play period is implemented in a Lower Elementary Montessori classroom. As seen in Table 2 and Table 3,
providing an unstructured play period gives students ample opportunities to use their imaginations, plan their roles, share scenarios, bond with peers, and practice problem-solving. The researcher also discovered observing the unstructured play period aided in a deeper understanding of the classroom atmosphere and students’ backgrounds.

Examining across the data collected, none of the play would have been able to occur without student use of self-regulation skills. Although Figure 2 specifically looks at present self-regulatory behaviors, it can be seen through student quotes in Table 2 and 3 that self-regulation occurred consistently throughout the play period. The participants showed regulation as they engaged with the play equipment appropriately, took turns sharing both the equipment and their ideas, and moved with purpose as they acted out their created scenarios. Therefore, an essential and foundational component of an unstructured play period is the ability to use self-regulatory skills, especially if it is to be student-directed. If students are working on developing these skills, using a play period in the classroom proved in the setting with the participants to help students practice regulation.

The research is directly concerned with the experience of the child, hence the use of transcriptions and quotations. Through listening and working with the participants’ dialogue, it is evident to the researcher that the play period is important to the students in the classroom. In considering the typical school day, there is no other time period where children have access to materials that stimulate their imaginations the same way the play equipment does. The play equipment is open-ended, allowing students to choose how they want to play with it. Often, as seen in Tables 1 and 2, dialogue between students and answers to the interview questions do not seem to match with what they were playing with directly. Through the data, it is also clear that the children understood the play period belonged to them, and they took full ownership of their experience. There is not a single example of a child calling for the help of an adult,
tattling to adults in the room, or simply asking for help creating something. For the population in the study, this is an astounding accomplishment and resulted in effective student-driven conflict resolution as compared to the amount of adult intervention desired typically by students during the morning work-cycle. Evidently the participants felt confident in their abilities and had a strong sense of self during their unstructured play.

Experiencing the unstructured play period through the perspective of a student was essential in conducting this action research. Along with all learned of the student’s experiences, the researcher learned much about the atmosphere and values of the classroom that have been built with the children. It became clear that the participants needed the adults much less than when engaging in academic tasks. Again, atypical when compared to their morning work cycle. The children showed great levels of independence and sustained attention. Taking a step back to listen to how the children spoke, shared, and collaborated with each other taught the researcher about social dynamics occurring in the classroom. The most beautiful phenomenon was seeing classroom values reflected through participants’ play (see Table 2 and Table 3). Core values of the participating classroom are taught at the beginning of the year and discussed daily. The overarching values are; respect yourself, respect others, and respect the environment.

The researcher observed children using these values while they played. Every time children resolved a conflict peacefully, shared with their peers, waited their turn to speak, and shared their needs and wants, they demonstrated respect for themself and others. The students’ care for peers showed an atmosphere of compassion, love, and awareness of how their actions impact their friends. This can be seen through the data in Tables 1 and 2 each time children collaborate with their friends or talk of about what they were doing with a peer. Examining Table 2 there are seven specific days in which children are quoted reflecting classroom values.
For example, on February 10th and 28th, March 10th, 13th and 14th, participants are quoted asking to play with a group or have play equipment shared with them so they can be involved. In every example, the children understood without quarrel and allowed the child to join in play. The classroom values are reflected on March 20th when students created baskets for the entire class. They spent their entire play period creating for others without prompting or classmates asking them to. Lastly, on March 21st, the participants played with the animal figurines and searched for specifically the “most peaceful ones,” showing that they value an environment of peacefulness.

Studying the data across instruments, the outcomes of the study supports that an unstructured play period in this Lower Elementary classroom can align well with Montessori philosophy. As discussed in “Montessori Connections,” children ages six-nine are in the Second Plane of Development and have sensitivities to independence, imagination, fairness, and the influence of peers. The data shows that students use great levels of independence and imagination to create an unstructured play period that feels fair to them and involves their peers. A core component of an authentic Montessori classroom is adult observation, which an unstructured play period provides an opportunity for. Observing an unstructured play period gives an adult insight into their students’ backgrounds, personal experiences, and interests and overall can positively influence relationship building. Implementing an unstructured play period in a Lower Elementary classroom only builds upon skills children are developing at this age and feeds their organic needs for peer bonding and increasing independence.

**Further Steps**

In taking a phenomenological approach to answering the research question considering a Lower Elementary student’s unstructured play experience, the researcher identified limitations. Studying a phenomenon over time gives the opportunity for the researcher to find various points of interest and leaves room for many aspects to feel unfinished. The limitations
became clear during various moments of the action research which will be reviewed in chronological order.

As the research unfolded, the researcher quickly became aware of the limitations of the instruments. Specifically, the Adult Observation Instrument (Appendix D) which was time-consuming and cumbersome to complete. Although the instrument provided significant data, the researcher would narrow the focus of the instrument either to just coding the conversations in real-time while observing or transcribing audio recordings. Along with narrowing the focus of the Adult Observation Instrument, the researcher believes more could be taken away from the instrument if used with a smaller group of students. In the future, the researcher would use the Adult Observation Instrument to observe a focus group of students and would follow them over the study. Studying the roles each child takes on in their imaginative play and the social dynamic of a group of multi-age children could provide valuable information about a child’s play experience, self-perception and social roles. Also, it would be interesting to track student preferences and conversations surrounding certain play equipment over time.

Considering the Outside Observer Instrument (Appendix F), the researcher would recreate much of the instrument to make it as objective as possible. In acknowledgement and honor of student backgrounds and to accurately reflect student behavior the instrument would be redesigned. One change would be providing examples of the listed self-regulatory behaviors on the left column of the table. As the action research was conducted, the researcher felt that the Outside Observer Instrument could be affected by the observer’s biases and background experiences prior to the study. Referring to examples of what sorts of behaviors the outside observer was looking for would be helpful in completing the instrument with more authenticity. One of the listed behaviors, “appropriate voice level,” is completely subjective and dependent upon the observer’s past experiences, preferences, and cultural norms related to
voice level. Students may be used to talking in tones and volumes at home and in their environment, which varies from what the observer would deem appropriate. In addition to adding examples, the researcher would provide more details on some of the listed self-regulatory behaviors. For instance, under “sustained attention,” the researcher could provide an expected time for a child to be engaged in their play to qualify for a tally mark.

Lastly, the action research could be taken further by using the Student Interview Instrument (Appendix E) with a consistent focus group or an individual child. Narrowing the number of participants using this instrument would allow greater identification of patterns across time-related to a child’s play preference, peer engagement, and thoughts about their experiences. This could provide the opportunity for the children to feel more comfortable with the questions and give more elaborate answers as they interview more than once. The largest area of interest for the researcher in using this instrument was related to the third question that asks about what the child wants to play with the next day. Often the participants answered by stating they wished to play with the same equipment they used the day of the interview. The researcher would be interested to see how often student predictions correlated with follow-through during the next play period and the chosen equipment.

Conclusion

Conducting this action research was insightful for the researcher and led to unexpected takeaways that have the possibility to influence the work of the researcher in the future. Unexpected results included participants consistently code switching between roles and play scenarios with agility, observed time spent planning roles usually lasted longer than the play scenario itself and participants used problem-solving skills without a single instant of adult observation. Although the play period already existed in the setting, choosing to listen to the children and consider their experiences greatly deepened adult understanding in the classroom.
The action research reinforces the benefits of providing children unstructured play periods as a part of meeting their developmental needs and giving them space to explore their interests. In this setting, an unstructured play period extenuated opportunities for meeting student needs in the Second Plane of Development, in alignment with Montessori philosophy. The study was incredibly labor intensive, but enabled the researcher to learn much about classroom values and was able to reflect on the ways community building was happening in the classroom. Intently studying conversations and perspectives of the children during their play period, the researcher elaborated upon their knowledge of classroom social dynamics, interests and social-emotional strengths as well as areas of growth. Perhaps with some different instruments, as discussed in Further Steps, and outside support, the action research could come away with results specified to focus groups and or individuals that could inform instruction in the classroom. All that was learned from the action research project has the possibility to positively impact future classrooms the researcher may have the privilege to work with as they implement and adapt unstructured play available to their students.
References


Mertler, C.A. (2016). *Action research improving schools and empowering educators*. SAGE.

Montessori, Maria (1946). *The 1949 London lectures*.


Appendices

Appendix A: IRB approval

Appendix B: Parent Consent Form

Appendix C: Outside Observer Consent Form

Appendix D: Adult Observation Blank Instrument

Appendix E: Student Interview Blank Instrument

Appendix F: Outside Observer Blank Instrument

Appendix G: Adult Observation Instrument Raw Data

Appendix H: Student Interview Raw Data

Appendix I: Outside Observer Raw Data
Appendix A

IRB Approval

<table>
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**IRB #: IRB-FY2022-191**

**Title:** Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within a Lower Elementary Montessori Environment

**Creation Date:** 12-22-2022

**Status:** Approved

**Principal Investigator:** Kateri Carver

**Review Board:** UW Institutional Review Board

**Sponsor:**

---

**Study History**

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<th>Review Type</th>
<th>Exempt</th>
<th>Decision</th>
<th>Exempt</th>
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**Key Study Contacts**

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<thead>
<tr>
<th>Member</th>
<th>Role</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kateri Carver</td>
<td>Principal Investigator</td>
<td><a href="mailto:kateri.carver@uwrf.edu">kateri.carver@uwrf.edu</a></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Member</th>
<th>Role</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>McKenzie Kruchten</td>
<td>Primary Contact</td>
<td><a href="mailto:mckenzie.kruchten@my.uwrf.edu">mckenzie.kruchten@my.uwrf.edu</a></td>
</tr>
</tbody>
</table>
Appendix B

Parent Consent Form

Informed Consent for Research Participation

<table>
<thead>
<tr>
<th>Researcher name(s)</th>
<th>Department</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>McKenzie Kruchten</td>
<td>Teacher Education</td>
<td><a href="mailto:mckenziekruchten@uwrf.edu">mckenziekruchten@uwrf.edu</a></td>
</tr>
<tr>
<td>Kateri Carver</td>
<td>Department- Montessori</td>
<td><a href="mailto:kateri.carver@uwrf.edu">kateri.carver@uwrf.edu</a></td>
</tr>
</tbody>
</table>

I am asking permission for you to participate in my action research project. Participation is voluntary and may stop at any time. If you choose to participate for any reason, there will be no negative consequences.

Participating will not change your relationship with the researcher.

Overview of the Research

<table>
<thead>
<tr>
<th>Purpose of the Study</th>
<th>I am interested in learning more about children's experience while they play in our classroom. In my classroom, we have created a daily unstructured play experience called “choice time,” that is earned when work is completed and class expectations are followed. I want to put myself into my students’ perspectives and learn about what choice may mean to them and what they experience when engaged in unstructured play. <strong>The research question is as follows:</strong>  What experiences does an unstructured play period give a lower elementary student in a Montessori environment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What you will be asked to do</td>
<td>Over the span of six weeks, beginning in the end of January until the end of February, I will be collecting data about participants' chosen play materials, activities with materials and conversations with peers. You will be asked to participate through use of an observation instrument. The instrument will be used during students’ unstructured play period. The instrument measures observed self regulatory behaviors through tally marks and has space for comments made by the observer.</td>
</tr>
<tr>
<td>Amount of time it will take to participate</td>
<td>From the time period of 2:10-2:40 during choice, you will be asked to use the third observation instrument for a minimum of five minutes. The total amount of time you use the instrument will depend on your availability.</td>
</tr>
<tr>
<td>Risks if you allow your child to participate</td>
<td>There are minimal risks to participating in this study. Your use of the observation instrument may risk taking time out of your daily schedule that you would not normally use performing this task.</td>
</tr>
<tr>
<td>What I will do to reduce risks</td>
<td>To mitigate the risks of using the instrument, I will allow the instruments use based on your availability.</td>
</tr>
<tr>
<td>Benefits for your child if you allow them to participate</td>
<td>If you choose to participate, you will have the chance to reflect on student play experiences during choice time which has the possibility to strengthen your knowledge on self regulatory behaviors seen during play periods.</td>
</tr>
</tbody>
</table>

**Confidentiality and Data Protection**

| Who will see the research data? | Research data will only be seen by the researcher. Once the research is analyzed, it will be presented in an aggregate form. |
| Where will the data be stored? | The data will be stored in a locked cabinet when being conducted at school and will be secured at the researcher’s home when not at school. |
| How will my data be protected? | Your data will be protected through use of a pseudonym (fictitious name/initials). |

**Protection of Human Research Subjects**

| If I have questions about this research I should contact: | Researcher-McKenzie Kruchten Mckenziekruchten@uwrf.edu |
| If I have questions about my child’s rights as a research participant I should contact: | Institutional Review Board Chair  
University of Wisconsin River Falls  
410 S. Third St.  
River Falls, WI 54022  
715-425-0629  
irb@uwrf.edu |
|---|---|

**Signatures**

I AGREE to _____________________________’s participation in this action research project and understand that they may quit participating at any time.

<table>
<thead>
<tr>
<th>Printed name of Parent, Guardian or Legally Authorized Representative</th>
<th>Date</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Signed name of Parent, Guardian or Legally Authorized Representative</th>
<th>Date</th>
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I DO NOT agree to _________________’s participation in this action research project.

<table>
<thead>
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<th>Printed name of Parent, Guardian or Legally Authorized Representative</th>
<th>Date</th>
</tr>
</thead>
</table>

| Signed name of Parent, Guardian or Legally Authorized Representative | Date |
Appendix C

Outside Observer Consent Form

Informed Consent for Research Participation

<table>
<thead>
<tr>
<th>Researcher name(s)</th>
<th>Department</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>McKenzie Kruchten</td>
<td>Teacher Education</td>
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<td>Department- Montessori</td>
<td><a href="mailto:kateri.carver@uwrf.edu">kateri.carver@uwrf.edu</a></td>
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Purpose of the Study

I am interested in learning more about children's experience while they play in our classroom. In my classroom, we have created a daily unstructured play experience called “choice time,” that is earned when work is completed and class expectations are followed. I want to put myself into my students’ perspectives and learn about what choice may mean to them and what they experience when engaged in unstructured play.

The research question is as follows:

What experiences does an unstructured play period give a lower elementary student in a Montessori environment?

What you will be asked to do

Over the span of six weeks, beginning in the end of January until the end of February, I will be collecting data about participants' chosen play materials, activities with materials and conversations with peers. You will be asked to participate through use of an observation instrument. The instrument will be used during students’ unstructured play period. The instrument measures observed self regulatory behaviors through tally marks and has space for comments made by the observer.
| Amount of time it will take to participate | From the time period of 2:10-2:40 during choice, you will be asked to use the third observation instrument for a minimum of five minutes. The total amount of time you use the instrument will depend on your availability. |
| **Risks if you allow your child to participate** | There are minimal risks to participating in this study. Your use of the observation instrument may risk taking time out of your daily schedule that you would not normally use performing this task. |
| **What I will do to reduce risks** | To mitigate the risks of using the instrument, I will allow the instruments use based on your availability. |
| **Benefits for your child if you allow them to participate** | If you choose to participate, you will have the chance to reflect on student play experiences during choice time which has the possibility to strengthen your knowledge on self regulatory behaviors seen during play periods. |

**Confidentiality and Data Protection**

| **Who will see the research data?** | Research data will only be seen by the researcher. Once the research is analyzed, it will be presented in an aggregate form. |
| **Where will the data be stored?** | The data will be stored in a locked cabinet when being conducted at school and will be secured at the researcher’s home when not at school. |
| **How will my data be protected?** | Your data will be protected through use of a pseudonym(fictitious name/ initials). |

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| **If I have questions about this research I should contact:** | Researcher- McKenzie Kruchten  
Mckenziekruchten@uwrf.edu  
Kateri Carver  
kateri.carver@uwrf.edu |
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I DO NOT agree to __________________________’s participation in this action research project.

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Appendix D

Adult Observation Instrument
McKenzie Kruchten
Self-Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment
Instrument #1 Adult Observation Instrument of Play Period
IRB number IRB-FY2022-191

Adult Observation Instrument of Play Period

Directions:

- The observer picks participant(s) engaged in play and writes anecdotal notes about physical observations in the left column
- The observer uses a recording device to record audio of the engaged participant(s) for five minutes
- The audio recording is later transcribed into the right column and color coded based on the below key which is themed via type of conversation observed

<table>
<thead>
<tr>
<th>Conversation color code key</th>
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<tbody>
<tr>
<td>Academic- having to do with core curricular subjects (math, ELA, science, culture)</td>
</tr>
<tr>
<td>Imaginary- having to do with fictional characters/ scenarios made up by participants</td>
</tr>
<tr>
<td>Personal Experiences- having to do with real life experiences of the participants</td>
</tr>
</tbody>
</table>

Name: ___________________________ Date: ___________________________ Time: ___________________________

**Context- physical observations**

<table>
<thead>
<tr>
<th>Audio Transcription- verbal observations (color coded by conversation key- academic, imaginary or personal experiences)</th>
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<tbody>
<tr>
<td>Number of participants:</td>
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<td>Tools being used:</td>
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<td>Details:</td>
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# Appendix E

## Student Interview Instrument

McKenzie Kruchten

Self-Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment

Instrument #2 Student Interviews

IRB number IRB-FY2022-191

### Student Interviews

**Directions:**

- This instrument is to be used at the end of a play period and with a single photograph taken of a participant engaged in play
- The observer is to show the photograph of the participant and ask the three following questions
- The observer will record the verbal responses of the child in writing inside the right column

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date:</th>
<th>Time:</th>
</tr>
</thead>
</table>
| Question 1-  
When you were… (insert play action that goes with photo), what were you thinking? | Student Response: | |
| Question 2-  
What was your best idea when you were playing today? | Student Response: | |
| Question 3-  
What are you thinking about playing tomorrow? | Student Response: | |
Appendix F

Outside Observer Instrument
McKenzie Kruchten

Self-Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment

Instrument #3 Outside Perspective of Play Period

IRB number IRB-FY2022-191

Outside Perspective of Play Period

Directions:

• This instrument is to be filled out by an adult who does not regularly work in the observed classroom
• When a listed self regulatory behavior is observed, mark it with a tally (# of tallies = # of observed behaviors)
• The adult will add any comments about observations in the right column

Observer: ___________________________ Date: ___________ Time: ___________
<table>
<thead>
<tr>
<th>Observed Self Regulatory Behavior -recorded with tallies</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Impulse control</td>
<td></td>
</tr>
<tr>
<td>Appropriate voice level</td>
<td></td>
</tr>
<tr>
<td>Problem solving</td>
<td></td>
</tr>
<tr>
<td>Movement with purpose</td>
<td></td>
</tr>
<tr>
<td>Transition between activities</td>
<td></td>
</tr>
<tr>
<td>Ignore distractions</td>
<td></td>
</tr>
<tr>
<td>Sustained attention</td>
<td></td>
</tr>
<tr>
<td>Creating rules</td>
<td></td>
</tr>
<tr>
<td>Control of emotions</td>
<td></td>
</tr>
<tr>
<td>Communicate needs and wants</td>
<td></td>
</tr>
<tr>
<td>Taking turns</td>
<td></td>
</tr>
</tbody>
</table>
Appendix G

Adult Observation Instrument Raw Data

McKenzie Kruchten
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment
Instrument #1 Adult Observation Instrument of Play Period
IRB-FY2022-191

Adult Observation Instrument of Play Period

 Directions:
• The observer picks participant(s) engaged in play and writes anecdotal notes about physical observations in the left column
• The observer uses a recording device to record audio of the engaged participant(s) for five minutes
• The audio recording is later transcribed into the right column and color coded based on the below key which is themed via type of conversation observed

Conversation color code key

Academic- having to do with core curricular subjects (math, ELA, science, culture)
Imaginary- having to do with fictional characters/scenarios made up by participants
Personal Experiences - having to do with real life experiences of the participants

<table>
<thead>
<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 2-6-2023</th>
<th>Time: 2:18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Context- physical observations</strong></td>
<td><strong>Audio Transcription- verbal observations</strong> (color coded by conversation key - academic, imaginary or personal experiences)</td>
<td></td>
</tr>
</tbody>
</table>
| Number of participants: 3 | **Student 1** - “No N that was your cup, this is Ms. Mack’s coffee.”
| Student 1- 3rd grade | **Student 2** - “This is dirty water, cup from the 1900’s.”
| Student 2- 1st grade | **Student 1** - “act like we filled the whole tray up with tea because a lot of people want tea… oh no I overflowed it. Don’t worry about the tray the tray is not new it’s dusty and dry.”
| Student 3- 3rd grade | **Student 2** - “girl you know how to pour some tea?”
| Tools being used: | **Student 3** - “pretend I have issues of smiling now and you noticed and you take me to the hospital.”
| Tea set ceramic materials at low table | **Student 1** - “something is wrong with your sisters smile, why she keep smiling like that? Can your sister stop smiling? We gotta take her to the hospital.”
| Details: | **Student 2** - “nuh uh”
| The students 1-3 play with the tea set uninterrupted for around 5 minutes before moving on to a table next to them. | **Student 1** - “maam she has a smiling issue, she can’t stop smiling, only if you yell at her. Hey stop that smiling.”
| | **Student 3** - “uh maam maam. Wait wait can I be a doctor for a moment? Um um pretend, uh, pretend you took a happy pill. Maam she took a happy pill.”
| | **Student 1** - “I don’t have any happy pills in my house, why would she buy a happy pill” |
Student 3- “um actually your little daughter right next to you actually got some happy pills. OW”

Student 1- “don’t be getting no happy pills no more”
Laughter and inaudible comments
Student 1- “No wait lets replay that clip. Don’t bring no more happy pills in my house.”
Student 1- “Ms. Mack at first I was going to grab this and put some water in there.”
Student 2- “Hydrated, maam maam maam she took a happy pill so its going to make her smile until the rest of her life.”
Student 1- “until she dies?”
Student 2- “and when she’s in heaven she’s going to smile, okay maam. okay maam so we’re going to do surgery on her.”
Student 1- “okay, um do I have to get out the room?”
Student 2- “yes you have to get out the room.”
Student 1- “act like you close the curtain.”
Student 2- “I want some tea”
Student 1- “okay G I’ll get you some tea, here you go.”
Student 2- “hey hey S, S, S, pretend you peaked in the curtain because I left it a little open and I am taking something weird out of her mouth.”
Student 2- “open wide honey”
Student 1- “I’m finna run a bakery, I’m doing a bakery okay?”

End of transcription 1 (4 minutes and 5 seconds)
**Context- physical observations**

<table>
<thead>
<tr>
<th>Number of participants:</th>
<th>3 students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1 second grade</td>
<td></td>
</tr>
<tr>
<td>Student 2 first grade</td>
<td></td>
</tr>
<tr>
<td>Student 3 first grade</td>
<td></td>
</tr>
</tbody>
</table>

**Tools being used:**
- Play dough
- Cookie cutters
- Containers of various sizes

**Details:**
Students 1, 2 and 3 were playing an imaginary game where they were running a playdough shop that had various famous rappers and tik tok-ers visiting.

- noticing that the children are very easily switching between roles with no conflicts and are all easily adaptable to the everchanging imaginary scenarios

**Audio Transcription- verbal observations** (color coded by conversation key- academic, imaginary or personal experiences)

| Student 2: “did anybody order a cherry latte with some cherries on it? I’m cutting up theee...” |
| Student 3: “ma’am ma’am ma’am um ma’am where’s your husband? I mean um your friend?” |
| Student 2: “yeah” |
| Student 3: “where is he?” |
| Student 2: “girl by” |
| Student 3: “I’m making your burger right now” |
| Student 1: “extra pickles right?” |
| Student 2: “yes” |
| Student 1: “and you said you wanted extra cesar salad right? Look I eat salads all the time so you should trust me on it, huh?” |
| Student 2: “we still playing customer. Pretend I’m a rapper” |
| Student 1: “yo its JJ” |
| Student 3: “are you really that rapper?” |
| Student 2: “no its realistic, I pretend I’m a rapper, my name is lil JJ. Ya’ll gonna pretend I’m that famous rapper whoever it is. You gonna do it or not?” |
| Student 3: “what did you say?” |
| Student 2: “so I’m going to be that famous rapper, little JJ and you got to say ‘hey that’s little JJ can I get your autograph’ so pretend I’m walking in.” |
| Student 1: “yo you won’t believe it! It’s little JJ, can I get your autograph?” |
| Student 2: “sure, I mean uh you got a pen or something?” |
| Student 1: “it’s little JJ (jumping up and down)” |
| Student 2: “and you are a famous tik tok dancer” |
| Student 3: “it’s Ariahana Grande! Ariahanna Grande! Okay I’m making your burger right now.” |
| Student 1: “I almost broke my nail making this” |
| Student 2: “can I get a burger with extra fries and uh..” |
| Student 1: “a cesar salad right?” |
| Student 3: “that will be free, since you are JJ and here’s an Ariahana Grande milkshake.” |
| Student 2: “Ariahana Grande milkshake please. You are Charlie Demilio not Ariahaha Grande and ya’ll doing the extra fries right” |
| Student 1: “sure we doing extra fries” |
| Student 3: “it’s buy one get one free and here’s your Ariahana smoothie.” |
| Student 2: “my name is going to be Sarah.” |
| Student 1: “oh my god its Sarah, can I get your photograph? It’s little JJ and Sarah” |
| Student 3: “here’s your buy one get one buy one get, you are such a gentleman!” |
| Student 2: “you got the food now? Can I do food now?” |
| Student 1: “I got your food, bye bye bye” |
Student 2: “hey I like your business um yeah”
Student 1: “yeah I’m the boss”
Student 2: “and I love your business, your food is excellent.”
Student 1: “you can come here anytime”
Student 3: “Act like I’m JoJo Siwa coming in ok?”
Student 2: “oh my god it’s JoJo Siwa!”
Student 1: “oh my gosh, is so many rappers coming up in here”
Student 2: “a burger JoJo Siwa for you”
Student 3: “and some french fries from the café, an Ariahana grande one”

End of transcription 2 (5 minutes and 5 seconds)

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IRB-FY2022-191

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Personal Experiences- having to do with real life experiences of the participants

Name: McKenzie Kruchten                                           Date: 2-9-2023                             Time: 2:20-2:26

Context- physical observations

Number of participants: 4 students
Student 1 first grade
Student 2 first grade
Student 3 first grade
Student 4 third grade
Tools being used:
Old phones

Audio Transcription- verbal observations (color coded by conversation key- academic, imaginary or personal experiences)

Student 1: I need my French fries too maam
Student 2: maam this is not Mcdonalds
Student 1: do it look like I have Mcdonalds money? No, I like some chicken wing
Student 3: hey (student 1) can I be the friend for um a couple minutes?
Um can I be um can I be um the friend?
Student 1: (ignoring student 3’s question) can I hold the mouse?
Student 4: so yeah I want some peperoni pizza with some cheese on top
Student 3: maam we are tracking you down
Student 4: I don’t freakin care I want my peperoni pizza right now
Student 2: um bestie
Details:
During the observation, there is a moment where glass is broken, and the play is interrupted.

The students playing in this group normally do not all play together.

There is an old yellow phone and a black rotary phone being played with for half of the recording. The rotary phone is taken off the table by the assistant and given to another child in a different area of the room. The students continue playing without disturbance.

Student 1: what
Student 2: how they going to track down?
Student 3: but I’m the bestie, I’m the bestie
Student 1: she’s the bestie too (pointing to student 2)
Student 2: oh yea can I be your step sister, but you’re nice to me?
Student 3: yeah I’m the same age as you
Student 2: hey sister
Student 3: hey what’s up?
Student 2: want some onion? Bet
Student 3: hold on I’m going to call you
Student 1: I want some money if you don’t tell mom I’m going to sneak it out
Student 2: fine, sike, you really thought
Student 3: hey (student 1) I’m calling you, hey I’m at a party
Student 2: OMG stop there bestie
Student 1: be quiet girls its all my fault and get out of here and please lock it, get out my room, lock the door lock lock
Student 2: so yeah girl yeah do you want to go to a party tonight?
Student 3: yeah I’m thinking we should go to a rockstar party
Student 2: hey (student 1, student 1, student 1) pretend I broke in your window (students 1-3 inaudible mumbling and loud laughter)
Student 1: hi sis, ouch, yeah so do you guys want to like a rockstar party with um friends and stuff?
Student 3: yeah!
Student 2: did somebody say rockstar party?
Student 1: yeah why? Get out my room
Student 2: fine, if I give you money can I come?
Student 3: 5 million dollars, say 5 million dollars
Student 2: 5 million dollars
Student 1: thank you- you can come
Student 2: YES get ready so it only rockstars and rockstar stuff
Student 3: it’s not toy stuff
Student 1: okay I’ll see you there, ready
Student 3: we look bad (to student 2)
Student 1: I’m back, you guys want some money, lets have a party?
Student 2: oh oh oh party (students 1-3 loud laughter and some dancing around the phone) who’s got the money?
Student 1: I’m finna buy some drinks, oh hi maam
Student 3: oh hi
Student 2: I’ll take a green latte
Student 3: ring-ring, ring-ring
Student 1: my mom calling!
Student 3: hello
Student 1: hello mom
Student 3: hello where are you?
Student 1: oh shoot (slams phone down)
Student 3: I’m tracking to find you

(glass breaks across the classroom- students are quiet for a few seconds)
Student 3: I’m tracking your calls, where are the cops at? Your sister I tracked her down too but she was just at a gas station. I tracked you down and I saw that you were at a house.
Student 2: I’m going to go downstairs to see if I see you, hello mom
Student 1: you have money?
Student 2: no it’s fake money it’s fake money
Student 1: yeet, 911
Student 2: here’s a billion dollars
Student 3: (picking up phone and looking at a broken piece on the back) did someone do something to this?
Student 1: be quiet, you’re doing too much now get out
Student 3: I’m the best friend now!
Student 1: what up best friend
Student 2: hey bestie
Student 3: I just prank called 911
Student 1: don’t do it don’t do it
Student 2: I’m going to have to track you down right now, I’m here to help, I’m the FBI

End of transcription (5 minutes 20 seconds)

Add pages when needed

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Name: McKenzie Kruchten Date: 2-10-2023 Time: 2:33 pm

<table>
<thead>
<tr>
<th>Context: physical observations</th>
<th>Audio Transcription: verbal observations (color coded by conversation key: academic, imaginary or personal experiences)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants: 3 students</td>
<td>Student 3: that's too easy I can do this at home</td>
</tr>
<tr>
<td>Student 1: third grade (GR)</td>
<td>Student 2: cheesecake?</td>
</tr>
<tr>
<td></td>
<td>Student 1: it’s not done yet</td>
</tr>
<tr>
<td></td>
<td>Student 3: I want some play dough to play with</td>
</tr>
</tbody>
</table>
Student 2: I want to play with you and I need some play dough.
Student 1: look look I did this I’m going to the bathroom, it did it I did this, I’m going to the bathroom
Student 2: hey your cake looks very good
Student 3: it’s a carrot cake, it just looks like a broccoli cake
Student 2: what is it?
Student 3: have you ever heard of broccoli cake before?
Student 2: no, how do you make broccoli cake?
Student 3: uh all you have to do is put green mix in it so it can look like broccoli
Student 2: I would love to try that
Student 1: do you have all of it? The play dough?
Student 3: uh no
Student 1: where’ the other play dough?
Student 2: that's dry.
Student 3: it's dry?
Student 2: yes stupid
Student 3: why are you calling me stupid?
Student 2: I'm sorry I'm being a dumb dumb, what are you making?
Student 3: it’s a cake we are eating it
Student 2: we could also drink it.
Student 3: we are eating it
Student 2: I just said we could drink it student three we're drinking it OK.
Student 2: cut it
Student 3: Oh my god this is so cool
Student two: it looks like cheese! It looks like cheese
Student 3: yeah
Student 1: order up we need some French fries
Student 2: and a Taco
Student 3: do you work here though?
Student 1: I need some dough
Student 3: I'm not playing, I wanted to play family but you guys are playing restaurant instead
Student 1: we can play family and shop
Student 2: you never asked us if you wanted to play family
Student 1: yeah
Student 3: also you guys mostly wanted to play shop and I wanted to play family and also I don't like that
Student one: but we asked if you wanted to play shop and you said sure so that doesn't make sense Student 3: well at least now I wanna play family
Student 2: OK can I play?
Student 3: yes let's play house
Student 1: can I play?
Student 3: yes do you wanna play house instead?
Student 2: yes and I'm one of the kids OK
Student 3: what about you you can be a big brother?
Student 2: no... yeah yeah yeah and you can be the auntie
Student 2: we are both brothers, twins
Student 1: yeah we're both twins and I like to make pizza
Student 3: and I'm the mom
Student 2: my name is Travante
Student 3: I'm a mom and a teacher and I'm making some pizza
Student 2: are you making homemade pizza mom?
Student 3: my name is gonna be called Emma
Student 2: OK, mom are you making homemade pizza can i have some?
Student 3: sure
Student 1: make three make three I guess
Student 3: would you all like some pizza? Anyways here's some play dough for you guys
Student 1: you all can't touch this I'm saving this for a surprise
Student 3: hey you guys guess what I have a new job I have a new job and I got really rich you guys can have money too
Student 2: we have money!
Student 1: yay we are rich!
Student 3: it's because you guys are so nice so here you can buy almost everything you want
Student 2: anything?
Student 3: yes anything
Student 1: wait twin look anything?
Student 3: what about you do you want money too?
Student 2: am I dreaming?
Student 3: hey guys guess what? Guys guess what I'm going to buy a luxury house guys I'm going to buy a luxury house I'm going to buy a luxury house OK?

(End of transcription 6 minutes)
<table>
<thead>
<tr>
<th><strong>Context- physical observations</strong></th>
<th><strong>Audio Transcription- verbal observations</strong> (color coded by conversation key- academic, imaginary or personal experiences)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants: 2 students</td>
<td>Began recording mid conversation...</td>
</tr>
<tr>
<td>- 1 first grade student</td>
<td></td>
</tr>
<tr>
<td>- 1 third grade student</td>
<td></td>
</tr>
<tr>
<td>Tools being used:</td>
<td></td>
</tr>
<tr>
<td>- lavender cardstock</td>
<td></td>
</tr>
<tr>
<td>- pencils</td>
<td></td>
</tr>
<tr>
<td>Details:</td>
<td></td>
</tr>
<tr>
<td>Student 1 and 2 chose to do some drawing at the kidney table during choice time. These two students get along well but are not generally playing together. They are drawing what appear to be female characters.</td>
<td></td>
</tr>
<tr>
<td>Student 1 and 2: the mean principal?</td>
<td></td>
</tr>
<tr>
<td>Student 2: oh yeah the mean principal</td>
<td></td>
</tr>
<tr>
<td>Student 2: did you watch the part at the end where she builds up that whole entire gold thing?</td>
<td></td>
</tr>
<tr>
<td>Student 1: yeah, I don’t like pigtails I told you that</td>
<td></td>
</tr>
<tr>
<td>Student 2: yeah and there’s that too</td>
<td></td>
</tr>
<tr>
<td>Student 1: pigtails, pigtails, ah ah ah, you can’t have pigtails, look under the table, look under the table I’m doing something</td>
<td></td>
</tr>
<tr>
<td>Student 2: heckyyyyy no</td>
<td></td>
</tr>
<tr>
<td>Student 1: inaudible- loud laughter</td>
<td></td>
</tr>
<tr>
<td>Student 2: disgusting!</td>
<td></td>
</tr>
<tr>
<td>Student 1: (singing voice) all I want is an emo girl, all I want is an emo girl</td>
<td></td>
</tr>
<tr>
<td>Student 2: oh my god she has chubby cheeks</td>
<td></td>
</tr>
<tr>
<td>Student 1: I did it, I did it, I did it! AHHH I just need to fix this right here</td>
<td></td>
</tr>
<tr>
<td>Student 2: all I want is a emo girl, I fell in love with an emo girl (begins singing)</td>
<td></td>
</tr>
<tr>
<td>Student 1 and 2: all I want is an emo girl, I fell in love with an emo girl</td>
<td></td>
</tr>
<tr>
<td>Student 1: we’re singing it, I hate that song</td>
<td></td>
</tr>
<tr>
<td>Student 2: I don’t even know what that song is</td>
<td></td>
</tr>
<tr>
<td>Student 1: look it look it she turned into a dinosaur</td>
<td></td>
</tr>
<tr>
<td>Student 2: BOOOOM</td>
<td></td>
</tr>
<tr>
<td>Student 1: look material girl (pop culture reference)</td>
<td></td>
</tr>
<tr>
<td>Student 2: remember that part when she goes into a house, then she comes out and says I’m dangerous and then the part...</td>
<td></td>
</tr>
<tr>
<td>Student 1: remember the first part, the first part is weird</td>
<td></td>
</tr>
<tr>
<td>Student 2: yeah their parents don’t even wifi girl</td>
<td></td>
</tr>
<tr>
<td>Student 1: ah disgusting, ok now what now what</td>
<td></td>
</tr>
<tr>
<td>Student 2: I’m going to draw a (inaudible)</td>
<td></td>
</tr>
<tr>
<td>Student 1: oh sorry</td>
<td></td>
</tr>
<tr>
<td>Student 2: mimics hyena laugh a few times</td>
<td></td>
</tr>
<tr>
<td>Student 1: okay, can I see it?</td>
<td></td>
</tr>
<tr>
<td>Student 2: do you want it like this?</td>
<td></td>
</tr>
<tr>
<td>Student 1: no I want, like I want to draw that girl that you did</td>
<td></td>
</tr>
<tr>
<td>Student 2: like the girl that was doing this?</td>
<td></td>
</tr>
<tr>
<td>Student 1: no I’ll draw a different character</td>
<td></td>
</tr>
<tr>
<td>Student 2: what the heck</td>
<td></td>
</tr>
<tr>
<td>Student 1: I’ll draw a different girl</td>
<td></td>
</tr>
<tr>
<td>Student 2: I want to draw it though, is it fine?</td>
<td></td>
</tr>
<tr>
<td>Student 1: yeah that’s fine, I’ll draw my own</td>
<td></td>
</tr>
<tr>
<td>Student 2: you got it?</td>
<td></td>
</tr>
<tr>
<td>Student 1: yeah</td>
<td></td>
</tr>
<tr>
<td>(children yelling in the background, calling to adults)</td>
<td></td>
</tr>
<tr>
<td>Student 2: stop making noise!</td>
<td></td>
</tr>
<tr>
<td>Student 1: what are we doing?</td>
<td></td>
</tr>
</tbody>
</table>
Student 2: practicing our drawing
Student 1: I’m drawing like this really cute girl
Student 2: this is going to be like a really beautiful girl
  • 6 seconds of quiet pencil scratching
Student 1: do you like her? It kind of looks weird
Student 2: oh my gosh are you seeing that, helloooooo, what is she doing?
Student 1: she’s saying ‘I don’t like you, you you you you
Student 2: she’s calling someone on the phone
Student 1: yeah I think she’s like da-da-da (loud laughter)

End of transcription (5 minutes and 2 seconds)
Student 1 is taking control of most the table, they are directing the play and playing as multiple characters (both students and teachers). The child is role playing an experience from this week where our class field trip was cancelled due snow and icy weather.

<table>
<thead>
<tr>
<th>Details:</th>
<th>Audio Transcription</th>
</tr>
</thead>
</table>
| Student 1 is taking control of most the table, they are directing the play and playing as multiple characters (both students and teachers). The child is role playing an experience from this week where our class field trip was cancelled due snow and icy weather. | Student 1: that’s the shower, that’s the shower. Okay, we need to pack some food. Some food, don’t worry I can get some food. Hey girl, are you a chef? (to student 2)  
Student 2 (comes back to table area): yes  
Student 1: can you make my students some food?  
Student 2: no, no I’m just watching  
Student 1: like some burgers, cupcakes and like salads, chicken sandwiches and all that stuff?  
Student 2: no  
Student 1: okay can you make a cake?  
Student 2 (whispering): yes  
Student 1: hey hey we need stars on the cake  
Student 2: here take these stars, that’s it  
Student 1: okay, getting the food getting the food ready  
Student 1 (calling to adult): I know how to draw a turkey!  
Student 1 (back to playing): ready, food is ready, got it? Got it! Got it! We forgot to remember, wait for me guys, okay now we have everyone we need. Let’s go, okay are you all done with your math? YES! Okay, now recess time people, get in line behind me. |

*(End of transcription 5 minutes)*

<table>
<thead>
<tr>
<th>Add pages when needed</th>
<th>McKenzie Kruchten</th>
</tr>
</thead>
</table>

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<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 2-22-2023</th>
<th>Time: 2:23-2:28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context- physical observations</td>
<td>Audio Transcription- verbal observations</td>
<td></td>
</tr>
</tbody>
</table>
Number of participants: 1-2
Student 1 - first grade
Student 2 - second grade

Tools being used:
Student 1 is playing with the fischer price school house that contains some students, chairs, desks and playground toys. Student 1 also brought the fischer price camper to the table to use.

Student 2 is close by the table creating bracelets in the art area.

Details:
Student 1 is taking control of most the table, they are directing the play and playing as multiple characters (both students and teachers). The child is role playing an experience from this week where our class field trip was cancelled due snow and icy weather.

Student 1: good, good now what we are doing is our math. Right now everything that you see that I’m writing on the board. Write it now, write it now!

Student 2: you are a mean teacher (walks away from play area)

Student 1: I’m not mean, oh I’m sorry guys, it’s just my talk from my mother at home. I’m so sorry, candy for all of you, for you, for you, for you and for you. Guess what people? After recess time and lunch time we are going on a field trip. Let me go outside and get the car started. YAY okay. There we go, I don’t know what’s in here. (inaudible whispering as student 1 prepares the fisher price van - quiet for 40 seconds).

Student 1: that’s the shower, that’s the shower. Okay, we need to pack some food. Some food, don’t worry I can get some food. Hey girl, are you a chef? (to student 2)

Student 2 (comes back to table area): yes

Student 1: can you make my students some food?

Student 2: no, no I’m just watching

Student 1: like some burgers, cupcakes and like salads, chicken sandwiches and all that stuff?

Student 2: no

Student 1: okay can you make a cake?

Student 2 (whispering): yes

Student 1: hey hey we need stars on the cake

Student 2: here take these stars, that’s it

Student 1: okay, getting the food getting the food ready

Student 1 (calling to adult): I know how to draw a turkey!

Student 1 (back to playing): ready, food is ready, got it? Got it! Got it! We forgot to remember, wait for me guys, okay now we have everyone we need. Let’s go, okay are you all done with your math? YES! Okay, now recess time people, get in line behind me.

(End of transcription 5 minutes)
Adult Observation Instrument of Play Period

Directions:
- The observer picks participant(s) engaged in play and writes anecdotal notes about physical observations in the left column
- The observer uses a recording device to record audio of the engaged participant(s) for five minutes
- The audio recording is later transcribed into the right column and color coded based on the below key which is themed via type of conversation observed

**Conversation color code key**

- Academic- having to do with core curricular subjects (math, ELA, science, culture)
- Imaginary- having to do with fictional characters/ scenarios made up by participants
- Personal Experiences- having to do with real life experiences of the participants

<table>
<thead>
<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 2-27-2023</th>
<th>Time: 2:23</th>
</tr>
</thead>
</table>

**Context- physical observations**
- Number of participants: 2 Students
- Student 1 first grade (NV)
- Student 2 first grade (MJ)
- Tools being used: Basket of winter themed stuffies, playing with mostly stuffed snow people
- Details: The adult and recording device were farther away for this observation, in order to have minimal interference with play. Students are playing at a small square table that seats two.

**Audio Transcription- verbal observations**
- (color coded by conversation key- academic, imaginary or personal experiences)

<table>
<thead>
<tr>
<th>Number of participants: 2 Students</th>
<th>Audio Transcription:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1: all these snowmen are cousins</td>
<td><strong>Academic</strong> Student 2: all the cousins in the room</td>
</tr>
<tr>
<td>Student 1: they kissing</td>
<td>Student 2: NO! Nooooo</td>
</tr>
<tr>
<td>Student 1: just kidding</td>
<td><strong>Imaginary</strong> Student 2: don’t be saying that you could have got in trouble</td>
</tr>
<tr>
<td><strong>Imaginary</strong> Student 1: this is Jack Frost</td>
<td>Student 2: they are all playing with each other. We should play Roblox</td>
</tr>
<tr>
<td>Student 1: yeah Roblox</td>
<td>Student 2: okay yeah that is going to be right there, let them fall out</td>
</tr>
<tr>
<td><strong>Personal Experiences</strong> Student 1: hi mom</td>
<td>Student 2: hi sweety, I’m at the store</td>
</tr>
<tr>
<td>Student 1: hey girl hey boy hey girl</td>
<td>Student 2: lets go in bed, lets go in bed</td>
</tr>
<tr>
<td>Student 1: no cause we already got to wake up its morning</td>
<td><strong>Academic</strong> Student 1 and 2: wake up! Wake up!</td>
</tr>
<tr>
<td><strong>Personal Experiences</strong> Student 2: What what what what what mom what’s happened?</td>
<td>Student 1: what happened? It’s dinner time, dinner time girl</td>
</tr>
<tr>
<td>Student 1: oh</td>
<td>Student 2: wake, wait, wait, wait</td>
</tr>
<tr>
<td>Student 2: wait, everyone is supposed to line up for food</td>
<td><strong>Academic</strong> Student 1: not for food</td>
</tr>
<tr>
<td>Student 2: line up for food, everyone is supposed to line up for food</td>
<td><strong>Imaginary</strong> Student 1: I’m hungry, I want something to eat to, eat, eat, eat, eat</td>
</tr>
<tr>
<td>Student 2: okay here you go</td>
<td><strong>Personal Experiences</strong> Student 2: okay here you go, here you go, here you go, here you go, eat eat eat, now let’s eat</td>
</tr>
<tr>
<td><strong>Imaginary</strong> Student 1: thank you, yum num num num</td>
<td><strong>Academic</strong> Student 2: what?</td>
</tr>
<tr>
<td>Student 2: okay here you go, here you go, here you go, here you go, eat eat eat, now let’s eat</td>
<td><strong>Imaginary</strong> Student 2: yum that was good! You guys want to go play outside?</td>
</tr>
<tr>
<td><strong>Personal Experiences</strong> Student 1: yeah whohoooo, oh that’s hot</td>
<td><strong>Academic</strong> Student 2: sorry</td>
</tr>
</tbody>
</table>

Sorry
<table>
<thead>
<tr>
<th>Student 1: skirt, skirt</th>
<th>Student 2: okay guys guys guys, bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1: put them all back here</td>
<td>(inaudible whispering and laughing)</td>
</tr>
<tr>
<td>Student 2: get your butt in there ok? Bedtime</td>
<td></td>
</tr>
<tr>
<td>Student 1: goodnight sweetie</td>
<td></td>
</tr>
<tr>
<td>Student 1 and 2: goodnight mom</td>
<td></td>
</tr>
<tr>
<td>Student 2: <em>snoring noises</em></td>
<td></td>
</tr>
<tr>
<td>Student 1: <em>laughing and snoring</em></td>
<td></td>
</tr>
<tr>
<td>Student 1: are you thinking what I’m thinking?</td>
<td></td>
</tr>
<tr>
<td>Student 2: yeah <em>begins growling</em></td>
<td></td>
</tr>
<tr>
<td>Student 1: <em>screams</em></td>
<td></td>
</tr>
<tr>
<td>Student 2: no no no we are supposed to have one kid, no two kids</td>
<td></td>
</tr>
<tr>
<td>Student 1: both of us have 15</td>
<td></td>
</tr>
<tr>
<td>Student 2: no no lets not, only one kid, okay so you got to pick a cute one</td>
<td></td>
</tr>
<tr>
<td>Student 1: okay I want this one, he going to be my son, pretend you both go, pretend people keep calling you, pretend he saw like something crawling on the bed</td>
<td></td>
</tr>
<tr>
<td>Student 2: mommy, um mommy?</td>
<td></td>
</tr>
<tr>
<td>Student 1: I’m sleeping</td>
<td></td>
</tr>
<tr>
<td>Student 2: then why did I see something crawling on the bed?</td>
<td></td>
</tr>
<tr>
<td>Student 1: I have a nightmare</td>
<td></td>
</tr>
<tr>
<td>Student 2: fine, then you can sleep right here</td>
<td></td>
</tr>
<tr>
<td>(inaudible whispering 21 seconds)</td>
<td></td>
</tr>
<tr>
<td>Student 2: okay good morning house</td>
<td></td>
</tr>
<tr>
<td>Student 1: good morning</td>
<td></td>
</tr>
<tr>
<td>Student 2: hello mommy, mommy, mommy, mommy wake up</td>
<td></td>
</tr>
<tr>
<td>Student 1: you are too young, I’m going to ground you for 1 year. No breakfast for 1 year</td>
<td></td>
</tr>
<tr>
<td>Student 2: you are supposed to have a great day</td>
<td></td>
</tr>
<tr>
<td>Student 1: pretend when you are passing I tell you to have a great day</td>
<td></td>
</tr>
<tr>
<td>Student 2: breakfast is ready</td>
<td></td>
</tr>
</tbody>
</table>

End of transcription (6 minutes)

McKenzie Kruchten
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment
Instrument #1 Adult Observation Instrument of Play Period
IRB-FY2022-191

**Adult Observation Instrument of Play Period**

**Directions:**
- The observer picks participant(s) engaged in play and writes anecdotal notes about physical observations in the left column
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*Conversation color code key*
Highlight the audio transcription based on the type of conversation had between participants.

**Academic** - having to do with core curricular subjects (math, ELA, science, culture)

**Imaginary** - having to do with fictional characters/ scenarios made up by participants

**Personal Experiences** - having to do with real life experiences of the participants

**Name:** McKenzie Kruchten  
**Date:** 2-28-2023  
**Time:** 2:28

<table>
<thead>
<tr>
<th>Context - physical observations</th>
<th>Audio Transcription - verbal observations (color coded by conversation key - academic, imaginary or personal experiences)</th>
</tr>
</thead>
</table>
| Number of participants: 3 Students | Student 2: I’m finna go right here and you stay right here  
Student 1: I’m taping a video now  
Student 2: okay ready? Are you taping?  
Student 1: I’m taking a video of you  
Student 2: Okay ready?  
Student 1: GO  
Student 2: (dancing to a beat) I just wanna agh-agh-agh-agh. Hold on... (yells student 4’s name) what was that song I was singing again? No, I was singing in the morning today, I was sitting right here you was sitting right there. What was that song again?  
Student 4: ummmmmmm I don’t know let me think about it  
Student 2: Okay, are you doing it? Are you doing it? Choreograph. I’m a savage, classic, bougie, ragget, yeah yeah yeah, sassy, booty, ratted, acting stupid what’s happening? Hey what’s happening, yeah yeah I’m a savage  
Student 1: okay okay record record, hold on  
Student 2: I’m going to turn like this, and then I’m going to turn and turn again  
Student 1: ready go  
Student 2: I’m a savage, classic, rouget, bagget, sassy, booty, ratted, acting stupid what’s happening, hey hey what’s happenin  
Student 2: (laughing, inaudible)  
Student 1: swing check check swinggggg, hey yoooo  
Student 4: I’m telling (15 seconds of inaudible whispers)  
Student 4: can I play on your camera?  
Student 1: yeah I’m almost done making my video  
Student 4: thank you, mmmmm yeah  
Student 2: can she use your camera? She’s using your camera  
Student 1: yes she can I said so  
Student 2: but its yours  
Student 1: that one doesn’t work with pictures just so you know  
Student 1: is it recording right now?  
Student 2: is it recording?  
Student 4: everybody is going to remember this one  
Student 3: helloooooo hellooooo helloooooo, is that thing recording?  
Student 1: hey guys what is up  
Student 2: I can tell you about the savage and why she’s the sassiest  
Student 4: I understand how to do it  
Student 1: can I have this camera for a second? I want to record something  
Student 4: I’m Ariel |

Tools being used: Cameras that were brought from home.  
Details: The cameras are designed to look digital but can record audio, visual and take pictures. Initially used by children who wanted to “document,” students had the option to document their choice time at a circle table. Throughout the experience students were dancing and taking turns looking at the camera.
Student 1: Um yes so hi I wanted to show you something
Student 2: a lil something something yeah yeah yeah yeah yeah yeah
Student 1: Do you want that on your camera role?
Student 2: BLAH okay record this record this. Y’all want to see something?
Say yes
Student 1: yes
Student 2: 3-2-1, lets go, I’m going first
Student 4: I’m going first
Student 2: get out of my studio
Student 3: you got roasted
Student 2: let me rap real quick
Student 1: I’m going back to the studio
Student 3: can I play with the camera?

End of transcription (5 minutes 20 seconds)

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Conversation color code key

Highlight the audio transcription based on the type of conversation had between participants.

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Imaginary- having to do with fictional characters/ scenarios made up by participants
Personal Experiences- having to do with real life experiences of the participants

Name: McKenzie Kruchten  Date: 3-9-2023  Time: 2:20

<table>
<thead>
<tr>
<th>Context- physical observations</th>
<th>Audio Transcription- verbal observations (color coded by conversation key- academic, imaginary or personal experiences)</th>
</tr>
</thead>
</table>
| Number of participants: 3 students | Student 1: I’m going to be the baby sister, no pretend I’m going to be the baby sister  
Student 2: okay you be the baby sister  
Student 3: okay I’m back, I’m going to be the dad  
Student 2: okay you be the baby sister, I’m going to be the dad  
Student 3: no, I’m playing GTA  
Student 2: wanna go?  
Student 1: No I can’t talk because I’m zero years old and I can’t talk yet and I’m a baby  
Student 3: you need to go to your room again?  
Student 2: no she doesn’t understand that |
| Student 1 first grade (MJ) |  
Student 2 first grade (NV) |  
Student 3 second grade (BM) |  
Tools being used: Assorted stuffies bin being used on the soft rug at a low floor table |
Details:
Students were being rough with the stuffies and did not get through creating and picking roles in their play scenario.

Student 3: do you need to go to your room?
Student 1: wheee wheee whoa (inaudible laughter, banter and throwing stuffies 1 minute and 10 seconds)
Student 3: why are you doing that, why do you gotta be a snitch I wasn’t even doing that?
Student 2: yeah get him, get him, get him
Student 1: lets go
Student 2: hey stop fighting you little boys and girls
Student 1: be quiet
Student 3: bro, who was even doing that? Nah I’m good
Student 2: break it up, break it up, break it up

End of transcription (3 minutes) due to adult interference after inappropriate use of materials

McKenzie Kruchten
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Imaginary- having to do with fictional characters/ scenarios made up by participants
### Personal Experiences: having to do with real life experiences of the participants

**Name:** McKenzie Kruchten  
**Date:** 3-13-2023  
**Time:** 2:24

<table>
<thead>
<tr>
<th>Context - physical observations</th>
<th>Audio Transcription - verbal observations (color coded by conversation key: academic, imaginary or personal experiences)</th>
</tr>
</thead>
</table>
| Number of participants: 3 students | Student 3: let me guess candy? That’s good  
Student 2: put it in the oven now Mr.  
Student 3: Mr. Mcdaniels  
Student 2: You gotta clean the playdough up, Ms. Rachel wants you  
Student 3: I know  
Student 1: put the cherry on top but don’t look at this  
Student 2: who is that for?  
Student 1: you  
Student 2: awe thank you  
Student 1: it’s a fruit chair  
Student 3: how did you do that?  
Student 2: I know how to do it  
Student 1: magic that’s how I’m magic  
Student 2: It’s someone’s birthday! It’s someone’s birthday!  
Student 3: it’s my birthday  
Student 2: are you done with that, are you done with it?  
Student 1: no I am still eating it  
Student 3: are those new?  
Student 2: pretend you are done with it  
Student 1: girl thank you  
Student 3: look, look, look what I made. Can I use a little bit of yellow? Thank you  
Student 2: here a little bit  
Student 3: oh can I have some more of it?  
Student 2: pretend I’m your California wife  
Student 3: okay, I’m already married  
Student 2: oh  
Student 1: oh wow  
Student 3: we been married 40 years  
Student 2: you’ve been married for 40 years? Can I see that pencil real quick  
Student 3: see I have a ring  
Student 1: (singing) if you love me you should put a ring on it  
Student 2: hold up that’s my daughters cake! Paws off, paws off  
Student 3: I’m sorry, I’m sorry I thought those were my other rings  
Student 2: paws off  
Student 3: I’m so sorry  
Student 1: don’t mind her, she’s going to be okay  
Student 3: hey joey joey  
Student 2: don’t call him that, it’s disrespectful, you’re only a child  
Student 1: hey manager he’s only a child  

(14 seconds of banging on the metal dishes like drums from student 1)  
Student 2: I want some dough pizza, pizza dough |

**Tools being used:**  
New dough  
Dough tray, cookie cutters, metal stove, small metal dishes

**Details:**  
The dough trays have been gone for awhile due to mistreatment of the materials. This is the first day the tray has been back for about 2 weeks.
Student 1: guess what was under the freaking table? One of your pizzas
Student 2: oh yeah, yay
Student 3: did somebody order a blue pizza?
Student 2: somebody did order a blue pizza
Student 1: do you guys want me to teach you how to make a big plate?
Students 2 and 3: no
Student 1: just got to pack the pizzas up, packing them up. Get the box, ready, the strings. I need some pink play dough. Give me some pink playdough. I need pink. I am the managerrrrr!
Student 2: no I’m letting that one dry
Student 1: okay well where is more pink playdough, you have it (says student 3’s name). Where is it?
Student 3: I only have a little little bit
Student 1: fine, (yelling student 2’s name) your order is number 82 your order is number 82. When I say that number your food is going to be ready.
Student 3: here you go, here you go. What if he doesn’t like it?
Student 1: he’ll do that on purpose.

(End of transcription- 4 minutes and 14 seconds)

McKenzie Kruchten
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment
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Name: McKenzie Kruchten
Date: 3-14-2023
Time: 2:15

<table>
<thead>
<tr>
<th>Context- physical observations</th>
<th>Audio Transcription- verbal observations (color coded by conversation key- academic, imaginary or personal experiences)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four students</td>
<td></td>
</tr>
<tr>
<td>Student 1: second grade (BW)</td>
<td>Student 3: what is you all doing?</td>
</tr>
<tr>
<td>Student 2: first grade (NV)</td>
<td>Student 2: I'm using the play dough</td>
</tr>
<tr>
<td></td>
<td>Student 3: Hey, I'm going to throw a pie! I'm going to throw a pie. I'm gonna throw it high in the sky.</td>
</tr>
<tr>
<td></td>
<td>Student 2: He doesn't like it.</td>
</tr>
<tr>
<td></td>
<td>Student 1: Hey, can I play with you guys? I have my baby.</td>
</tr>
</tbody>
</table>
Student 3: third grade (BM)
Student 4: third grade (SR)

Tools being used:
- Play dough
- Metal dishes
- Babydoll from home
- Flat marbles

Details:
The group is sharing one student’s babydoll brought from home

Student 2: Yes, you can play and be respectful to your sister. She's my daughter.
Student 4: How old is the baby?
Student 1: She's turning 1.
Student 2: I remember when I was one.
Student 3: yeah yeah yeah Bah Bah Bah. Ouch, Ouch, Ouch. Stop hitting me. Boo ah
Student 2: Boy don't hit that baby.
Student 3: OK, I wasn't.
Student 1: Be nice to your sister.
Student 3: OK, pretend it was a few years later. I mean a couple seconds later. Now I'm a big boy. Fake like him 7. I'm 7.
Student 2: Am I the youngest uncle?
Student 1: Yeah, you're the youngest uncle. Now I'm going to make this shape for her birthday cake.
Student 3: she's going to be icing when she has a second birthday.
Student 2: I'm making things for the birthday cake and some gifts.
Student 3: here. She's gonna be iced out. She's iced out. Look, she's iced out, yeah.
Student 1: Can you make the pink toppings? So I can make her cake.
Student 3: look, she's iced out.
Student 2: why did you squish the egg?
Student 3: These are for the cookies.
Student 1: It's not done yet. It's not done yet. They're baby cookies. They are only for babies.
Student 2: Yeah, I knew that.
Student 1: OK, don't grab them yet. I'm not done.
Student 3: Let me take them. You're gonna mess them up. You're gonna mess them up.
Student 2: then it's going to be your fault. I'm gonna push your ankle to the sky.
Student 3: I'm gonna twist your fingers to the sky.
Student 2: boy. What are those?
Student 3: boy, what are those?
Student 1: Hey guys, baby sleeping. So quiet down.
Student 3: OK yeah, she's sleeping.
Student 2: Miss Mack said Orange Room is peaceful.
Student 3: I can't wait to go check it out
Student 2: I check it out in two years
Student 3: you finna say three year
Student 2: (laughing) 3 seconds
Student 3: (laughing) 3 nuts
Student 2: what the heck was that bro?
Student 3: thank you for sunshine. Thank you for rain. Thank you for joy.
Student 1: hey, do you guys want to say hi to your baby sister?
Student 3: She's not my sister, she's my niece. Cause that's her daughter and you're her sister, so that's my niece. She's sleeping right now.
Student 2: oh, can I hold her?
McKenzie Kruchten
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Name: McKenzie Kruchten
Date: 3-20-2023
Time: 2:10

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<tr>
<td>Number of participants: 2 students</td>
<td>Student 1: I’m going to make the Easter bunny&lt;br&gt;Student 2: fit it perfectly like that&lt;br&gt;Student 1: I’m going to make it different colors like my dress. Mine is pink, mine is purple, mine is green, and then I have these white pants with black things on them.&lt;br&gt;Student 2: so we making Easter baskets&lt;br&gt;Student 1: I’m making an Easter bunny&lt;br&gt;Student 2: we should make an Easter thing for our whole class&lt;br&gt;Student 1: oohh yeah! But we have to make a lot, I think that is a good idea. I think I know how we can, remember all our bracelets? That we still saw right there?&lt;br&gt;Student 2: want me to go get them?&lt;br&gt;Student 1: no wait wait I want to tell you something, oh wait nevermind&lt;br&gt;Student 2: here (returning with the created bracelets)&lt;br&gt;Student 1: that was fast&lt;br&gt;Student 2: we’re making Easter baskets&lt;br&gt;Student 1: I know but the problem is, hey hey we have to wait because I have to draw all the Easter bunnies first&lt;br&gt;Student 2: yeah&lt;br&gt;Student 1: I have to draw the Easter bunnies&lt;br&gt;(Student inaudible paper cutting and coloring noises for 23 seconds)&lt;br&gt;Student 2: I’m drawing something different&lt;br&gt;(Student no audio, coloring for 43 seconds)&lt;br&gt;Student 2: customers! We have customers, $20 Easter baskets, $20 Easter baskets</td>
</tr>
<tr>
<td>Tools being used: Construction paper, string, crayons and colored pencils, stapler and scissors all within the art area.</td>
<td></td>
</tr>
<tr>
<td>Details: These two students were pretending to have set up a shop in the art area while they were creating their projects during the audio recording.</td>
<td></td>
</tr>
<tr>
<td>Student 1: that’s a lot, but they’re probably going to like it, can you start adding to these right now because I want to sell them too. I probably only have two days to sell them.</td>
<td></td>
</tr>
<tr>
<td>Student 2: It’s only a one day thing. Let me draw my Easter bunnies now.</td>
<td></td>
</tr>
<tr>
<td>Student 1: no but lets both draw Easter bunnies, we both have... (whisper, counting) lets just both do whatever we want. Just draw whatever Easter bunny you want.</td>
<td></td>
</tr>
<tr>
<td>Student 2: look at mine.</td>
<td></td>
</tr>
<tr>
<td>Student 1: Ms. (insert teacher’s name) if you use water, cause crayon don’t do good with water, and if you put it with this it won’t go with the crayon. It will still stay white, like it will still stay white. So if you want to do it just grab like this stuff and then you do it.</td>
<td></td>
</tr>
<tr>
<td>Student 2: we still have to make backs for them.</td>
<td></td>
</tr>
<tr>
<td>Student 1: yeah we do backs, we have to make backs for these too.</td>
<td></td>
</tr>
<tr>
<td>Student 2: okay here’s some with their little faces.</td>
<td></td>
</tr>
<tr>
<td>Student 1: B-K-L... wait B-A-K-L.</td>
<td></td>
</tr>
<tr>
<td>Student 2: who is the K for.</td>
<td></td>
</tr>
<tr>
<td>Student 1: bake.</td>
<td></td>
</tr>
<tr>
<td>Student 1: B-A-K-A.</td>
<td></td>
</tr>
<tr>
<td>Student 2: yeah yeah write that on the backs, these are the backs</td>
<td></td>
</tr>
<tr>
<td>Student 1: ok.</td>
<td></td>
</tr>
<tr>
<td>Student 2: don’t let nobody steal our money okay?</td>
<td></td>
</tr>
<tr>
<td>Student 1: yeah okay.</td>
<td></td>
</tr>
<tr>
<td>Student 2: we got it the best.</td>
<td></td>
</tr>
<tr>
<td>Student 1: writing the back on this. (no audio, cutting paper for 40 seconds)</td>
<td></td>
</tr>
<tr>
<td>Student 1: what is that?</td>
<td></td>
</tr>
<tr>
<td>Student 2: it’s kind of creepy.</td>
<td></td>
</tr>
<tr>
<td>Student 1: yeah it is creepy.</td>
<td></td>
</tr>
<tr>
<td>Student 2: I’m sorry it is creepy.</td>
<td></td>
</tr>
<tr>
<td>Student 1: yeah boss, hello boss, boss it is creepy. Boss? Boss?</td>
<td></td>
</tr>
<tr>
<td>Student 2: yeah?</td>
<td></td>
</tr>
<tr>
<td>Student 1: I’m making some bags. Do you like it?</td>
<td></td>
</tr>
<tr>
<td>Student 2: yeah.</td>
<td></td>
</tr>
<tr>
<td>Student 1: fuzzy, fuzzy, fuzzy, fuzzy.</td>
<td></td>
</tr>
<tr>
<td>Student 2: fuzzy with the big two teeth and the big two teeth.</td>
<td></td>
</tr>
<tr>
<td>Student 1: Do you think this looks like making sense?</td>
<td></td>
</tr>
<tr>
<td>Student 2: Don’t put no letters on there cause last time it was...</td>
<td></td>
</tr>
<tr>
<td>Student 1: I just wrote B-A-K-L.</td>
<td></td>
</tr>
<tr>
<td>Student 2: oh it’s ok, let me write it on there too.</td>
<td></td>
</tr>
<tr>
<td>Student 1: yeah and just like no stickers with letters on it. No stuff that don’t make sense.</td>
<td></td>
</tr>
</tbody>
</table>

(End of transcription 8 minutes and 10 seconds)

McKenzie Kruchten
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment
Instrument #1 Adult Observation Instrument of Play Period
IRB number

**Adult Observation Instrument of Play Period**

**Directions:**
- The observer picks participant(s) engaged in play and writes anecdotal notes about physical observations in the left column
- The observer uses a recording device to record audio of the engaged participant(s) for five minutes
- The audio recording is later transcribed into the right column and color coded based on the below key which is themed via type of conversation observed

**Conversation color code key**

- **Academic**- having to do with core curricular subjects (math, ELA, science, culture)
- **Imaginary**- having to do with fictional characters/ scenarios made up by participants
- **Personal Experiences**- having to do with real life experiences of the participants

---

**Name:** McKenzie Kruchten  
**Date:** 3/21/2023  
**Time:** 2:25 pm

<table>
<thead>
<tr>
<th>Context- physical observations</th>
<th>Audio Transcription- verbal observations (color coded by conversation key- academic, imaginary or personal experiences)</th>
</tr>
</thead>
</table>
| **Number of participants:** 2 students | Student 1: I have to take care of four kids everyday. Every dang day and it takes a long time to get them to sleep  
Student 2: it takes my baby five hours  
Student 1: it takes my baby ten hours and I want to go to the party. I want to go to the party because they be saying (inaudible for 4 seconds) for reals  
Student 2: that’s a lot of work, you need a babysitter  
Student 1: I gotta babysit for four kids and four kids for me is too much. I gotta babysit my son, I gotta babysit my daughter, I gotta babysit my niece and even my nephew  
Student 2: don’t you gotta go to the store too girl?  
Student 1: YES I be going to Target and Walmart and everything  
Student 2: well girl just get them something. What do they need? She need some clothes and stuff I got you  
Student 1: I love more clothes. She always loses her stuff so I have to be going back, all the way back to the hospital  
Student 2: I thought you said Target  
Student 1: I’ll be like just getting into the basement and then I have to hurry up and go back, just to take her to get her stuff  
Student 2: lets make all this money, make the dream come true. We can add rings and everything  
Student 1: wait we should use a hot glue gun  
Student 2: yeah a hot glue gun  
Student 1: lets get it  
(noises of tape being pulled and humming together for 25 seconds)  
Student 1: so do you want to use the hot glue gun?  
Student 2: yeah  
Student 1: this is going to take a long time  
Student 2: and I need some pieces of paper cause I’m wrapping all these gifts in pieces of paper  
Student 1: I’m going to be wrapping gifts and stuff, oh bring some more of that  
Student 2: okay okay now we all got stuff  
(End of transcription 4 minutes and 12 seconds) |
| **Tools being used:**  
Art area, specifically construction paper, glue, tape, crayons, hot glue (at the end), string and scissors. | **Details:**  
The two students are working on their own art projects while having a play scenario that does not include what they are doing with their hands. |

---
Adult Observation Instrument of Play Period

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- Personal Experiences- having to do with real life experiences of the participants

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<th>Context- physical observations</th>
<th>Audio Transcription- verbal observations (color coded by conversation key- academic, imaginary or personal experiences)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants: 3 students</td>
<td>Student 2: Which peaceful animals should go in here?</td>
</tr>
<tr>
<td>Student one: first grade</td>
<td>Student 1: the peaceful ones. This one is a peaceful one. The peaceful one ever</td>
</tr>
<tr>
<td>Student two: first grade</td>
<td>Student 2: I think this one.</td>
</tr>
<tr>
<td>Student 3: second grade</td>
<td>Student 1: Yeah, that one. Is one of the most peacefulness ones.</td>
</tr>
<tr>
<td>Tools being used: Lincoln logs and dinosaur figurines</td>
<td>Students 2: Yeah, but it has to protect the other animals.</td>
</tr>
<tr>
<td>Details: Students one and two are trying to build together while student 3 is digging through the box and throwing the pieces at times.</td>
<td>Student 1: That can be the security guard.</td>
</tr>
<tr>
<td></td>
<td>Student 2: yeah, and. This one can also be that too.</td>
</tr>
<tr>
<td></td>
<td>Student one: Yeah, there can be two protectors. Hey (student three), can you please stop? You're making me feel like you're trying to hurt somebody. You keep doing the flipping over. Like this? And you can't be doing that.</td>
</tr>
<tr>
<td></td>
<td>Student 3: OK.</td>
</tr>
<tr>
<td></td>
<td>Student 1: I just told you that! Hey student two. Can you make one of those for me please? Please.</td>
</tr>
<tr>
<td></td>
<td>Student 2: OK. I need some of these and some of these. And you have to line up which blocks and animals you want, OK?</td>
</tr>
<tr>
<td></td>
<td>Student one: like the big ones.</td>
</tr>
<tr>
<td></td>
<td>Student 2: yes, pick three and then we can put them on each level.</td>
</tr>
<tr>
<td></td>
<td>Student 1: That makes no sense.</td>
</tr>
<tr>
<td></td>
<td>Student 2: I'm building a platform that looks like this.</td>
</tr>
<tr>
<td></td>
<td>Student 1: calling oh like this?</td>
</tr>
<tr>
<td></td>
<td>Student 2: yes.</td>
</tr>
<tr>
<td></td>
<td>Student 1: I'm looking for more yellow.</td>
</tr>
<tr>
<td></td>
<td>Student 2: I'm trying to help you figure out how to make more houses. See, he's doing a good job on his.</td>
</tr>
</tbody>
</table>
Student 3: can I get a dinosaur?
Student 2: That's what we're doing, making houses for the dinosaurs. Dinosaur houses? They all look a little bit different.

(End of transcription 2 minutes)
Appendix H

Student Interview Raw Data

McKenzie Kruchten
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment
Instrument #2 Student Interviews
IRB-FY2022-191

Student Interviews

Directions:
- This instrument is to be used at the end of a play period and with a single photograph taken of a participant engaged in play
- The observer is to show the photograph of the participant and ask the three following questions
- The observer will record the verbal responses of the child in writing inside the right column

<table>
<thead>
<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 2/7/2022</th>
<th>Time: 2:30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1-</td>
<td>Student Response:</td>
<td></td>
</tr>
<tr>
<td>When you were… (insert play action that goes with photo), what were you thinking?</td>
<td>I wasn’t thinking anything. I was playing a game, we made it up. We pretended to have shop and then rappers come in.</td>
<td></td>
</tr>
<tr>
<td>Question 2-</td>
<td>Student Response:</td>
<td></td>
</tr>
<tr>
<td>What was your best idea when you were playing today?</td>
<td>To make a drink for the other ones, I made a milkshake.</td>
<td></td>
</tr>
<tr>
<td>Question 3-</td>
<td>Student Response:</td>
<td></td>
</tr>
<tr>
<td>What are you thinking about playing tomorrow?</td>
<td>Play with playdough again.</td>
<td></td>
</tr>
</tbody>
</table>
McKenzie Kruchten  
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an  
Elementary Montessori Environment  
Instrument #2 Student Interviews  
IRB-FY2022-191  

**Student Interviews**

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- The observer is to show the photograph of the participant and ask the three following  
questions  
- The observer will record the verbal responses of the child in writing inside the right  
column

<table>
<thead>
<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 2-9-2023</th>
<th>Time: 2:33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1-</td>
<td>Student Response:</td>
<td></td>
</tr>
<tr>
<td>When you were… (insert play action that goes with photo), what were you thinking?</td>
<td>I was thinking of playing with my two friends and we were playing family stuff, friends and sisters. Like big sisters and friends, no moms and dads.</td>
<td></td>
</tr>
<tr>
<td>Question 2-</td>
<td>Student Response:</td>
<td></td>
</tr>
<tr>
<td>What was your best idea when you were playing today?</td>
<td>My best idea was playing with them.</td>
<td></td>
</tr>
<tr>
<td>Question 3-</td>
<td>Student Response:</td>
<td></td>
</tr>
<tr>
<td>What are you thinking about playing tomorrow?</td>
<td>I really want to play with one of my friends again and with the yellow phone.</td>
<td></td>
</tr>
</tbody>
</table>
McKenzie Kruchten  
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment  
Instrument #2 Student Interviews  
IRB-FY2022-191  

**Student Interviews**

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- The observer is to show the photograph of the participant and ask the three following questions  
- The observer will record the verbal responses of the child in writing inside the right column

<table>
<thead>
<tr>
<th><strong>Name:</strong> McKenzie Kruchten</th>
<th><strong>Date:</strong> 2/21/2023</th>
<th><strong>Time:</strong> 2:42</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1-</strong>&lt;br&gt;When you were… (insert play action that goes with photo), what were you thinking?</td>
<td><strong>Student Response:</strong>&lt;br&gt;I was thinking of a game that I used to watch on youtube, and uh it was like a game that had a swamp, it was a haunted. There was a girl in a dungeon and then a boy released her and escaped.</td>
<td></td>
</tr>
<tr>
<td><strong>Question 2-</strong>&lt;br&gt;What was your best idea when you were playing today?</td>
<td><strong>Student Response:</strong>&lt;br&gt;I don’t know, when I was drawing the character I was drawing it for (insert friend’s name).</td>
<td></td>
</tr>
<tr>
<td><strong>Question 3-</strong>&lt;br&gt;What are you thinking about playing tomorrow?</td>
<td><strong>Student Response:</strong>&lt;br&gt;I am hoping to make a picture about my field trip!</td>
<td></td>
</tr>
</tbody>
</table>
McKenzie Kruchten  
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment  
Instrument #2 Student Interviews  
IRB-FY2022-191

### Student Interviews

**Directions:**
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<table>
<thead>
<tr>
<th>Question 1-</th>
<th>Student Response:</th>
</tr>
</thead>
<tbody>
<tr>
<td>When you were… (insert play action that goes with photo), what were you thinking?</td>
<td>I was thinking about all bad things that can happen, every time I look around and play with stuff I just think about all the bad things that happen and I cannot stop my mind. It has a mind of its own I can’t stop it.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 2-</th>
<th>Student Response:</th>
</tr>
</thead>
<tbody>
<tr>
<td>What was your best idea when you were playing today?</td>
<td>To tell the toys that we are going on a field trip to the museum</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 3-</th>
<th>Student Response:</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are you thinking about playing tomorrow?</td>
<td>The stuff I was playing with today, the school house and bus.</td>
</tr>
</tbody>
</table>
## Student Interviews

**Directions:**
- This instrument is to be used at the end of a play period and with a single photograph taken of a participant engaged in play.
- The observer is to show the photograph of the participant and ask the three following questions.
- The observer will record the verbal responses of the child in writing inside the right column.

<table>
<thead>
<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 2-27-2023</th>
<th>Time: 2:43</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1:</strong> When you were… (insert play action that goes with photo), what were you thinking?</td>
<td><strong>Student Response:</strong> I was thinking about that we should play friends with it, like should we like maybe go in people’s houses and go in people’s houses and do something fun?</td>
<td></td>
</tr>
<tr>
<td><strong>Question 2:</strong> What was your best idea when you were playing today?</td>
<td><strong>Student Response:</strong> My best idea was to play with my friends.</td>
<td></td>
</tr>
<tr>
<td><strong>Question 3:</strong> What are you thinking about playing tomorrow?</td>
<td><strong>Student Response:</strong> I am going to play with the school.</td>
<td></td>
</tr>
</tbody>
</table>
McKenzie Kruchten  
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment  
Instrument #2 Student Interviews  
IRB-FY2022-191

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<table>
<thead>
<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 2-28-2023</th>
<th>Time: 2:37</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1-</strong>&lt;br&gt;When you were… (insert play action that goes with photo), what were you thinking?</td>
<td>Student Response: &lt;br&gt;I was thinking to make lots of videos of people cause they like it.</td>
<td></td>
</tr>
<tr>
<td><strong>Question 2-</strong>&lt;br&gt;What was your best idea when you were playing today?</td>
<td>Student Response: &lt;br&gt;I don’t know, to bring to camera to school.</td>
<td></td>
</tr>
<tr>
<td><strong>Question 3-</strong>&lt;br&gt;What are you thinking about playing tomorrow?</td>
<td>Student Response: &lt;br&gt;The camera.</td>
<td></td>
</tr>
</tbody>
</table>
McKenzie Kruchten
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment
Instrument #2 Student Interviews
IRB-FY2022-191

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<table>
<thead>
<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 3-31-2023</th>
<th>Time: 2:46</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1-</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When you were... (insert play action that goes with photo), what were you thinking?</td>
<td>Student Response:</td>
<td>I wanted to dress up in a hat.</td>
</tr>
<tr>
<td><strong>Question 2-</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What was your best idea when you were playing today?</td>
<td>Student Response:</td>
<td>To play with my friend, playing moms and dads. No moms and kids.</td>
</tr>
<tr>
<td><strong>Question 3-</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are you thinking about playing tomorrow?</td>
<td>Student Response:</td>
<td>moms and kids</td>
</tr>
</tbody>
</table>
McKenzie Kruchten  
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment  
Instrument #2 Student Interviews  
IRB-FY2022-191  

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<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 3-14-2023</th>
<th>Time: 2:43</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1-</strong></td>
<td><strong>Student Response:</strong></td>
<td></td>
</tr>
<tr>
<td>When you were… (insert play action that goes with photo), what were you thinking?</td>
<td>Nothing really, I was just playing.</td>
<td></td>
</tr>
<tr>
<td><strong>Question 2-</strong></td>
<td><strong>Student Response:</strong></td>
<td></td>
</tr>
<tr>
<td>What was your best idea when you were playing today?</td>
<td>Was to play with the play dough with my friends. We were making Mcdonalds.</td>
<td></td>
</tr>
<tr>
<td><strong>Question 3-</strong></td>
<td><strong>Student Response:</strong></td>
<td></td>
</tr>
<tr>
<td>What are you thinking about playing tomorrow?</td>
<td>The computer, Wizard Academy.</td>
<td></td>
</tr>
</tbody>
</table>
McKenzie Kruchten
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment
Instrument #2 Student Interviews
IRB-FY2022-191

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<th>Date: 3-20-2023</th>
<th>Time: 2:35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1-&lt;br&gt;When you were… (insert play action that goes with photo), what were you thinking?</td>
<td>Student Response: &lt;br&gt;Me and my friend were making Easter goodie bags for the whole class. Everyone gets two of each because she is making one and I’m making one so we need a lot a lot of white paper and bunny stuff.</td>
<td></td>
</tr>
<tr>
<td>Question 2-&lt;br&gt;What was your best idea when you were playing today?</td>
<td>Student Response: &lt;br&gt;I had a good day and I like the goodie bags.</td>
<td></td>
</tr>
<tr>
<td>Question 3-&lt;br&gt;What are you thinking about playing tomorrow?</td>
<td>Student Response: &lt;br&gt;The art area.</td>
<td></td>
</tr>
</tbody>
</table>
McKenzie Kruchten  
Self Regulatory and Metacognitive Experiences during Unstructured Play Periods within an Elementary Montessori Environment  
Instrument #2 Student Interviews  
IRB-FY2022-191

**Student Interviews**

**Directions:**
- This instrument is to be used at the end of a play period and with a single photograph taken of a participant engaged in play
- The observer is to show the photograph of the participant and ask the three following questions
- The observer will record the verbal responses of the child in writing inside the right column

<table>
<thead>
<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 3-21-23</th>
<th>Time: 2:40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When you were… (insert play action that goes with photo), what were you thinking?</td>
<td>Student Response:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I was thinking about my pets that I’m going to get and I was thinking also about my niece.</td>
<td></td>
</tr>
<tr>
<td>Question 2-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What was your best idea when you were playing today?</td>
<td>Student Response:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I don’t know. I liked that I am doing it with a friend.</td>
<td></td>
</tr>
<tr>
<td>Question 3-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are you thinking about playing tomorrow?</td>
<td>Student Response:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am thinking I should make a shape out of a volcano with the hot glue gun and paper.</td>
<td></td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Name: McKenzie Kruchten</th>
<th>Date: 3-31-2023</th>
<th>Time: 2:40</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1-</strong>&lt;br&gt;When you were… (insert play action that goes with photo), what were you thinking?</td>
<td>Student Response:</td>
<td>To tell my friends if they wanted to play.</td>
</tr>
<tr>
<td><strong>Question 2-</strong>&lt;br&gt;What was your best idea when you were playing today?</td>
<td>Student Response:</td>
<td>Making drinks, making the tea.</td>
</tr>
<tr>
<td><strong>Question 3-</strong>&lt;br&gt;What are you thinking about playing tomorrow?</td>
<td>Student Response:</td>
<td>Tea party</td>
</tr>
</tbody>
</table>