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Claremont McKenna College

The Giving Tree Academy

submitted to

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by

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for

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Abstract

A proposal for a new preschool based in Pomona, California, targeted towards children from low-income backgrounds. Includes extensive research on preschool nationwide, the state of California, and in Pomona. Within the paper a new preschool curriculum and specific teacher practices are discussed. Intended as a model for a new school. or to be adapted for use in educational policy.

Keywords: preschool, curriculum, teacher practices, development, psychology

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Chapter 1:

Diagnosing the State of Preschool in America

Preschool Nationwide

One of the gravest challenges facing the United States today is insufficient access to early childhood education. Every year roughly 4 million children enter pre-kindergarten (Department of Education, 2015) in the United States, and research suggests this is a woefully inadequate number. According to the National Institute for Early Childhood Education, only six out of ten four-year-olds in America are enrolled in some form of early childhood education (Kuhl, 2011), standing in stark contrast with countries like France that offer universal pre-kindergarten (Lundberg, 2014). This constitutes a major crisis for the American educational system, as research has consistently demonstrated that a lack of developmentally-appropriate and effective care has major consequences for students that are both immediate and long lasting. Children who attend high-quality preschool programs are less likely to utilize special education services or be retained in their grade, and are more likely to graduate from high school, go on to college, and succeed in their careers than those who have not attended high-quality preschool programs (Center for Public Education, 2008). Language skills at ages one to two are highly predictive of language skills at age five. Strong evidence suggests that a year or two of center-based early childhood education (ECE) for three- and four-year-olds, provided in a developmentally-appropriate program, will improve children's early language, literacy, and mathematics skills by the end of the program (Lundberg, 2014) (Yoshikawa et al., 2013).

Effective ECE is particularly critical for disadvantaged populations within the US. For example, children from low-income families have been shown to start further behind their peers in academic ability when entering kindergarten (Shonkoff & Phillips, 2000). Recent evidence suggests that high-quality preschool positively contributes to the language, literacy, and mathematics skills growth of both low- and middle-income children, but has the greatest impact on children living in or near poverty (Camilli, Ryan, & Barnett 2010). There is also evidence from Head Start research that children with learning disabilities and special needs make significant gains in their math and reading abilities. Additionally, given the large uptick in the Hispanic population in the United States, it is critical that the education system is capable of assisting dual-language learners, and quality pre-school has been proven helpful in that capacity. Experimental evidence suggests that positive effects of preschool on early reading and math achievement are as strong for children of immigrants as for children of native-born citizens (Barnett, Yaroz, Thomas, Jung, & Blanco, 2007; Durán, Roseth, & Hoffman, 2010; Winsler, Diaz, Espinosa, & Rodriguez, 1999). Quality pre-school education has been proven beneficial for all racial and ethnic groups, but a large-scale study conducted in the Tulsa public school system revealed that it is particularly effective for Hispanic children in increasing school readiness (Gormley, Gayer, & Phillips, 2005). This is an incredibly important finding as Hispanic children also demonstrate the lowest preschool participation rates of any major ethnicity or race. The participation rate for Latinos is 40 percent, compared to 50 percent for African-American children, and 53 percent for white children (Bureau of the Census, 2012). It is also very important to note that some of these

group differences are rooted in income disparity, historical inequalities, and language barriers, and do not reflect inherent differences in race or ethnicity.

The United States faces a specific challenge: to raise the quality of preschool and early childhood education in America and tailor the solution to the traditionally disadvantaged student populations. To that end it would be beneficial to develop a model of a developmentally-appropriate and effective preschool that answers the large-scale problems facing the country. Thus, this paper will describe The Giving Tree Academy, a private preschool located in Pomona, California. The proposal for this school certainly does not represent the entirety of the response needed to combat lack of access to ECE. Rather, its purpose is to function as a template for new preschools, a guide for shaping curriculums in federal or national programs, or to adapt existing schools and programs. The discussion of each feature of this school will examine the methods of different schools of varying types, the relative strengths and weaknesses of those approaches, and why they were chosen. Overall, the school will focus on providing the highest quality of early childhood education in a traditionally low-socioeconomic status area for a majority Hispanic student population at a price that is affordable to low-income families. By focusing on ECE this school aims to reduce the academic and school readiness gaps so that students are not behind when they enter the school system. This will have a trickle-up effect that benefits schools and educators at all levels.

Preschool in Pomona, California

The Giving Tree Academy will be located in Pomona, California. The state of California is currently attempting to bolster enrollment in pre-kindergarten (Education Commission of the States, 2015), and the majority of that focus is in the major counties.

Approximately 77 percent of California's \$75 million 2012 Early Learning Challenge grant is being spent at the local level to support a voluntary network of 16 counties. Of children under age 5 in California, 70%, or approximately 1.9 million, are represented by these counties (Census, 2012). However, the notion that \$75 million has produced tangible results is highly questionable given that California was ranked 45th in the nation in its efforts to support the education of its youngest children, according to a report by *Education Week* (2015). The state's low ranking is primarily due to its comparative lack of support for children living in poverty, defined as families earning below 200% of the federal poverty level. The report found that in California only a third of low-income three and four-year-olds were in federal Head Start programs, and the preschool enrollment gap between low-income children and higher-income children is larger than the national average and grew slightly during the 2008 recession (Ed Data, 2016). Given the size of California and the number of students affected, these dismal numbers represent an urgent call to action.

Unfortunately, the Pomona Unified School District (PUSD) is rife with the problems affecting the California educational system as a whole, and the city of Pomona is particularly beset. Pomona has a population of 153,266, and demographically it heavily skews Hispanic at 70.5% identifying as Hispanic or Latino (Census, 2012).

Approximately 3.77 people live in each household, only 64.6% speak any English at home, poverty is at 22.6%, and the median household income is \$48,993 (Census, 2012).

The PUSD is the third largest school district in the county and performs significantly below most national achievement averages (Private School Review, 2016).

The most recent census did not record the number of children under 5, making it difficult to determine exactly how many children are available to be enrolled in a form of ECE. However, the census estimates the number to be roughly 8% (Census, 2012), thus the calculations reveal there are likely around 12,261 children who qualify. The PUSD does not issue any sort of regular report on the number of children enrolled in ECE programs, however it is possible to get an idea of enrollment by adding up all the available options. The PUSD does not offer public stand-alone preschools, but rather “child development programs” which are attached to their elementary schools and enroll around 2,400 students (PUSD, 2016b). Their curriculum is common to most public preschools, utilizing a Houghton Mifflin based approach (PUSD, 2016c). Around 1,200 children are enrolled in the local Head Start program, and 400 are in the Early Head Start program (PUSD, 2016a). There are a total of eight private preschools in Pomona that service 544 students (Private School Review, 2016). Totaling these figures, it can be estimated that 4,544 students are enrolled in developmentally-appropriate care (daycares and nurseries are not included as there is insufficient public data to analyze). This would mean only 37% of Pomona children are receiving the bare minimum of education they need, significantly below the national mark of 60% mentioned previously.

Overall, Pomona is a low-income, high-need area that has a legitimate lack of access to early childhood education. When policy makers are deciding how to help bridge the national achievement gap (NEA, 2015), they are generally considering areas like Pomona. The Condition of Education Report from the National Center for Education Statistics specifically recommends low-income minority students as the target of future national policy (NCES, 2016). Children in Pomona begin school behind their peers by

not entering preschool and fall further behind their peers when they do enter the school system, creating a vicious cycle that devastates the local schools and community.

Chapter 2:

Review of School Types

Within Pomona there are three main types of ECE offered to the community: state preschool, private schools, and Head Start. The Giving Tree Academy will be a private school supported by grants, charters, and donations. The school will borrow aspects from all of the options, meaning that each route should be examined for relative strengths and weaknesses.

State Preschool

As discussed previously, PUSD offers a form of public preschool. Classes are conducted at the local elementary schools, in contrast to other preschools that provide a different location. Preschoolers are taught in separate classrooms and kept on a different track from the elementary students throughout the day. The PUSD utilizes the Houghton Mifflin Pre-K program, and describes the curriculum on its website by saying, “It is a comprehensive program that develops the oral language and expands the vocabulary. The learning is organized around intentional classroom environment that supports learning through play” (PUSD, 2015). The Houghton Mifflin program places a strong emphasis on language development, specifically by requiring teachers to use a wide range of vocabulary in order to “immerse young children in rich oral language and vocabulary development” (Dade Schools, 2005). In addition to expanding vocabulary and language, the program covers aspects of math, science, and social studies. Teachers are also encouraged to facilitate engagement with the community, either by partnering with parents to come in for career days or going on trips to work sites. However, the self-

described primary focus of Houghton Mifflin according remains literacy (Houghton Mifflin Harcourt, 2015a).

Houghton Mifflin is a popular curriculum that has been adopted by a number of states and school districts around the country, and inevitably this entails different interpretations and applications across the board. For example, information on the PUSD website about their version of the HM curriculum is similar to the prototype in its emphasis on language, but it appears to stress other qualities equally. Specifically, it identifies materials for children to explore, language development, and adult support combined with community engagement (Dade Schools, 2005). In order to determine exactly how PUSD schools incorporate HM curriculum an interview was conducted with Mrs. G, a pre-kindergarten teacher at Madison Elementary in Pomona. Mrs. G had ten years of experience working in the PUSD at the time of the interview, and was deeply familiar with the curriculum. She stressed that her views were not ubiquitous among district teachers, but added her opinions seemed to be widely held.

Mrs. G identified several major components of HM curriculum she is told to work into her class. To begin, she is supposed to work in a developmentally-appropriate practice that involves child participation and involves the lesson target for the day. An example would be playing “I Spy” and having the object be a stuffed bug, then transitioning into a discussion about bugs and their body parts. Then Mrs. G is supposed to read a story that focuses on the object of the previous activity, lead a discussion on it with the children, and return to that story later to check for comprehension. Free play and the rest of the day’s activities are supposed to feature the main focus. According to Mrs. G, this is a simple model and in her opinion formalized what most teachers were already

doing. She explained that most other Pre-K teachers she knew did not pay much attention to the curriculum, and organized their school days according to their own free choice.

Mrs. G is typical in that she incorporates aspects of the program, such as focusing on one topic for a whole day, but disregards much of the rest. The reason this happens is that the district does a poor job training their teachers in the curriculum and does next to nothing to ensure teachers are actually following it. Mrs. G claimed to know teachers who barely understood what the curriculum was, let alone taught it effectively. During the summer teachers are given some formal training in the curriculum by the school, but none during the school year. This highlights an important lesson regarding curriculum; thousands of hours can go into creating a well-thought out and designed program, but all of that work is for nothing if resources are not allocated towards supporting faculty and explaining how the new approach works.

Although Mrs. G was highly critical of many aspects of Houghton Mifflin, her opinion was not entirely negative. Based on her recommendations, a few components of Houghton Mifflin will be incorporated into The Giving Tree Academy. The first feature is structuring whole days around certain topics. Mrs. G reported that her children's engagement level seemed higher when they were building towards something throughout the day as opposed to jumping between seemingly unrelated activities. The Giving Tree Academy will expand upon this idea by having entire weeks themed around one idea or concept. Additionally, the school will borrow the Mifflin principle of monitoring social-emotional development (Houghton Mifflin Harcourt, 2015b). Teachers are supposed to monitor and keep notes on their students' development of self-awareness and self-regulation in the same way they would math and reading. According to Mrs. G this is

rarely done in practice because the guidelines on what constitutes developed vs. not developed in regards to self-awareness are not well defined. This will be improved upon at The Giving Tree Academy by providing clear benchmarks to teachers.

Private Schools

Within the city of Pomona there are eight private preschools servicing roughly 544 students (Private School Review, 2016). There is a large degree of variability between the eight schools, and none share a common curriculum. Some of the schools such as Shield of Faith Christian Preschool serve primarily low-income students, while others like Oak Tree Day School have students from a variety of income levels. There is a wide range of curriculum and school philosophies as well. The Giving Tree Academy opted to be a private school because private schools have the greatest amount of freedom and choice in what they teach and how they teach it. Although this freedom can lead to some extremely poor quality schools, it also allows for places like The Children’s School (TCS) to exist. Adjacent to Pomona in Claremont, CA, TCS is a high-achieving private preschool with a student body comprised of the children of professors and administrators at the local Claremont Colleges and children from the local community. Philosophically, TCS is the most important model for the curriculum at The Giving Tree Academy. The school will primarily emulate TCS’ center-based approach, an emphasis on play, and the focus on individual student development.

When asked to describe the most important aspect of TCS’ belief system, Mrs. S one of the teachers responded, “The foundation of everything we do at TCS is play.” At TCS the educators and administrators believe that during early childhood education the

most effective way for children to learn is through play. This belief is reflected in the school's mission statement, which states:

Play is children's work and their primary avenue to understanding their world. Play is a means of relating to others, developing concepts, and understanding roles through imitation. We believe that both the inside and the outside environments should lend themselves to children's play and have moveable equipment so that children can arrange their environments to meet their interests and needs.

According to TCS, play is far more than a break in-between more structured activities; it is the conduit of knowledge for young children. TCS believes that learning is achieved with children through play and experimentation, and they reject the notion that learning is simply an educator depositing information in a child. This notion is rooted in the work of developmental psychologist Jean Piaget and will be discussed in a later section. It is also supported by empirical research that suggests play is enormously impactful on how and how much children learn. Play has benefits for creative problem solving (Johnson, Christie, & Wardle, 2005), teaches children how objects work (Elkind, 2008), helps children internalize societal scripts (Barnett, Yaroz, Thomas, Jung, & Blanco, 2007), improves creative thinking and encourages more complex use of language (Hirsh-Pasek, Golinkoff, Berk, & Singer 2009).

Despite the abundance of evidence regarding the benefits, play is decreasing in schools throughout the US. In 2008 children played eight hours less each week than their counterparts did two decades ago (Center for Public Education, 2008), and recess is being slashed in schools around the country. TCS runs counter to this phenomenon by

encouraging play in almost every aspect of the school day. Children are provided two or three lengthy play periods outside, and when inside they have an unusually high level of autonomy. Rather than having the teacher stand in front of the class for the entire time, children move between centers, some of which are teacher led and others directed by the students themselves. Mrs. S explained during her interview that teachers do their best to take their cues from the students, and to be flexible by incorporating student perspectives. An excellent example occurred during a center where she was helping an unwilling student write the alphabet. Mrs. S noticed the little girl only wanted to discuss animals. She responded by having the child write her letters, and then place tails and ears on them to make the letters look like animals. The child had a great time, and seemed to put forth more effort because of Mrs. S.

The other aspect of TCS The Giving Tree Academy is interested in replicating is focus on the individual child's development. Research suggests that children at the same age range can vary dramatically in their developmental capabilities and individual knowledge (Vitiello, Booren, Downer, & Williford, 2012). According to Mrs. S, one of the traps preschool teachers fall into is assuming most members of their class are at about the same level. When this happens, teachers begin making assumptions about what their class will comprehend, and children outside of that assumption end up falling behind. TCS goes to extensive lengths to keep records and documentation of each child's development throughout the year, charting his or her social, language, and physical capabilities. This approach works hand-in-hand with the center and play-based approach to learning. By breaking the class up into groups teachers at TCS have an increased ability to work one-on-one with children. Research has uncovered that children who

receive individualized reading instruction receive significantly higher scores in verbal comprehension and general reading ability (APS, 2013). Moreover, during free play teachers can rove around and help students as needed.

Head Start

Head Start was founded in 1964 as a response to the “war on poverty” being led by President Lyndon B. Johnson. The program was intended to provide access to free ECE for lower-income families, and since its foundation has grown into a 10.1-billion-dollar organization (Rathgeb, 2015). Head Start has successfully served over 22 million children using a curriculum that integrates parents, family, and a community-engagement framework (Head Start, 2006). Head Start believes that ECE should be relevant to the children’s lives, and that the best chance for academic growth arises when parents are actively involved in the process. The underlying theory is that including parents and members of the local community transforms learning from a chore performed during school hours into a 24/7 immersive experience. Hopefully, parents who feel invested in their child’s education will be able to incorporate their child’s classwork and learning goals into their daily lives. Additionally, contact with members of the community prompts children to begin considering what jobs they would like to hold one day. Encouraging interest in vocations is especially important in areas where economic opportunity is limited.

Within Pomona, 1,600 children are enrolled in either Head Start or Early Head Start. Early Head Start is offered to women who are either pregnant or have children under three-years old, whereas Head Start begins at three. Both programs utilize a center-based curriculum, whereby small groups of children move from activity to activity, with

a teacher or teacher's assistant managing one or more of the centers. This approach allows the teachers to provide more individual instruction, as opposed to lecturing in front of the class for an extended period of time. Additionally, Head Start is unique for its track record of improving literacy and language skills. In short-term effects, a study revealed that Head Start increases children's ability to identify letters, name letters, remember words, logically work through problems, and read (Ludwig, & Phillips, 2012). These effects appear to hold over time, as a study from the American Economic Review showed that Head Start is effectively helping children bridge a third of the developmental gap between children who are part of the program versus children who are not (Currie, & Thomas, 1995). Part of the reason this approach is so successful is likely the individualized instruction children receive during centers. Teaching reading and writing skills to an entire class at once forces teachers to instruct only at a level all students can understand. At The Giving Tree Academy flexibility and individualized instruction will be critical components of curriculum.

Chapter 3:

Philosophy and Curriculum at The Giving Tree Academy

The ideal at the heart of The Giving Tree Academy philosophy is that every child is worthy of respect and a high-quality education that is rooted in play and conducted with sound, empirically supported teaching techniques. The Giving Tree Academy believes that children's learning potential is maximized when they are allowed to creatively engage with the material and use their peers as problem-solving resources. Teachers at The Giving Tree Academy are expected to support children in *their* pursuit of knowledge, and to do so by being a resource, not the final answer. The Academy subscribes to Friedrich Frobel's belief that, "To learn a thing *in life and through doing* is much more developing, cultivating, and strengthening than to learn it merely through the verbal communication of ideas" (Hughes, 1897, p. 182). Class curriculum will feature a model integrating center-based classroom instruction, parental and community engagement, and mindfulness and social skills practice. In terms of developmental philosophy, The Giving Tree Academy's primary influences are Jean Piaget and Lev Vygotsky.

Class Organization and Centers

Classes at The Giving Tree Academy will each contain twelve students, who are further sorted into groups of three that will remain together throughout the year. The thinking behind this structure is twofold: one it keeps the class size relatively low, and two it has a beneficial impact for student performance. A meta-analysis examining class size conducted by Schanzenbach (2014) confirmed that class size is indeed an important determinant of student outcomes. Perhaps most important for this school, Schanzenbach

concluded that the payoff from class-size reduction is greater for low-income and minority children, while any increase will likely be most harmful to these populations. The number twelve was chosen because the authors indicated the threshold for these effects begin when class size is lower than 15. In order to preserve that impact while keeping class size large enough to support a decent number of students, 12 was chosen.

This approach also allows children in the same zone of proximal development to be grouped together in order to maximize one another's learning. The zone of proximal development, proposed by famed developmental theorist Lev Vygotsky, is the distance between the most difficult task a child can do alone and the most difficult task he or she can do with help from a more experienced peer or adult (Berk, 1995). The idea is that children in the same zone of proximal distance can help one another reach the next stage by providing additional information or demonstrating proper procedure. This phenomenon is referred to as "scaffolding." At the beginning of their year at school children will be evaluated to determine their proficiency in reading, writing, and mathematics, then subsequently grouped with two other children. Thus, children who understand the learning targets will deepen and expand their knowledge by helping teach their peers.

A potential confound to this approach is that children may be advanced in one or more areas and behind in others, meaning perfect groupings are unlikely. To confront this issue, teachers are allowed to practice personal discretion when initially sorting groups. If a child is academically advanced but socially deficient, the teacher is allowed to place that child with a group that will foster social abilities if that is deemed more important for overall growth. Moreover, as the year progresses teachers have license to adjust groups as

need be, under the stipulation that adjustments must be well-justified and cleared with the school administration. In order for a child to change groups the teacher must clarify in what area they the child is behind, how their current placement has not helped reach the next goal, and why the new group will be more beneficial.

These groupings are crucial to the overall structure of the curriculum because the students within them will receive most of their instruction together. Similar to the Head Start program, the vast majority of teaching occurs during centers. In a typical day there will be two major center sessions, each comprised of four activities that the children rotate between in 15-minute intervals. During the preschool years, and especially with younger three-year-olds, attention span and ability to sit still are often limited at best. By keeping the children moving, The Giving Tree Academy hopes to offset that effect. Three of the four centers are devoted to major academic areas: reading and writing, mathematics, and science and history. The fourth center is designated for social skills, but in order to allow teachers to experiment and develop their own unique approaches this center can also be designated a “Teacher’s Choice.” Teachers are strongly encouraged to talk about all of the aforementioned subjects within a day, ideally having the first center in session one for reading, and the first center in session two be writing. However, if the teacher feels the majority of students are struggling with reading, they could dedicate a center in both sessions for teaching it.

One of the challenges to this approach is that it requires the children to be able to operate independently at times in a center. Each classroom will have a head teacher and an assistant teacher, meaning that two of the centers will be unmanned. To account for this, time has been built into the schedule for explaining each center to the class, although

a teacher should stay close enough to ensure they could help if students forget their task. Considerable time at the beginning of each year will also be dedicated to teaching children how to appropriately work in centers and move between them. Additionally, teachers are not forced to remain at their center. After ensuring that their initial center knows how to execute their task, either of the teachers is allowed to move around and identify problems as they emerge.

Outside Sessions and Play

A key belief to The Giving Tree Academy is that young children do the majority of their learning through play, and to account for this there are three outside sessions built into the day. This belief is rooted in the teachings of Jean Piaget, the famed constructivist. Piaget believed that children enact learning through experience with their environment. Piaget postulated that children learn best when they are constructing their own knowledge through personal experiences, preferably transpiring outdoors (McLeod, 2015). Thus, children should spend as much time as possible partaking in symbolic play, as it is the method by which they assign meaning to the world. Contrary to the traditional American attitude that learning is the domain of the classroom, The Giving Tree Academy believes children learn best when they are at play. During childhood children are most curious and engaged when they are having fun. The school's mission is to help children in a way that is best accessible to them, not convenient for The Giving Tree Academy.

Perhaps most importantly, the school considers including multiple outside sessions part of the necessary response to the nationwide curtailing of preschool children's play opportunities. Up to 56% of children nationwide who are enrolled in some form of early education are taught using centers (Copeland, Sherman, Kendeigh,

Kalkwarf, & Saelens, 2012), and research has consistently demonstrated that this often does not involve enough physical activity (Pate, McIver, Dowda, Brown, & Addy, 2008; Brown, McIver, Dowda, Addy, & Pate, 2009; Baranowski, Thompson, DuRant, Baranowski, & Puhl, 1993). An extensive study looking at 49 different child care centers of varying types across the United States revealed three primary reasons schools have for not spending more time outside: injury concerns, financial concerns, and a focus on “academics” (Copeland, Sherman, Kendeigh, Kalkwarf, & Saelens, 2012). Addressing the first concern, injuries and accidents may certainly occur on a playground, but this is a necessary condition for achieving greater learning. The academic concern seeks to portray the issue as play vs. learning, whereas the school does not see the two as mutually exclusive. Leading early-childhood education researchers have determined that the ideal setup for learning in young children focuses on both academics and play. A review of preschool standards regarding play nationwide by Tullis (2011) opined that an increased emphasis on standardized testing has led schools to focus on direct instruction over play-based learning, resulting in sub-optimal performance.

The first outside session is placed at the very beginning of the day so that children who may be nervous initially or reluctant to separate from their parents have an opportunity to be distracted and burn off energy. The next two sessions are distributed two hours apart and after a center session. In addition to allowing children time to process their lesson, this setup means that they can use their newly acquired knowledge within their creative play. This is actually encouraged by the teachers, who are tasked with a more active role than traditional preschool educators. Teachers are expected to move around the playground and monitor what games the children are playing and how they are

playing them. In some preschools, teachers use recess as an opportunity to rest and observe from a distance. However, if play is really the best way children learn, then monitoring play is the best way to determine how engaged children are with the material. Fox (1993) researched the practicality of observing young children's cognitive development during outdoor play. Her observations of four- and five-year-old children during outdoor play found examples of addition and subtraction, shape identification, patterning, one-to-one correspondence, number sense, sequencing of events, use of ordinal numbers, knowledge of prepositions, and identification of final and initial consonants. Fox's outdoor observations also found multiple examples of problem-solving, creative thinking, social competence, language use, and gross and fine motor skills.

These findings indicate teachers should be monitoring their students during play in order to know how much of the lessons students are retaining and utilizing personally. Teachers are also allowed to intervene and participate in play, but only at a bare minimum. Intervention is permitted if the teacher feels they are needed to help scaffold a child whose playmates are incapable of helping.

Mindfulness Meditation

One of the unique aspects of The Giving Tree Academy is the incorporation of mindfulness meditation techniques into the school day. One of the most important predictors of long-term academic success is executive functioning (Masten & Coatsworth, 1998). Executive functioning can be defined as the mental skills required when making decisions in order to accomplish a goal; in the context of research the focus is typically on difficult decisions. For young children, the ability to put aside distraction and temptation in a school context is an enormously important skill. Research has shown

that people with high levels of mindfulness also report high levels of executive functioning (Gallant, 2016). Learning mindfulness and meditation skills at a young age will help students regulate their emotions, remain calm, and learn to become in touch with their emotions and bodies.

Moreover, these techniques can be extremely useful for teachers to calm their class down. While not comprehensive, there has been some research on the efficacy of these approaches with children. Numerous studies suggest that meditation techniques reduce anxiety in school-aged children (Chang & Hiebert, 1989; Dacey & Fiore, 2000; Fish, 1988). A study examining 7-and 8-year olds suffering from childhood anxiety showed significant improvement after 6 weeks practicing cognitively-based, group mindfulness techniques (Reid, Semple, & Miller, 2005). Another study found that after 18 weeks of meditation practice third grade children were far less anxious about taking tests (Linden, 1993). From this body of research, it can be concluded that a major integration of mindfulness and meditation techniques into the curriculum will help children learn to manage stress and stressful conditions. This will be particularly important for students at The Giving Tree Academy, as they come from low-socioeconomic status backgrounds, which in turn means they are more likely to encounter stressful life situations (Mujis, Harris, Chapman, Stoll, & Russ, 2009). Low-income, parental stress, and lack of access to resources are likely to be major sources of disruption for these students' academic careers, and this intervention will lay the framework for their ability to handle the stress.

At TCS teachers will occasionally have students lie down on the ground and practice slow breathing when they come in from an outside session. This was a consistent

technique employed in the research interventions discussed previously. The goal is to expand that idea by also practicing other forms of meditation. For example, by practicing compassion meditation students can learn how to begin to think about others. Or, by having students practice mindfully walking or doing yoga, teachers can develop mind-body connection in their students. Doing this overtime is likely to help students with attention, as a study conducted with children 9 to 12 years old found significantly reduced attention problems reported on the attention subscale of the Child Behavior Checklist (Reid, Semple, & Miller, 2005). Increased attention spans will result in teachers having to spend less time getting the class to listen and more time educating.

Sample Day:

Time	Activity	Description	Example
8-8:45	Begin with play session outside as children come in	Opening circle, identify learning target for the week, learning target for the day, song, explain centers	Learning target for the week is Government. Learning target for the day is the presidency. Song is <i>Fifty-Nifty United-States</i>
8:45-9:45	Center Session #1	<ul style="list-style-type: none"> 1- Writing 2- Math 3- Science 4- Social Skills 	<p>Center 1- Writing</p> <p>Beginners: Counting to 43 (total number of presidents.</p> <p>Advanced: Free Writing, What would you do if you were president?</p>
9:45-10:30	Regroup, then Outside Session #2	Review Center Session #1, then outside play time.	Regroup discussion question: what have we learned?
10:30-10:45	Mindfulness/ Meditation	Class gathers together as a group	With children either seated or lying down, Deep breathing slowly counting down from 10
Time	Activity	Description	Example

10:45-11:30	Center Session #2	1- Reading 2- Math 3- History 4- Teacher Choice	Center 1- Reading Beginners: <i>Duck for President</i> by Doreen Cronin Advanced: <i>If I were President</i> by Catherine Stier
11:30-12:00	Lunch		
12:00-12:30	Outside Session #3	Outside play time	
12:30-12:40	Mindfulness/ Meditation	Class gathers together as a group	Mindful walking, group Yoga
12:30-12:50	Community Engagement	A vocational presentation given by a parent or member of the local community	Presentation by local government representative, followed by questions for the guest
12:50-1:00	Teacher-Student Check-in	Children picked up, Teacher asks each student how day went	Did you have fun today? Why or why not?
1:00-1:30	Teachers log notes	Teachers make notes on student progress for the day, as well as end-of-day question responses	

Chapter 4:

Faculty

In order to implement The Giving Tree Academy's proposed curriculum, the school must be stocked with talented and motivated educators. Moreover, the school's job is not finished after hiring appropriate candidates. If teachers are expected to improve over the course of their careers, they need to be provided with opportunities to do so. This chapter identifies the qualities and beliefs the school will look for when hiring teachers, how teachers will be supported and offered opportunities for professional development, and preferred pedagogies and teaching techniques.

Teacher Beliefs

The teacher's role in a classroom is a tremendously complicated subject riddled with tough questions. What do the best teachers believe about their students? What about themselves? Thankfully, research identifying and analyzing effective teachers has uncovered a few trends. A study conducted by Dr. Mary Poplin of Claremont Graduate University and other leading education researchers (2011) looking at 31 highly effective teachers in nine low-performing urban schools within Los Angeles County is particularly instructive for The Giving Tree Academy. Teachers were identified using data showing student improvement over three years from the California Standards Test (CST), and during the year of observation for this study 51% of their students moved up a level on the CST. This methodology is important, as other studies have used variables such as administrator recommendations for the inclusion criteria, allowing for personal bias to influence results. Utilizing exhaustive interviews with students, teachers, and administrators, as well as classroom observation, the authors of this study point out a crucial belief teachers identified by the data have about their students. Effective teachers

believe their students have more potential than they use, and simply have not been challenged to use it previously. Instead of viewing their students' backgrounds as an excuse for not learning, effective teachers believe their students are capable of overcoming their circumstances and maintaining a culture of academic excellence.

Given the high level of poverty in the Pomona area, it will be especially important for the teachers at The Giving Tree Academy to hold these beliefs. During the interview process potential candidates that express a desire to challenge their students with material that is advanced and complex will be preferred. An excellent example of this is language and vocabulary. Children of families subsisting on welfare hear about 616 words per hour, whereas children from professional families hear around 2,153 words per hour (Hart & Risley, 2003). By the time children enter preschool massive language discrepancies have already emerged. Teachers can help to address this discrepancy by using more advanced, technical, or professional vocabulary in the classroom. Teachers will introduce new words and utilize them frequently in discussions and lessons in order to build a collective classroom vocabulary. This is conducive to the curriculum, because teachers can bring in new vocabulary words for each new theme, giving students an opportunity to practice the vocabulary and develop mastery over it.

School Support

Teachers interviewed in the Poplin et al. study were also asked to share their personal beliefs about their role as an educator. For the most part, effective teachers expressed passion for their job and a firm belief that they were making a positive impact in the children's lives. We want teachers to be excited about their job, especially considering the emphasis of the curriculum on play. Passionate teachers are going to be

more active on the playground, and perhaps most importantly, will be less likely to lose their passion. This belief stems from research showing teachers with high levels of self-efficacy and low levels of stress are more creative when implementing curriculum and less likely to experience professional burnout (Evers, Brouwers, & Tomic, 2002).

Consequently, one of the most important roles for the administrators at The Giving Tree Academy will be identifying common problems teachers face and devising creative solutions.

A problem teachers frequently encounter is feeling as if they are “on their own” in the classroom (Gaikwad & Brantely, 1992). A significant source of distress is the way American educators become credentialed. After a teacher earns a teaching credential it can be extremely difficult to continue professional development, as very few states require it to continue practicing and travel to conferences or seminars can be costly and time consuming. Combating this issue will be especially important for The Giving Tree Academy, as it has been demonstrated that students in low-SES schools perform better when taught by teachers who have participated in professional development opportunities (Fischer et al., 2016). Thus The Giving Tree Academy will provide two weeks of free professional development, including travel costs, to allow for the teachers to improve. The particular seminar or session must be determined by the teacher and confirmed with school administrators. A good example of acceptable professional development is the annual conference hosted by the National Association for the Education of Young Children (NAEYC, 2016), which includes face-to-face training, presentations by researchers, and networking opportunities.

No matter how prestigious the program, professional development must occur at The Giving Tree Academy as well as off-site. In a massive, comprehensive meta-analysis conducted by Roland Fryer at Harvard University (2016) that reviewed 196 randomized field experiments found teachers who receive regular, managed professional development improve substantially. Teachers in the top quarter of schools offering professional development improved by 38% compared to teachers in schools in the lowest quarter. The authors of the study note that in practice this usually involves a master teacher reviewing and critiquing the performance of less-experienced teachers. To that end, teachers with more than ten years of experience at The Giving Tree Academy will be compensated at a higher rate, and in return expected to observe and provide feedback to other teachers at least once a week.

Teaching Practices and Preferred Pedagogies

When observing their co-workers, master teachers are expected to suggest and encourage teaching methods that have empirical research support. Without providing explicit guidelines it is possible that personal bias may influence teachers' appraisals of one another. By couching praise and criticism in proven methodology, teachers can be more confident the advice they give is relevant and objective. A potential confound to this approach is differing pedagogies. A number of different approaches and philosophies regarding education exist, and teachers may be resistant to changing their belief systems. However, teachers need not worry about conforming to a particular pedagogy, as an international review conducted by the British Department of Education (Wall, Litjens, & Tauma, 2015) uncovered that early childhood education programs tailored to specific pedagogies were not statistically more effective than one another or programs not tailored

to a specific pedagogy. The appropriate conclusion from this finding is that overall philosophy has less impact on the learning of young children than individual techniques.

The most effective techniques teachers can utilize in the classroom are movement, constant feedback to pupils, and meta-cognitive strategies. These strategies were identified by the Education Endowment Foundation (2016), and ranked according to research support and financial sustainability. Surprisingly, movement was one of the most impactful techniques, as well as being by far the cheapest to implement. When teachers remain in one spot throughout a lesson students experience less mental stimulation, and their attention begins to atrophy over time (Behets, 1997). Mobile teachers force their students to continually reset their attention and remain focused. Although this approach may be more physically taxing on teachers, the clear and demonstrated effectiveness make it an essential component of the classroom.

Additional research on teacher movement in classrooms suggests it facilitates constant feedback and interaction with students (Black & Wiliam, 1998). Teachers at the front of a classroom tend to ask questions or review material with students sitting near the front, inadvertently missing a large chunk of the class. Mobile teachers are able to engage all students, including those who may be hiding in the back to avoid participating. Decades of cognitive research suggest that rehearsal is critical for long-term retention (Dark & Loftus, 1976). Constant review and quizzing of material over time improves long-term retention by improving the accessibility of some material. When a student engages in the process of recalling information, they generate a new cue or connection to that material (Awh et al., 1996). Practicing over time builds up cues and associations, making it easier to initiate recall of course content. Thus, master teachers will note how

often the teacher they observe reintroduces or refers to past material and vocabulary, and suggest opportunities to do so in the future.

The final key strategy is also the most difficult to implement in preschool. Meta-cognitive strategies are different ways of thinking about thinking, and children have shown the capability for this form of thought as early as two and three (Fang & Cox, 1999). Teachers who want to develop this skill ask their students to consider the process by which they came to an answer, and how that process could be improved. In a classroom, this involves teachers asking students to explain how they came to certain conclusions about a reading, what the problem solving process was while doing a basic math equation, or even how they felt while doing a problem (Aleven & Koedinger, 2002). Given that math problems and reading at a preschool level can be simpler and involve fewer steps to discuss, employing meta-cognitive strategies with young children can be more difficult. Despite the difficulty, making the effort is critical, as research from Germany indicates that children who are the subject of early interventions attempting to bolster this skill display higher levels of meta-cognition later in life (Schneider, 2008).

Conclusion

At its core, this paper is a model for a future, private preschool in Pomona, CA named The Giving Tree Academy. Pomona is a majority Hispanic, low-socioeconomic status, high-poverty area and the school has been optimized to serve that particular population. Educators looking to create a unique, developmentally appropriate environment in the Pomona area can use this paper as a template or borrow components of the curriculum. The Giving Tree Academy is unique in that it is a play-based school encouraging academic excellence along with mindfulness. Students move between unstructured outside time, rigorous and challenging center activities, and mindfulness practices. They are supported by passionate and knowledgeable teachers utilizing empirically supported teacher techniques.

Realistically, The Giving Tree Academy may never become an actual school. However, it can also be seen as a proposal for a new way of approaching early childhood education for students from low socioeconomic status backgrounds. Standardized tests are the primary means of evaluation and assessment in many national education programs, and are intentionally not mentioned in this document. It can be easy for policymakers to succumb to the comforting idea that the achievement gap can be resolved with more testing and focusing on accountability. Doing so would be unwise, as the developmental research clearly indicates young children learn best through play, and legislation aiming to improve early childhood education must take this into account. In conjunction with sound academic curriculum, play is the best medium through which to teach young children. Should the nation decide to implement universal pre-kindergarten,

or if a new program expanding early childhood education emerges, The Giving Tree Academy can function as one of the models for the new American preschool classroom.

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