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**Homeschooled Adolescents Find their ESSENCE at Rock-It-Science**

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by

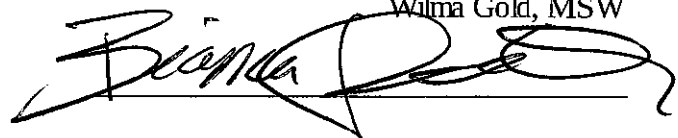
Sharon Barkan

Committee Members



A handwritten signature in black ink, appearing to read "Wilma Gold", written over a horizontal line.

Wilma Gold, MSW



A handwritten signature in black ink, appearing to read "Bianca Rowden-Quince", written over a horizontal line.

Bianca Rowden-Quince, Ed.D.



A handwritten signature in black ink, appearing to read "Dionne Clabaugh, Ed.D.", written over a horizontal line.

Dionne Clabaugh, Ed.D., Advisor

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## **Abstract**

### **HOMESCHOOLED ADOLESCENTS FIND THEIR ESSENCE AT ROCK-IT-SCIENCE**

This study looked at homeschooled adolescents at Rock-It-Science (RIS), a unique science program, and ways in which their needs, defined as the ESSENCE (Emotional Spark, Social Engagement, Novelty, and Creative Exploration) (Siegel, 2013) were supported by participating in this program. I chose to study this topic because I learned about and witnessed the crisis of adolescents in the school system. Through personal experience, I learned how schools often are unable to meet the social emotional needs of their students, and that homeschooling is one alternative that has worked for many families, including ours.

I used a qualitative research method and interviewed five parents of homeschooled adolescents that participated in RIS' teen classes. I organized the interviews, found emergent themes for each data set, and overarching themes for the data as a whole.

Based on the participants' responses I concluded that Mr. Mac, director and founder of RIS, personality, and pedagogy created an environment that supported the ESSENCE needs as well as contributed to the families' homeschooling journey. The environment at RIS was accepting and encouraging, and conducive to creative, collaborative, and fun learning. Another theme that emerged was the power of teaching through a story, as a "...story involves imagination, activation of prior experiences, knowledge, and imagery" (Isabelle, 2007, p. 16).

Next, I plan to prepare a synopsis of my study and share my findings with the RIS community, the Homeschooling Association of California, and in my role as a mentor to prospective homeschoolers.

### **Dedication**

To my dad, beyond this earth and time, my endless love and yearning.

This study is also dedicated to Mr. John McChesney, who was instrumental in this whole process from the very beginning. John, you have been an inspiration for my son and me, I am deeply thankful for your part in our homeschooling journey. You have taught us meaningful life lessons.

### **Acknowledgment**

Working on my thesis has been a collaborative effort. I could not have done it alone, and I would like to express my gratitude to those who supported me.

Thank you to John McChesney for letting me study your unique program, Rock-It-Science, for hosting my interviews in your office, and for investing time, attention, and care in our talks and informational interview.

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## CHAPTER ONE

### Introduction

Adolescence, a period between ages 12-24 years old, can be seen as a confusing and challenging time for both adolescents and the adults in their lives. Some might say this is a time we just have to survive and move on from, never look back, and hope to get out with as little damage as possible. Nevertheless, there is another point of view that Daniel Siegel posed in his book, *Brainstorm: The Power and Purpose of the Teenage Brain*. Siegel suggests there are reasons and purposes for the unique characteristics of this time in life, he invites us to look at them differently, and from this perspective treasure and nurture adolescents in a more holistic way (Siegel, 2013).

Adolescents do not live in a vacuum, and school is one of the main foci of their lives as this is where they spend most of their time, and this is the source for most of their social interactions, emotional challenges, and creative opportunities or lack thereof (A. Faraji, personal communication, March 4, 2016; Robinson, 2006). For many years there have been calls to examine the education system and adapt it, change it, reform it, revolutionize it, for the sake of our children, and to better prepare children and adolescents for the changing needs of society in the 21st century (Kohn, 1999; Robinson, 2015b).

Schools and the whole education system, researchers and educators have been trying, tirelessly and for decades, to improve their teaching, try different pedagogies in order to better prepare students for life, college, future success, future innovations and so forth (Kohn, 1999, 2015). While moving toward change is the right path to take, the answer of how to educate children is still a topic for much debate (Stuart & Woodard, 2015). In reality, as I perceive it,

there are several reactions to the crisis in the education system as Robinson described it (2006, 2010).

First, we see teens acting in ways that demonstrate a desperate cry for help. They are stretched to their limit, breaking down, harming themselves in a variety of ways, thinking of suicide, and unfortunately some tragically acting on it (A. Faraji, personal communication, March 4, 2016; Rosin, 2015). Second, the number of families choosing to homeschool their children has been steadily increasing over the last couple of decades (Ray, 2016). Homeschooling nationwide has changed a lot over the past four decades by growing and gaining legal standing. It has become more mainstream, has been recognized for its advantages, and acknowledged by school districts, admissions officers at colleges and universities, and society at large (Jones & Gloeckner, 2004; Lips & Feinberg, 2008).

Third, the crisis in the educational system has opened up opportunities and invitation to entrepreneurs with new ways and ideas for teaching and educating (Robinson, 2010). An example of that is Rock-It-Science (RIS). RIS based in Northern California, is a nontraditional educational environment, offering unique science classes to homeschoolers as well as teaching in public schools, offering summer camps, and providing guidance and support for teachers (J. McChesney, personal communication, March 11, 2016). These three reactions to the crisis of education, of teens' suffering, homeschooling rising, and nontraditional teaching getting more recognition, are all connected and are part of the development of the education system at large (Abeles & Congdon, 2010; Stuart & Woodard, 2015).

My study begins with a picture made up of several pieces; adolescence, the adolescents in the school system, the crisis in the educational system, and the one that is felt here in our

community in Northern California, the growing numbers of homeschoolers, and the recognition of nontraditional teaching. I will focus on the Rock-It-Science program and how homeschooled adolescents' needs are being met, as identified by Daniel Siegel (2013).

### **Background on Adolescence**

Adolescence brings new and swift changes. The slow physical growth of middle and late childhood, (ages 6-11 years old), is replaced by the powerful transformation that comes with puberty and further development of the brain, that affect all domains: physical, cognitive, emotional, and social (Santrock, 2013). Santrock (2013) talked about past views of adolescence, summarized by Stanley Hall in 1904, as a time of "Storm-and-stress" (as cited in p. 426). Many view adolescence as time filled with mood swings and uneasiness, nevertheless, in a study from 1988, done by Daniel Offer and colleagues, where self-image of adolescents was looked into in 10 different countries, the findings showed that "at least 73% of adolescents displayed healthy self-image" (as cited in p. 426). While the adolescent population in these countries was diverse, the majority of them were happy, developed self-control, managed stress, and felt confident about themselves (Offer, Ostrov, Howard, & Atkinson, 1988; Santrock, 2013). Santrock (2013) continued, and claimed we must separate adolescents' need to find their identities from their novelty seeking actions, and the emergent individualization from parents (M. Gustavson, personal communication, March 31, 2016). In many textbooks, when teaching about adolescents, the approach is generally to look at one area of development and needs at a time (Santrock, 2013; Schickedanz, J. A., Schickedanz, D. I., Forsyth, P. D., and Forsyth, G. A., 1998). Daniel Siegel offered a more holistic and embracing way of looking at this significant period of life.

In his book *Brainstorm*, Siegel (2013) described a new perspective that supports understanding, connection, compassion, empathy, and deeper relationships between adolescents and the adults in their lives. He summed the needs of the adolescents in an acronym ESSENCE, which stands for **E**motional **S**park, **S**ocial **E**ngagement, **N**ovelty, and **C**reative **E**xploration. These four domains represent what the teenage brain seeks and explore (Siegel, 2013). Each of these domains is briefly described below, for a detailed explanation, please see Chapter Two.

- *emotional spark* is about the intensity of feeling that influence thoughts, brings passion, interest, motivation, as well as moodiness;
- *social engagement* is about the emerging strong need to have more quality and quantity time and relationships with peers, and shifting attachment from parents to peers;
- *novelty* represents the physiological need for thrill and high stimulation to get the satisfaction of excitement, it support risk taking and daring expand the comfort zone;
- *creative exploration* represents the new type of thinking, one that is original, out-side of the box, challenging the rules and thinking set by adults, and hold the potential for inventions and new ideas (Siegel, 2014c, 2014d).

### **Adolescence in the Education System**

Because adolescents spend most of the time in school, or with activities and people related to school, it is important and relevant to look into the education system and what it brings to the adolescent's life.

Adolescents undergo important and crucial development of many aspects such as physical, cognitive, social, and emotional. It is a delicate time in our life no less than the first

years of a young child. Too often adolescents' wellbeing is jeopardized by stress levels that are the result of several stressors such as family life, school, social media, and extracurricular activities. In addition to these factors, adolescents are exposed to more damaging stress levels due to naturally accelerated developmental changes, such as cognitive, physiological, and psychological (Bluth & Blanton, 2014). Many educators and researchers such as Alfie Kohn and Ken Robinson had addressed the issue of the crisis in schools that bring stress and distress into teens' life and what can and should be done in schools to support adolescents. I will go into that in more details in the next chapter.

The urgency for change and action is clear, especially since school was recognized as the source of much of adolescents' stress. In communities in Northern California, effects of this stress, can be seen in behaviors such as drinking alcohol, trying drugs, and higher depression rates (A. Faraji, personal communication, March 4, 2016). Rosin (2015) added that there was an alarming rate of hospitalization due to depression and suicidal thoughts, and tragic clusters of teen suicides. The reality and situation of adolescents in the school system appears to be very different than that of homeschooled adolescents here in the Bay Area, and while there is no formal data on rate of depression and anxiety among adolescents in the homeschooling community versus, the schooled adolescents, homeschooled adolescents benefit from more protective factors when it comes to emotional and social wellbeing (M. Gustavson, personal communication, March 31, 2016).

### **Homeschooling and Homeschooled Adolescents**

To explore the context of homeschooled adolescents, I must begin with the context of homeschooling. I will quickly review homeschooling's history and growth, and its legality

process, then will move on to look at the context of homeschooled adolescents, from perspectives of a homeschooling leader and mentor, from that of a writer, and a psychologist.

### **Homeschooling**

Homeschooling used to be the main way children were educated. Even some of our Founding Fathers were homeschooled (Lips & Feinberg, 2008). When attending school for children ages 6-18 became law in the late 19th century (Goldin, 1999), the number of homeschooling families declined. However, since the 1970's and 1980's homeschooling has once again started to become a more common method of education (Lips & Feinberg, 2008). This choice was not always accepted and recognized, in fact, some might even say that homeschoolers had to "endure... a history of persecution by public authorities" (Cooper & Sureau, 2007, p. 113).

Even with such challenges, homeschooling has been on the rise since the 1970's and 1980's (Lips & Feinberg, 2008). It was estimated that in 2002-2003 school year, there were 1.7-2.1 million children homeschooled at grades K-12th (Ray, 2004). As the community of homeschoolers grew, so did the need for legal rights advocates who would protect families' right to choose how to educate their children. This was and still remains a journey the homeschooling community is going through (Lips & Feinberg, 2008). Over the years there were several tries to regulate homeschooling, to force approved curriculum, approved instructors, and so forth, to this day the level of regulation varies by state, and yet, homeschooling became legal in all states (Lips & Feinberg, 2008).

"By the middle of 1993, home schooling was finally legal in all 50 states" (Somerville, 2001, para. 6), and this was seen as a pivotal accomplishment for the whole homeschooling

community (Cooper & Sureau, 2007). The *Home School Legal Defence Association (HSLDA)* is one of the leading organizations that advocates for homeschooling, offers legal support, information about the degree of state's regulation of homeschooling, access to studies relating to this topic, and many other services as needed by the homeschoolers and their families (Homeschool Legal Defence Association, 2016; Smith & Farris, 2016).

### **Homeschooled Adolescents**

On the website of The Homeschooling Association of California, Wes Beach, director and principal of Beach High School, who wrote most of the teen section, described the various options homeschooled adolescents and children have (Beach & Conrad, 2014). The reality of having options is key to understanding the context of homeschooled adolescents. Wes Beach (2014) said that following the passion and talents of the adolescents supports their experiences during these years with deeper levels of meaning. He claimed that this was what kept them motivated and enabled them to succeed in their current and future life. Siegel (2013), also ties close relationship between successful adolescence and successful and fulfilling adulthood.

Christine Foster (2000), Stanford alumni and frequent contributor to the Stanford Magazine, offered another perspective that demonstrated the context of homeschooled adolescents regarding education as one that stemmed from choice and autonomy. In Foster's (2000) article "In Class by Themselves", she focused on homeschooled adolescents applying and being accepted to Stanford. She described this population as highly motivated and intellectually independent. Foster (2000) included data in her article that showed higher acceptance rates for the homeschooling population. In 1999, fifteen homeschoolers applied, and four were accepted, which is 26%, in the year 2000, thirty five homeschoolers applied and



nine were accepted, which is, 25%. These acceptance rates are more than two times higher than those for the rest of the population in these years, which was at that time 9.7% (Foster, 2000; Stanford University, n.d.). Since homeschoolers were about 0.2% of the application pool, Foster (2000) was curious about this and after talking to admission officers, she reported they said, homeschooled adolescents brought with them a strong “intellectual vitality” (para. 12).

According to psychologist Mika Gustavson, adolescent homeschoolers were not constrained in the school mentality, and that freed them from many issues and problems schooled adolescents were facing (M. Gustavson, personal communication, March 31, 2016). In his TED Talk, Logan LaPlante (2013), at the time, a 13 years old homeschooler, talked about the happiness homeschooling had brought him, and Callie Vandewiele (2015), in her TED Talk *Learning Through Unschooling* talked about her successful academic journey by unschooling most of her life.

There are many methods for homeschooling such as school-at-home, unit studies, classical homeschooling, following Charlotte Mason, Montessori, or Waldorf, eclectic homeschooling, and unschooling (Sorooshian, n.d.). Homeschoolers experienced choices, freedom, and power in their world (M. Gustavson, personal communication, March 31, 2016). This freedom of educating our children as we see to fit them best within the limitation of the law is what the HSLDA has been promoting and supporting for the past 30 years (Smith & Farris, 2016).

## Rock-It-Science

Located in Santa Clara, California next to a few small shops, you can find the magic door that would take you into Mr. Mac's lab where he offers science classes. Rock-It-Science is a non-profit organization. It was established by John McChesney, in 1989, at that time it was called *Wizard Workshop*, in 1998 it got its new name Rock-It-Science (RIS). In 1984, John McChesney worked as a robotics engineer. He frequently came to his daughter's school for show-and-tell to present some of his creations that she liked (J. McChesney, personal communication, March 11, 2016). He offered to come and teach a lesson at his daughter's school and soon discovered his enjoyment and passion in teaching science to children. When he was able to afford to start up his own operation, he did so with much research, energy, and newly found sense of mission (J. McChesney, personal communication, March 11, 2016).

RIS Mission Statement include two main principles. One is to bring science to underprivileged schools and youth, and the second is to promote and develop children's ability to learn science in a meaningful way. Some of RIS's accomplishments over the past 25 years have been, creating a unique way of teaching that integrates storytelling with hands on science exploration, serving over 100,000 children K-8th grade. Mr. Mac and his staff created more than 200 experiments, and all are thoroughly tested and documented (McChesney & Gow, 2016b).

To all who join Rock-It-Science (RIS), Mr. John McChesney is known as Mr. Mac, and he is the one welcoming children, teens, and their parents to explore science and technology through hands on activities, teamwork, experiments, thrilling adventures, and imagination. Mr. Mac's accepting and nonjudgmental personality, with childlike curiosity and

energy, funds of knowledge in the field of STEM (science, technology, engineering, and math) and beyond, is setting the tone of RIS as an inclusive place where curiosity, creativity, exploration, and collaboration are key values. Mr. Mac's pedagogy is based on teaching via the *crazy story* which invites attention, tap into each student's imagination, active and creative participation, and brings ideas that are always accepted with acknowledgment, appreciation, and no judgment. Almost all lessons are planned in a way that calls for and requires collaboration, resourcefulness, thinking creatively, and interdependently with others, to discover together what will happen next. This came from five years of observing and admiring Mr. Mac's classes.

The connection between RIS and the homeschooling community began in 1991 when a homeschooling mom approached Mr. Mac and invited him to teach her children a few classes in their home. Mr. Mac embraced this new path and the opportunities it opened for what he could do at RIS. He worked hard to meet the unstoppable curiosity level and challenging questions of the homeschoolers, and he wasn't limited by regulations and standards. It was the beginning of what has grown into beautiful friendships and collaboration (J. McChesney, personal communication, March 11, 2016).

### **Personal Significance Statement**

There were two significant intersections in my parenting journey that profoundly influenced my views and praxis in regards to education and parenting. The first was the discoveries I made during our time in my son's preschool co-op, and the second was the process we went through that led us to leave the school he was at, begin homeschooling, and see its impact on my son and our family.

In my son's preschool co-op I became the *science parent* and had the freedom and support from the teacher and director to create a new and improved science program. I observed how some children enjoyed the daily art and craft projects while some were not interested, I noticed the gap, quantity wise, between the art and the science projects, knew my son loved the science we did at home and was eager to change that for him and other children in that beautiful program. Looking back, the valuable lessons from that time were that children learn in different ways, that it is challenging for one educational program and setting to meet everybody's needs, and that I have the ability to offer support and promote change, not only for my son but others as well. Being part of the preschool co-op was a very empowering experience, and I am grateful for these years, and for the friendships, I still share with Michelle, our teacher, my son's as well as mine.

Time passed, my son was in the school system, and it became apparent that his wellbeing was not being served in that setting. However due to lack of knowledge I was fearful of homeschooling and was not able to sever ties with the school. It took a few more years of unhappiness, suffering, and almost the loss of his innate love of learning until my son was strong enough to ask clearly, leaving no room for doubt or fear, to be homeschooled. Beverly Trail (2011) in her book *Twice-Exceptional Gifted Children*, explained that twice exceptional children are unique learners as they have a combination of characteristics of both giftedness and some disabilities. As a gifted and twice-exceptional (2E) child, my son did not receive challenges in the school to promote his growth nor did he receive the support he needed.

Homeschooling opened up a new world for us, where he met like-minded children, and adults, and we were able to heal the damage that he endured. We were able to adapt his

education path to what was right for him, and worked as equal partners, in full collaboration, to nurture his love of math, literature, and learning in general. I felt immense joy getting my curious, enthusiastic, creative, and motivated to learn, son back. Homeschooling gave us a chance to tap into my son's gifts and talents, and care gently for his challenges as a 2E child. We were embraced by the community of the Bay Area Gifted Homeschoolers, received much-needed support, understanding, invaluable advice, and resources. We found friends, mentors, teachers, and classes that fit his style of learning and passion. My son was able to thrive, soar, and become a confident, intelligent, life long learner, emotionally mature, and most important, happy and well.

As I saw him grow and become an adolescent, we were in classes with other homeschooled teens, and the atmosphere was that of thirst for knowledge, happiness, and openness. When he took some summer classes with schooled teens, the difference in the state of mind was evident. It was evident homeschooled teens experienced a different reality than schooled teens, and thus their view of the world and wellbeing, among other things, were very different.

After some years of homeschooling, a lot of reading, and attending various lectures, by Alfie Kohn, Daniel Siegel, for example, I became a mentor for new families and was thrilled to be able to share my life experiences and knowledge for the benefit of others. I met many homeschooling families, some with gifted children, some with children with special needs, at different ages, with different st of needs, and passions, all of whom found a way to grow and thrive, follow their talents and dreams, and have a well-rounded, fulfilling life. Some homeschoolers chose, at one point, to go back to the school system, and that is part of the

beauty of homeschooling, the choice and autonomy families have in regard to their children's education. As children grow, their needs change, and thus we must accommodate and find the environment that fits them and supports their unique growth.

Rock-It-Science (RIS) was the first successful class my son took as a new homeschooler. He loved every minute, and it became a constant throughout our homeschooling journey, along with math, science, and literature. In the five years he spent there, I saw many of his needs being met. He became more confident in group settings, he learned to communicate his interesting ideas and thoughts, he learned and practiced to self-care for his unique needs, he practiced working with others, to think critically about experiments that did not work, take it one step further to examine new ways of doing things, and of course learned and internalized many complex science concepts. These accomplishments and more were not for the sake of grades, as there are none at RIS, nor was it to impress the teacher, but from his inner motivation and love of learning, alongside with creating a meaningful friendship and finding a mentor, Mr. Mac, the founder and lead teacher at RIS. To this day, while my son is already at college, the lessons he learned at RIS and the connection he has with Mr. Mac remain valuable and grounding.

I hope all children and adolescents could have access to the type of education that is the right fit for them, makes them happy, curious, engaged, feel safe, accepted, seen, and joyful.

I feel fortunate and grateful to have had a choice in how I raised my child, and the unique privilege, to have options for his education. Options are not limited to homeschooling, and there are many opportunities. We are all diverse, and so our choices for education should

be, for us, as parents, and our children. I am also immensely grateful to all the teachers we met along the way. Mr. Mac was among few who became part of my village in raising my son.

### **Social Justice Issue**

The primary social justice issue I address in this thesis is the lack of wellbeing, joy, and love of learning, teens experience that stems from schools' current pedagogy. Many students feel marginalized and that affect their success and feelings, relationships, competency, and wellbeing negatively. We need to revolutionize education especially for teens so that it will support their wellbeing and nurture their creativity and talents, exploration, and inspiration, rather than stress (Robinson, 2010).

The state of teens nowadays is alarming, Wendy Mogel, a clinical psychologist, and author of *The blessing of a skinned knee*, said in the *Race to Nowhere* film that the lack of sleep due to the amount of homework teens are required to do is a form of neglect (Abeles & Congdon, 2010). Teens are stretched to their limits, and signs of their unmet needs are everywhere, such as turning to drugs and alcohol for relief, developing eating disorders, suffering from anxiety, depression, and suicide attempts. All of these are signs we must be aware of and attend to (Abeles & Congdon, 2010; A. Faraji, personal communication, March 4, 2016; Rosin, 2015).

The need to change, revolutionize, and reexamine how we teach teens to support their wellbeing is clear (Abeles & Congdon, 2010; Robinson, 2010). We can educate in ways that promote happiness, that nurture creativity, curiosity and the individual's' talents (LaPlante, 2014; Robinson, 2006, 2010). While homeschooling is not the only way, and is not the answer for everyone, through homeschooling many, have succeeded in personalizing the education of

children, and were able to meet the needs and the wants, nurture talents and passion, and support the ESSENCE of adolescence. Rock-It-Science is a worthy example of how teaching can be different, fun, creative, collaborative, supportive, and inspiring. Every child and teen can thrive when provided the nurturing soil of education, supportive teachers, and role models in an environment that fit their needs.

### **Definition of Terms**

*Adolescence*: A period between late childhood and adulthood in which there is sexual maturation, physical development, and increased complexity of social behavior. It is also the time of development of identity and social self (Choudhury, Blakemore, & Charman, 2006).

*Autonomy*: “Refers to volition - the organismic desire to self-organize experience and behavior and to have activity be concordant with one’s integrated sense of self ... autonomy concerns the experience of integration and freedom, and it is an essential aspect of healthy human functioning” (Deci and Ryan, 2000, p. 231). It is when one feels he has power in his world (Kohn, 2014).

*Basic Psychological Needs Scale (BPNS)*: It “is a twenty-one item, Likert-type scale that measures the extent to which the needs of autonomy, competence, and relatedness are generally satisfied in a subject’s life” (Riley, 2015, p.13).

*CDC*: The Center for Disease Control (CDC) is part of the federal Department of Health and Human Services. The CDC is constantly working to achieve its mission to protect America from all health threats (Center for Disease Control and Prevention, U.S. Department of Health & Human Services, 2014).



*Charlotte Mason:* “This method uses real life, play, creating, and conversation as primary learning methods. There are nature studies, “living books,” and narration and discussion used rather than textbooks and testing. A popular book on this method is *A Charlotte Mason Education* by Katherine Levison” (Sorooshian, n.d., p. 6).

*Competence:* “Competence refers to the experience of behavior as effectively enacted. For example, students are competent when they feel able to meet the challenges of their schoolwork” (Niemiec & Ryan, 2009, p. 135). Competence comes from doing and being successful, experiencing success (Riley, 2015). Competent with autonomy supports satisfaction and self esteem (Niemiec & Ryan, 2009).

*Crazy Story:* The crazy story is an essential part of Rock-It-Science's pedagogy. "Each lesson introduces a scientific concept through a zany humorous fairy-tale involving Jack, Jill, and The Evil Mr. Fred. Kids are encouraged to think creatively and suggest possible endings for the story. There are no wrong answers, so each child's contribution is valued, boosting their self-esteem...the story will also help them remember the scientific principle ... not because they've memorized it, but because they've personally discovered and experienced it!" (McChesney & Gow, 2016a, para. 3, 7).

*Deschooling:* Is “...the adjustment period a child goes through when leaving school and beginning homeschooling. To really get the benefits of homeschooling, a child has to decompress [rest and heal] and disconnect from “school” being the default and “school ways” being the standard expectation” (Faulconer, 2014, para. 1).

*Eclectic Homeschooling:* “Probably the most common form of homeschooling, parents choose to use various resources and approaches for different subjects. They might choose a

math workbook from one company and a reading program from somewhere else. They may be very relaxed about some subjects while carefully and thoroughly covering others” (Sorooshian, n.d., p. 7).

*ESSENCE*: A set of needs of adolescents defined by Daniel Siegel. It comes from new knowledge of brain development in this period and aim to promote understanding and nurturing of adolescents. *ESSENCE* include four domains of needs: emotional spark, social engagement, novelty, and creative exploration. Supporting these needs brings positive outcomes of adolescence and adulthood as well (Siegel, 2013).

*Extrinsic motivation*: When one does tasks for the sake of external reasons, or to meet a goal and to get the reward, and when there is an outside demand and pressure. Extrinsic motivation is correlated with less persistence, lower performance, and lower psychological wellbeing in comparison to intrinsic motivation (Riley, 2015).

*Growing Without Schooling (GWS)*: Is a movement and institution that was founded in 1977 by John Holt, who is considered the father of homeschooling and unschooling.. From 1977 until 2001 GWS was the first and leading published magazine about homeschooling, unschooling, and learning outside of school. With the changes brought by the internet and availability of information, as well as the growth in numbers of unschoolers, more sources were available and eventually it closed in 2001. The site is still a source of information and support for unschoolers and homeschoolers. Today the site is managed by Pat Farenga who worked and coauthored with Holt , and since then has published many articles and books (Farenga, n.d.a).

*Giftedness*: Gifted individuals have some or all these characteristics: superior vocabulary, highly creative, resourceful, curious, imaginative, questioning, problem-solving ability, sophisticated sense of humor, have wide range of interests, hold advanced ideas and opinions and/or have special talent (Trail, 2011, pp. 2-3).

*Homeschooling*: This is an old educational practice. It is a parent led home based education. For the last decade it has been the fastest growing form of education in the United States and around the world, and has moved from being cutting-edge to mainstream (Ray, 2016). Homeschooling is an alternative form of education, in which parents, guardians, or tutors teach the child at home, and not in a traditional school setting (Lips, & Feinberg, 2008).

*Home School Legal Defense Association (HSLDA)*: Non-profit organization that advocates for homeschooling, and studies and reports the degree of state regulation of homeschooling (Lips & Feinberg, 2008).

*Interpersonal Neurobiology (IPNB)*: It is a field created by Daniel Siegel, and is based on integrating many other branches of science, such as anthropology, biology, cognitive Science, computer Science, linguistics, neuroscience mathematics, mental Health, physics, psychology, and more (Siegel, 2010b).

*Intrinsic motivation*: This kind of motivation “is based on the satisfactions of behaving ‘for its own sake’. Prototypes of intrinsic motivation are children’s exploration and play, but intrinsic motivation is a lifelong creative wellspring” (Deci & Ryan, 2016, para. 6).

*Marginality*: It was first addressing the experience of immigrants. It is believed that “marginality inhibits academic success and personal wellbeing. When students feel

marginalized, they believe that they do not fit in. This can lead to various negative outcomes for the student, such as depression, loneliness, and a feeling of not mattering to the ... community” (Drenovsky & Cohen, 2012, p. 22).

*Mindsight*: The internal life of the mind. “Mindsight is a kind of focused attention that allows us to see the internal knowledge of our working minds. It helps us to be aware[!] of our mental processes without being swept away by them... moves us beyond the reactive emotional loops we have a tendency to get trapped in... think of mindsight as a very special lens that gives us the capacity to perceive the mind with greater clarity than ever before” (Siegel, 2011, pp. ix-x).

*Mindfulness*: A known practice for the last 2500 years. Recently introduced to the West. Mindfulness is associated with reduction of stress, and is a state of consciousness, in which we bring awareness and attentiveness to our present experiences. Mindfulness is the outcome. Mindfulness practice is the process. Mindfulness is characterized by an individual that is very aware and attentive of the moment’s happening. (Bluth & Blanton, 2014).

*Novelty Seeking*: This is when we bring into our lives new experiences that excites our senses. It is experiences in which we are fully engage and bring challenges and pleasure to our bodies, thoughts, and senses (Siegel, 2013).

*Relatedness: (also) Belonging*: “The desire to feel connected to others - to love and care, and to be loved and cared for” (Deci & Ryan, 2000, p. 231).

*Rock-It-Science (RIS)*: A nonprofit organization, that has been active for more than 25 years, that teaches science in schools, after school programs, for homeschool, summer camps,

and serves as a resource for an online teachers' community to support teaching science in a creative and meaningful way. The core values of RIS are inclusion, creativity, hands on exploration, collaboration, imagination, curiosity, fun, and supporting thinking outside of the box (J. McChesney, personal communication, March 11, 2016).

*Self determination Theory (SDT):* SDT takes into consideration and combine studies on human motivation and personality, on how social and cultural factors promote or inhibit initiative, wellbeing and performance level. The third factor SDT takes into account is a set of three psychological needs: autonomy, competence, and relatedness, when these are not met in the social context, such as school, it has strong negative effect on the wellbeing within that social context (Ryan & Deci, 2016).

*Student Engagement:* Looks at two aspects of involvement in the college's campus life. One, is how much energy, time, and effort the student invests in their studies. The second aspect is how many resources and in what ways did the university or college encourage student to participate in activities that were proven in the past to be correlated to students' learning (Drenovsky & Cohen, 2012).

*Twice exceptional (2E) students:* 2E students have a combination of gifted characteristic with some disabilities in some aspects of learning as well. Some characteristics of these students may be: easily frustrated, stubborn, opinionated, argumentative, sensitive to criticism, inconsistent academic performance, difficulty with written expressions, lack of organization and study skills, and difficulty with social interactions (Trail, 2011).

*Unschooling:* "Also known as interest driven, child-led, natural, organic, eclectic, or self-directed learning", Unschooling is learning at your own pace, and having a sense of

equity in the team that decides on the education path, meaning the student and his or her parents (Farenga, n.d.b, para. 1).

### **Purpose of the Study**

The purpose of my study was to learn about adolescence through the lens portrayed by Dr. Daniel Siegel (2013) which he called the ESSENCE (Emotional Spark, Social Engagement, Novelty, and Creative Exploration) of adolescents, and take a closer look at how Rock-It-Science's environment satisfies these areas of needs for homeschooled adolescents.

I wanted to learn more about the changes adolescents go through, their needs, and the impact schools have on them. I wanted to understand more how adults view adolescents, and how the changes adolescents go through are connected to their behaviors and needs. I wanted to hear not only from researchers, but also from therapists who work with teens and their families. I was interested in how parents and wide range of professionals chose to share their concerns about the current situation of teens as it was portrayed in the two documentaries I included.

I also wanted to learn and share information about homeschooling and how it has progressed and changed over the years, to promote more understanding of this community and movement, and to address some misconception about what homeschooling is. It was important to include information from homeschoolers themselves, as well, as some research about how homeschooled alumni were doing in the college setting. These older adolescents gave another perspective on the results of homeschooling.

I chose to study homeschooled adolescents who take classes at Rock-It-Science by interviewing five parents from that group and analyzing what and how Mr. Mac provides for them. Last but not least, I was very interested in learning more about Rock-It-Science.

I was excited to give this program and organization a voice in an academic paper and to go deeper in understanding their theory, pedagogy, and the full value it holds, beyond the fun, excitement, and ease. I hope this will serve John McChesney, parents of students in the RIS program, and teachers who are part of this community as well. In this study, Rock-It-Science also represents a nontraditional educational setting that teaches science and the fact it had been operating and growing for the past 25 years is another proof of its validity.

### **Primary Research Question**

The framework of the ESSENCE as described by Daniel Siegel, lays out four domains of needs of adolescents, that when met promote their wellbeing and bring positive outcomes not only during adolescence but into their adulthood as well. ESSENCE stands for emotional spark, social engagement, novelty, and creative exploration (Siegel, 2013). I chose Rock-It-Science (RIS) as the setting for my research because of their unique pedagogy, and the core values held by the founder and lead teacher. I chose to focus on homeschooled adolescents because homeschooling has been steadily on the rise (Lips & Feinberg, 2008), and because of my connection to this community as a homeschooling parent. The combination of RIS and homeschooled adolescents provided me with a setting and a population that is removed from the standards many schools, teachers, and students have to abide by.

The research question answered in this thesis was, In what ways does Rock-It-Science provide for the ESSENCE (Emotional Spark, Social Engagement, Novelty, and Creative

Exploration) (Siegel, 2013), of homeschooled adolescents? My hope was to gain a better understanding, share my finding with others to support implementing some or all parts of this pedagogy into other educational settings, and to contribute to the conversation on teens' wellbeing in an educational setting.



## CHAPTER TWO

### Literature Review

In this chapter, I will review relevant literature related to my research question, In what ways does Rock-It-Science provide for the ESSENCE of homeschooled adolescents?

I will begin by reviewing Siegel’s (2013) book *Brainstorm*, and a few more resources about adolescents, followed by literature about adolescents in the education system, literature on homeschooling, and some literature discussing homeschooled adolescents. Lastly, I will provide information about Rock-It-Science and the qualitative research method.

#### Literature Review on The ESSENCE of Adolescents

“Adol-ESSENCE. Or: Adolescence is Adult-ESSENCE” (Siegel, 2013, p.12)

#### **Daniel Siegel’s New View on Adolescence**

Daniel Siegel’s (2013) book *Brainstorm* provided me with a framework for my study. In this section I will review some myths Siegel says have contributed to the divide between adults and adolescents, then I will explain the four domains he sees as central and essential in adolescents’ development. I will end this section with what Siegel calls “The mindsight simple seven” (p. 281) as this is part of his work toward supporting and promoting a deeper connection between parents and their adolescents, and his conclusion about the potential this life-period holds.

**About Daniel Siegel.** Siegel (2010a), “is a clinical professor of psychiatry at the UCLA School of Medicine and the founding co-director of the Mindful Awareness Research Center at UCLA ...[as well as] an award-winning educator...” (para. 2) has been writing and supporting families for many years. I enjoyed reading and learning from his books such as *Parenting from*

*the inside out*, *The whole-brain child*, *Mindsight*, and *Brainstorm*, and choosing him as one of my key authors was a natural and rewarding choice. Professor Robert MacFadden (2014) from the University of Toronto, Canada, which has integrated Siegel's work into their graduate program for Social Work, said that Siegel's book *Brainstorm*, brings a fresh perspective on adolescence that is rooted in new understanding of the brain and the emergent insights from Siegel's field of Interpersonal Neurobiology (IPNB), as well as *Mindsight*.

Siegel (2010b), explain that IPNB is about integration. That just like our brain thrive when there is integration so will our lives and that this way of weaving knowledge and increasing understanding will promote wellbeing. IPNB is connected to Siegel's *Mindsight's* work. "Integration is seen as the essential mechanism of health as it promotes a flexible and adaptive way of being that is filled with vitality and creativity. The ultimate outcome of integration is harmony" (Siegel, 2010b, para. 2). What integration mean is the synthesis of area and part in our body "... through synaptic connections. These ... enable ... intricate functions to emerge—such as insight, empathy, intuition, and morality....result of integration is kindness, resilience, and health" (Siegel, 2010b, para. 4).

### **Myths about Adolescents**

The journey Siegel (2013) invites us to take begins with the thawing of the walls between adults and adolescents created by myths and assumptions. These myths send negative messages teens internalize and act to justify. Siegel (2013), sees adolescence as a unique and valuable period of life, and in his book and work he promotes deeper connection with adolescents through mutual understanding, open dialogue, and appreciation.

The first myth is that hormones make teenagers go mad. Due to advances in neurology, we now know that what adolescents experience stems from changes in their brain. A second myth is that adolescents need to grow up (*already*). The new perspective Siegel (2013) provides is that just like children's work is to play, adolescents' work is to test boundaries, explore passionately, and try many new things. There is a purpose to that, which is to prepare them for the next stage of leaving the nest and exploring life with passion and purpose. The third myth is that adolescents need to become fully independent. Siegel (2013) claims that total independence is about separation, not needing anyone, being able to manage one's life completely on one's own. Instead, he proposes that adolescents move from dependence to interdependence, that they remain part of the family and community in new roles (Siegel, 2013). It is natural that connections with parents change, yet not disintegrate, and connections with peers increase in quantity and quality (Siegel, 2013). This goes hand in hand with what psychologist Ahuva Faraji said in an informational interview, that parents are not pushed away from the picture of adolescents' life, instead, they move to the background, still an essential and grounding part of the adolescents' lives (A. Faraji, personal communication, March 4, 2016).

Siegel (2013) says that when adults expect adolescents to be crazy, immature, and push parents away, they will internalize these messages with all their negativity and act on them. However, if we send messages of understanding, acceptance, support, respect for exploration, and desire for inclusion when possible, adolescents will internalize these messages and thus their behavior, thoughts, and feelings will be different.

## **The Essence of Adolescence**

Siegel (2013) explains, that during adolescence, between ages 12-24 years old the brain changes and develops further, and the effects of this are felt in our minds and our relationships. They help build resilience, and they change the way adolescents think, remember, reason, focus, and make decisions. Siegel (2013) groups these changes and needs into four domains, which he sums up in the acronym ESSENCE. Emotional Spark, Social Engagement, Novelty, and Creative Exploration. Having these needs met not only supports successful adolescence but also supports a happier and healthier adulthood (Siegel, 2013).

Each of these four domains holds challenges and benefits. Guiding teens towards a balanced view is key to living life fully during adolescence and adulthood. This is similar to Joan Erikson's view on Erik Erikson's psychosocial developmental theory, in which there are eight stages, "trust vs. mistrust, autonomy vs. shame, initiative vs. guilt, industry vs. inadequacy, identity vs. role confusion, intimacy vs. isolation, generativity vs. stagnation, and integrity vs. despair" (Erikson, J. M., 1988, p. 76). Joan Erikson wrote about "a resolution of the balance between the syntonic and dystonic poles is a consistent demand for everyone throughout the life cycle..." (Erikson, J. M., 1988, p. 77). The syntonic and dystonic polarities were terms J. Erikson used to avoid labeling one extreme positive and the other negative. Both parts of the dichotomies have a purpose and meaning in the development of the human being (Erikson, J. M., 1988), as the challenges and benefits mentioned by Siegel (2013).

**Emotional spark (ES).** Siegel, (2013) explains that emotional spark that stem from the higher intensity of feelings can at time be seen as "Impulsivity [and] moodiness" (p. 8) on one hand, and strong inner drive, joy, and a sense of "vitality" (p. 8) on the other. Meeting this

need for emotional spark supports a more successful adulthood as well, and from Siegel's experience, many adults lack that sense of vitality in their lives.

**Social Engagement (SE).** Social engagement is the second part of the ESSENCE, and this too has two components. The first is about teens seeking more quantity and higher quality in their connection with peers, while pulling away from their parents. This is also natural progression of teens' individuation process, that begins with the transfer of attachment from parents to peers or adult mentors (M. Gustavson, personal communication, March 31, 2016; Siegel, 2013). While parents might interpret the adolescents behavior as pushing them away, Faraji explains that this is not what teens intend to do or need (A. Faraji, personal communication, March 4, 2016). Teens still need adults in their lives very much so, only this period calls for a change in the role parents play, moving from being very visible in the child's life to being in the background of the teen's life. The background, parents must remember, has an important anchoring and contextualizing role (A. Faraji, personal communication, March 4, 2016). Generally, adolescents work hard and have high hopes of being accepted by their peers and often feel devastated when they experience rejection (A. Faraji, personal communication, March 4, 2016; M. Gustavson, personal communication, March 31, 2016).

Social engagement, like the emotional spark, is directly connected to the quality of adulthood. Being successful in this, increases the chance of having mutual, meaningful relationships during adulthood, and also affects the capability to network, be part of a team, find love, and a sense of community in one's' life (Siegel, 2013).

**Novelty (N).** Siegel explains (2013,), is the third part of the ESSENCE. The need for new and exciting experiences comes from changes in the brain that bring a strong and

irresistible drive to try new experiences. The novelty element, like everything else in life, holds advantages and risks. The danger of these strong needs for risk-taking, with a combination of a not yet fully developed understanding of consequences, leads to a higher probability of danger for teens (Siegel, 2014b). The advantages novelty seeking bring are being open and adventurous to try new things and it can lead to initiative and success. In adulthood, taking risks is often suppressed as we take many other aspects and criteria into consideration that prevent us from having a 'go for it' type of attitude. Again, Siegel (2013) says novelty can bring us a sense of vitality, and many times it is the risk takers that are more successful and happy with their lives.

**Creative exploration (CE).** The fourth and last part of the ESSENCE is creative exploration (CE). Siegel explains (2013) this stems from the emergence of a new level of consciousness. The developing brain of adolescents gives them new “conceptual thinking and abstract reasoning... [skills, and the ability to approach]... problems with ‘out of the box’ strategies” (p. 8). Another way to explain this is by understanding the difference between convergent and divergent thinking. Convergent thinking, according to Schickedanz, J. A. et al., (1998), is taking what is known, sifting through that information, and focusing on the right option for a specific challenge or question, while divergent thinking on the other hand, is about generating “... many possible solutions to a problem by expanding the number of alternatives” (p. 605). Furthermore, Gardner and Sternberg even suggested that this type of thinking is one step above what Piaget called Formal Operational Thought (p. 605).

Creative exploration, Siegel (2013) explains, is where new ideas and innovative thinking are present. Schickedanz, J. A. et al., (1998) mention that often divergent or creative thinkers

who bring unique ideas to the group, are not accepted easily by their peers. Siegel (2013) acknowledges the challenges this may bring as well, such as the feelings of searching, for identity, meaning, or direction. Nevertheless, the advantage of creative exploration is the ability to think independently, to imagine beyond the ordinary, and see the full potential of things, ideas, and opportunities. Adults would enjoy having this characteristic as well, and could benefit from a lot.

Learning about and being more aware of where these behaviors, thoughts, and feelings come from, and knowing more about their purpose and value, can bring us more understanding about our own inner selves, and others' behavior as well, as it supports connection, understanding, insights, and empathy (Siegel, 2013). After discovering more about the needs and behavior of adolescents, Siegel (2013) provides a set of tools to support relationships based on acceptance and appreciation. I chose to include these as they are an essential part of what Siegel is aiming to teach and bring to our lives, better connections and understanding between adolescents and their parents, or other adults in their lives such as teachers and school officials.

### **Mindsight Simple Seven**

Siegel (2014a) is a big believer in the power of mindsight. Mindsight, Siegel (2011) says, is a tool that can support changing behaviors that do not contribute to our wellbeing or happiness. It is a "focused attention" (Siegel, 2011 p. ix), that gives us a connecting path to our minds. With mindsight we can increase wellbeing and, particularly for adolescents, we can increase the safety in the risks they take, as Siegel (2014b) says this will teach them to literally listen to their gut.

Siegel (2013) provides a set of tools and practices which he calls “The healthy mind platter” (p. 282), that can lead toward mindsight. These are *The Mindsight Simple Seven*. Later I will show how this connects to the situation with teens today as described in the documentary *Race to Nowhere* (Abeles & Congdon, 2010) and other sources of this study.

The first *simple seven* item is *Time-in*. This is about a daily practice of meditation or reflection. The second mindsight practice is *sleep time*. While this might sound very basic, adolescents and many adults do not get enough sleep which is necessary for the brain’s wellbeing. The third practice is *focus time*, that refers to focusing and learning, developing our brain, focusing on what is interesting for us and sparks our passion which helps include learning throughout our lives. The fourth mindsight practice is *downtime*, taking some time just to be, and recharge the brain. The fifth one is *playtime*. Exploring and engaging in activities that bring us pleasure. The sixth practice for mindsight is *physical time*, this one is about physical activity that brings you joy. The seventh and last practice is *connecting time*. Connecting with others, caring for our relationships, working together, collaborating, and benefiting from collective intelligence, as this belonging and connectedness, being part of a group, is essential for our life and wellbeing (Siegel, 2013).

### **Siegel’s Conclusion about Adolescence**

Siegel (2013) talks about integration being one of the main goals of adolescence, integrating and connecting different parts of the brain and sources of influence, benefiting from all domains of development, the physical, cognitive, emotional, and social. Siegel (2013) shares his point of view of moving “from only me to also we” (p. 300), and in this, he offers a societal point of view. Seeing the self as “part of a larger whole” (p. 302), in being cared for



and cared about. Siegel (2013) says “adolescents have so much to offer our world” (p. 302) if we listen to them, let them work collaboratively, encourage them to use their creative ways, follow their inner drive, accept them for who they are, include and embrace them, then they will be able to experience adolescence as a time of “vitality and authenticity... and embrace its essence” (p. 307). Siegel’s (2013) conclusion supports and connects to my study using the ESSENCE as it focuses on a new appreciation and understanding about adolescents in the perspective of the human lifecycle and development.

### **Literature on Adolescents in the Education System**

After learning about adolescence, and before moving to homeschooling, I will review some current knowledge and literature on adolescents, the crisis in the education system and how it affect adolescents. I begin with information obtained from an informational interview with psychologist and MFT Ahuva Faraji. I will then review the literature about the education system and how adolescents are doing in this setting. The first part describes the crisis in the education system in general terms from the point of view of Alfie Kohn and Ken Robinson. The second part talks more specifically about the price adolescents pay for this tragic miss-match between what they need and what schools provide, as described in the documentary *Race to Nowhere* directed by Abeles and Congdon (2010), and what can be changed with new policies.

### **Ahuva Faraji’s Insights on the Current Situation**

Faraji has been counseling families and teens for many years, she also has been teaching at the local community college and through that has close contact with many older adolescents. We met in the beginning of my study as I was learning more about adolescents. I

conducted an informational interview with her and she shared her perspectives from her own experience and knowledge on adolescents' needs in general, and in the connotation of the school setting. Full summary of this interview is available in Appendix C.

Ahuva Faraji said that students in public schools have a narrow view of their options and ability to change directions with regard to their academic and professional futures, and that this misconception is a major source of stress. Another less known source of stress is the teen's social life, especially with the advent of social media. Teens feel a strong need to flaunt the quality of their social life to others, which also leads to recalcitrance in seeking help with issues like anxiety or depression. Many teens are under pressures that lead them to chase success over happiness, even when such behavior is detrimental (A. Faraji, personal communication, March 4, 2016).

What some characterize as teens 'pulling away' from their parents, actually lies with stronger needs for privacy and connections with peers. At the same time it has also become more common for parents to invest in learning how to communicate better with their teens, even as opportunities for such communication become scarcer. Effectively, "parents don't know how to talk to their teens and tend to give up". That said, parents are not actually pushed aside, instead they are assuming equally critical positions in the background of the teen's life. Parents should also aspire to keep their communication free of judgment or anger (A. Faraji, personal communication, March 4, 2016).

Faraji mentioned a few areas where efforts can be made toward a positive change to support teens' wellbeing. Such efforts may include training of teachers and parents on how to notice early signs of distress and how to address that. Topics that need to be included are

mindfulness, stress management, awareness of self and others, and life-skills (A. Faraji, personal communication, March 4, 2016).

### **The Hope for Better Education**

While homeschooling is not the only way to educate and care for the wellbeing of adolescents, the education system as it is today is not supporting many of our students and teachers, and thus a change is called for.

Alfie Kohn and Ken Robinson have been speaking and writing about the problems with the education system and how it must be changed and revolutionized for some time (Kohn, 1999, 2011, 2014, 2015; Robinson, 2006, 2015). Kohn (1999) claims that our schools as they are today, do not support our hope to have students become enthusiastic about education and learning, also known as the triple L slogan - life-long learners. Kohn envisions classrooms and education centered around, “problems, projects, and students’ questions - not around lists of facts or skills, or separate discipline” (Kohn, 2015, p. 64). He suggests some guidelines and says there should be more listening than talking by teachers. This also ties to the “Banking” concept of education as described by Paulo Freire (2000), in which educators are depositing facts into students, and in this misguided system, people are losing their creativity and ability to transform themselves. Some of Kohn’s (2014) work is an extension of the work of Deci and Ryan and their Self-Determination Theory (SDT).

**Self Determination Theory and its connection to education.** SDT is defined as a “broad framework for the study of human motivation and personality. SDT articulates a meta-theory for framing motivational studies...” (Deci & Ryan, 2016, para. 2). It defines and expands the understanding of intrinsic and extrinsic motivation and brings into consideration the

effect of social and cultural elements, and how these play their part on motivation. It examines the social context in which a person lives, since this can either support or disrupt motivation, actual doing, engagement, and the level of performance (Deci & Ryan, 2016). In this study, I am looking at SDT in the educational context of adolescents. Deci and Ryan (2000, 2016), point to three basic psychological needs, which they “defined as... innate” (Deci & Ryan, 2000, p. 262) that when met and supported, can and will promote inner motivation, persistence, better performance, and creativity. These three needs are, autonomy, relatedness (or belonging), and competence (Deci & Ryan, 2016). Deci and Ryan (2000) have shown that “... students motivation in elementary through medical schools and in diverse cultures indicate that ... students’ pursuit of educational goals for autonomous, ... has been positively associated with value endorsement, behavioral persistence, conceptual understanding, personal adjustment, and positive coping” (p. 240). Deci and Ryan (2000) conclude that meeting these three basic psychological needs, enable people of all ages to reach their potential.

Alfie Kohn draws from Deci and Ryan’s work and knowledge and connects SDT and the three basic needs, autonomy, belonging, and competence, to what can be done differently in the setting of a classroom (Kohn, 2014). First, he suggests, involving students in the decision-making process about their education and what happens in the classroom. Being part of the decision-making is not only about engagement, but also about students practice making decisions as an essential life-skill. It is also directly connected to a strong need for adolescents and people of all ages for autonomy, choice, and having power in their world (Rosenberg, 2003). Second, he calls teachers to invest time, energy, and intent in getting to know the students and aim to contribute to the need for connectedness, relatedness, or belonging (Kohn,

2014). Psychologist Ahuva Faraji in her interview about adolescents says that as a teacher in a community college, she consciously gives assignments at the beginning of the course to help her learn more about her students (A. Faraji, personal communication, March 4, 2016). She explains that having real relationships with students is key to a more effective and meaningful learning and teaching. Kohn (2015), also mentions that real learning is difficult to measure and he is hopeful that one day we will let go of the false need to assess and grade, and move beyond the standards and testing that pulls us away from what true education is about, exploring and expanding our minds with new ideas, while working on that in collaboration with others. Feeling competent, another critical need for teens has nothing to do with grades on tests they don't care about and that are irrelevant to their interests and style of learning (Kohn, 2014).

**Robinson's views on the crisis of the education system.** Ken Robinson (2006) in his famous TED Talk, *Do Schools Kill Creativity?* says that education is not promoting creativity. He says that we are all born with talents, curiosity, creativity, a strong will and motivation to learn, to do, to create, and invent, yet, somehow after our journey in the education system, most of us have lost that special something that we had inherently possessed (Robinson, 2013). Robinson (2013) also said that another principle on which humanity thrives, beside creativity and curiosity, is our natural diversity, and so, expecting that the same curriculum, pedagogy, type of testing and so forth will support everyone, is just wrong.

Robinson (2015a, 2015b) compares education to agriculture, after all, both systems aim to nurture and support growth. Robinson compares the crisis industrialized agriculture brought, for example the issue of soil depletion, to the crisis industrialized education has brought upon

us. Robinson (2015a) explains that mass education came to serve the industrialization of society, and from that came an industrialized education, which, according to Robinson (2015b) is based on three principles. The first, linearity, all children progress in the same pace and are grouped by age. The second principle is of supply and demand, an example for that is the emphasis on science, technology, engineering, and math (STEM), and thus often neglecting the arts and literature. His third principle, is the pressure toward conformity (Robinson, 2015b). Children, Robinson (2013) says, children are living being, and diversity, curiosity, and creativity are at the foundation for human being thriving. Just like organic farming and agriculture is based on health, fairness, care, and ecology, so can education be based on these principles and support true growth and thriving for children of all ages (Robinson, 2015a, 2015b).

**Connecting SDT to adolescents in the classrooms.** Both Kohn and Robinson have been studying this crisis, writing and talking about it for many years now. Both have received support and recognition for their ideas from students, parents, teachers, and principals, and many other researchers. Both of these important revolution leaders who put SDT into practical application, when referring to the three basic needs, call for nurturing students' inner drive for knowledge, treasuring their talents, and following their lead toward educating in ways that are relevant to them. They also call on educators to provide students with opportunities for decision making, and they value creating a supportive and collaborative community instead of a competitive environment (Kohn, 1999, 2011a, 2011b, 2014, 2015; Robinson, 2006, 2013, 2015a).

In addition to Kohn's (2014) focus on the ABC: Autonomy, Belonging, and Competence, needs that must and can be met in the classroom setting, as echoing and

anchoring Deci and Ryan's findings, he also refers to a study done by Professor Linda Darling Hammond from Stanford, in his talk titled *The 3 Most Basic Needs of Children and Why Schools Fail* (Darling Hammond, 1997; Deci & Ryan, 2000; Kohn, 2014). In her study, Darling Hammond (1997) concludes that there are similar sets of needs for teens. She claims that the source of challenges and suffering adolescents experience comes not from their characteristics as teens, but rather from the lack of compatibility between what adolescents need and what schools provide. Kohn (2014) reiterates what Darling Hammond (1997) says that instead of providing adolescents with the social connectedness they seek and need, they experience large classroom size and no opportunities to develop real relationships with peers or with teachers. Adolescents also need to practice decision making and increase their sense of independence, instead, in the schools, they have very little opportunities, and to make matters worse, they are immersed in a punitive environment. When adolescents crave meaningful cognitive challenges and chances to test and feel their competence, they face busy work and meaningless testing. It is clear that Ryan, Deci, and Hammond found and focused on this same set of needs. Kohn (2014) said that what adolescents truly need, is project-based, collaborative learning in small groups, on topics and projects they are interested and invested in. Now that we have established that there is a dissonance between what teens needs and what schools provide let us look more closely at how this affects adolescents.

### **The Crisis of Adolescents in Schools Today**

In February 2016, the Center for Disease Control and Prevention (CDC) opened an investigation in our area in Palo Alto. This investigation was due to an alarming rate of teen suicides and hospitalizations for having suicidal thoughts (Mohney & Pitts, 2016; Rosin,

2015). “Palo Alto has a teen suicide rate more than four times the national average. In the last seven years, Palo Alto has seen 10 teen deaths. Six in a cluster during the 2008-09 school year and four in 2014-15” (Chawla & Njoo, 2016, para. 3). This issue has been developing for quite some time now. In July of 2016 Chawla & Njoo (2016) of The Stanford Daily published an article with the CDC’s preliminary finding. The main finding they reported were that “mental health problems, recent crises and problems at school were major factors in the suicides of the 232 youths throughout Santa Clara County the CDC investigated” (para. 1).

The report continue with more details:

The CDC’s research revealed that 46 percent of victims had a mental health problem at the time. The most common mental health problems were depression, anxiety and bipolar disorder. Of the 232 cases studied, 53.7 percent had experienced a major crisis in the last two weeks. Male youths were found to be much less likely to report mental health problems or seek help and had a higher suicide rate than female youths. (para. 2)

What we can learn from that is that mental health issues were not supported adequately and that teens did not ask for help when they needed it the most. The fragile foundation due the mental issues, created a situation where additional crisis, brought the teens to a tragic edge.

In 2010 Vicki Abeles and Jessica Congdon (2010) released their impactful documentary *Race to Nowhere*. The film was dedicated to a girl who ended her life at age thirteen without any warning signs after she received a low grade on a math test. Abeles & Congdon (2010) decided to take action and examined the problem of overly stressed adolescents and the connection of that stress to schools. I chose to take the time and space to provide this information as I felt it was directly connected to my study, it focuses on the needs of



adolescents that are not being met (Kohn, 2014), and the tragic consequence of this social injustice. The issues in this movie are also connected to the homeschooling aspect as this stress and search for ways to meet and provide for adolescents' needs, is among the most common reasons families choose to homeschool in the Bay Area (Beach, 2014; M. Gustavson, personal communication, March 31, 2016). Lastly, because *Rock-It-Science* proves teaching can be different, without homework, tests, and stress, rather, it can be joyful and nurturing (McChesney, 2016).

In the movie *Race to Nowhere* (2010) Ken Ginsburg, an adolescent medicine specialist, says that stress is a common cause for teens' negative behavior. Furthermore, he says that there are several sources of such stress, including schools, colleges, home, peers, and from simply being an adolescent. He claims that being an adolescents sometimes focus on worrying about one's looks, the opinion of peers, influence from social media, and finding and defining one's identity.

Deborah Stipek, Dean of the School of Education at Stanford University, talks about the rising prescribed drugs problem, the usage of stimulants to get all the homework done, and then more drugs to enable the wound-up adolescents to fall asleep. Furthermore, Ginsburg says there is a rise in depression and anxiety in adolescents (Abeles & Congdon, 2010). Denise Pope from the Stanford School of Education shares that, contrary to what people might think, when children get less homework they succeed more (Abeles & Congdon, 2010). Homework and the second shift of school at home, is one of the most common reasons for teens' stress, conflict between teens and parents, and adolescents' lack of sleep (Kohn, 2007; A. Faraji, personal communication, March 4, 2016).

Play, Ginsburg says, is a crucial part of childhood and life that we need to provide plenty of opportunities for (Abeles & Congdon, 2010). Today's education system, and by extension homework, does not provide for any of the ESSENCE adolescents need. Children and adolescents can not fulfill their developmental tasks because of the weight society, school, parents, and the adolescents themselves put on performance and grades (Kohn, 2007; A. Faraji, personal communication, March 4, 2016). The process of exploring, and creating, which is extremely important and crucial for true learning and wellbeing, is being pushed aside, and not enabling the emergence of our society's future leaders (Abeles & Congdon, 2010; Kohn, 2007).

Many adolescents who are homeschooled thrive because of the autonomy they have to follow their passion, interests, style of learning, and opportunities for creativity. Their intrinsic motivation is nurtured, and thus they enjoy a meaningful educational journey (M. Gustavson, personal communication, March 31, 2016; Vandewiele, 2015).

I hope this part of the literature review supports raising awareness for the urgent need to revolutionize education and care for our adolescents' wellbeing. The individuality of adolescents and their needs can be supported by many ways, one of these is homeschooling. The qualitative methodology used in this study brought individual perspectives, insights, and voices. The parents I interviewed are the adults in their teens' lives who truly see them, reflect, and care for their wellbeing. Rock-It-Science is a unique educational setting that from my personal observations and experience promotes happiness, joy, and creativity. This study serves as a mean to take a closer look at this setting and this population and bring more

understanding, awareness, and ideas to share with others who want to contribute to adolescents' wellbeing.

### **Literature on Homeschooling**

In this section of the literature review, I will provide information about the history of homeschooling and its progression in the United States from a general point of view. I will then review common reasons for choosing homeschooling, the legal journey of homeschooling in the United States, then I will review a few myths about homeschooling, and a bit of demographic data. I will then provide more specific information about homeschooling in California. In the next section, I will provide information about homeschooled adolescents in California. I am grateful for the opportunity to share information about homeschooling in the process of writing this study, and promoting more understanding of what homeschooling really is. Understanding the nature and the historical context of homeschooling sheds further light on both the relationship between Rock-It-Science and the homeschooling community and the setting and population this study focuses on.

### **History of Homeschooling**

Many homeschooling families have left the public education system seeking a better educational path, a more individualized one that supports creativity, love of learning, equity in the decision making about content and context of the learning, and happiness. Homeschooling has enabled families to follow their child's interests, nurture the his talents, and care compassionately for the challenges they face on an individual basis, by tailoring the education to fit the child and not have the child fit the education setting and structure (M. Gustavson, personal communication, March 31, 2016). In the past, the choice to homeschool came from a

somewhat different set of reasons. Homeschooling began as home-based education, which Gaither (2009) views as two separate practices. The progression of homeschooling is important to learn about as it is part of the history of education in the United States, and since this study focuses on homeschoolers, it is worthwhile to look into this topic.

Gaither (2009) reviews the history and progression of homeschooling in the United States. Before education became compulsory at 1852, and enacted in all states by 1918, many employed home-based schooling simply because ‘standard’ schooling was geographically or legally inaccessible (Drenovsky & Cohen, 2012; Thomson Reuters, 2016). The four main reasons for home-based education at that time were, living in rural settings, African American slaves who were not permitted to attend schools, thus were taught at home, and providing access to education to women and men from lower-class, who didn’t have access to college. Lastly, people who traveled the world for their job and took their families with them ended up homeschooling their children wherever their travel and work took them (Gaither, 2009). An interesting fact is that during these times most of our Founding Father were also homeschooled (Lips & Feinberg, 2008). When formal education for children at ages 6-18 became mandatory in the mid-1800’s, home-based education rates declined.

Gaither (2009) notes a separation between homeschooling and home-based education and defines homeschooling as “deliberate act of political protest against, and alternative to, formal educational institutes” (p. 332). In the 1970’s, Gaither (2009) explains, homeschooling received a new source of energy as a new movement, with political and ideological motivation. Most homeschoolers at that time were Christian wanting to add their ideology to their

children's education. The homeschooling that rose again in the 1970's came from a place of choice not because there was no other way to provide and receive an education.

### **Reasons for Homeschooling**

In the 1970's there were several main factors that drove families to homeschool. The first of which was increased size of homes and easier access to transportation. This enabled greater space to study at home, and more access to physically distant classes of varying types (Gaither, 2009). The second reason was the rise of feminism in the 1970's. This change in political awareness, engagement, education, and employment was directly connected to the development of homeschooling. While homeschooling mothers might not have been viewed as feminists by society or even by themselves, these women chose to dedicate their education, talents, and resources to change what they believed was in great need of transformation, the education of children (Gaither, 2009). A third reason was political radicalism and privatism. Gaither (2009) claims that by the 1970's many young Americans who held different political views, shared the hope for the creation of alternative families, authentic places where private vision can be celebrated and nurtured.

This reflects some common reasons for homeschooling today, such as a wish to provide a religious and moral instruction (Lips & Feinberg, 2008), and to be able to "teach and impart a particular set of values and beliefs" (Ray, 2016, para. 2). The fourth and final reason Gaither (2009) lists was the bureaucracy and secular-ness of public schools. During these years, public education had become a universal experience for most American children. Schools were being viewed by families from both left and right political range as dictating content onto their

children, and by the late 1970's a new leader started to make his mark. John Holt, who is considered by many as the father of homeschooling (Gaither, 2009).

John Holt, an atheist, and advocate for children's rights was the first one to clearly "put homeschooling on the national agenda" (Gaither, 2009, p. 338). In the 1960's John Caldwell Holt, the founder of Growing Without Schooling (Farenga, n.d.a), published two books, *How Children Fail*, and *How Children Learn*. Both were thought-provoking regarding the education of children, and how parents can and should educate their children at home (Drenovsky & Cohen, 2012). Holt viewed, at that time and onward, the education system of the United States as dysfunctional, and was worried that many children in the schools were motivated by fear, and as a result, lost their inner motivation, and curiosity to discover and learn (as cited in Drenovsky & Cohen, 2012).

John Holt claimed babies and children naturally make sense of their world very similarly to how scientists do, however in the schools they are treated as empty receptacles into which teachers pour knowledge, and in this way destroy their ability and love for learning. He was not aware of homeschoolers at that time, and once he learned more about these families and their practices, and saw they were out of touch with each other, he created in 1977 the "growing without schooling" magazine to support the emergent community of homeschoolers (as cited in Stuart & Woodard, 2015). Another important figure during that time was Ivan Illich, a philosopher who wrote the *Deschooling society*. Illich focused more attention on the fundamentally flawed way of educating the masses, with the same set of rules, style, and topics. He was against working toward making everyone the same, tried to promote individuality, and envisioned a situation where children and students of all ages meet and

communicate in groups based on interest, while overcoming limitations of distance (as cited in Drenovsky & Cohen, 2012). Looking at what he said, Drenovsky & Cohen, (2012), believe he envisioned the way we work today with the internet, online learning, and social media.

Since public schools did not allow Bible Study and praying sessions, more families had left the public system and placed their children in Christian schools. Nevertheless, many were not satisfied, for reasons such as cost, disagreement over content, overall bad experience, and lack of ability of schools to support children with special needs (Gaither, 2009). I must add that these reason are closely connected to present and current reason parents choose homeschooling in this area of Northern California.

Parents, Gaither (2009) continues, also felt the pull toward spending more time with their children and following the Bible view of parents being in-charge of their children's education. With the affirmation of Christian psychologist James Dobson, and religious educators, Raymond and Dorothy Moore, the Christian homeschooling movement was born. John Holt and Raymond Moore became leaders of the growing homeschooling movement and worked toward legislation that would anchor homeschooling's validity in the law (Gaither, 2009).

Pat Farenga, who worked closely with Holt and is one of the leaders of unschooling, summed Holt's three reasons for the choice of homeschooling and added two more (Farenga, n.d.a). First, parents wanted autonomy and felt responsibility and ownership for the way their children would be educated. Second, parents wanted to treasure and enjoy the time they can have with their children. The third reason was for physical and spiritual safety (Gaither, 2009). Paul Goodman and his colleagues claim that attending school was not the best way for a child

to spend his time, and Raymond and Dorothy Moore said in their book *Better Late than Early* from 1975 that teaching reading and writing too soon was not in children's best interest (Drenovsky & Cohen, 2012; Riley, 2015). To these three reasons, Farenga added the fourth reason of adding quantity to the quality time parents spend with their children. This extra time brought deeper relationships and academic success. The fifth reason was the growing acceptance of the feasibility and validity of distant and online learning, which in Farenga's opinion made homeschooling more available and common (Holt & Farenga, 2003).

### **The Legalization of Homeschooling**

For decades some families chose to take a stand and have a strong say about the way their children were educated. The situation of schools and education system today is many times the reason parents turn to homeschooling. I believe we can make a difference and we must make sure our voices are heard and we care for our children and educate them in the best way we can. It took time, work, and dedication to make the choice of homeschooling legal and acceptable.

It is only since 1993, that homeschooling became legal in all 50 states and highly motivated current and alumni homeschoolers continue acting to preserve the right for freedom of how we can educate our children (Gaither, 2009). A key organization in the efforts and struggle toward and maintaining homeschooling legal right is the Home School Legal Defense Association (HSLDA) (Gaither, 2009). HSLDA was established by two homeschooling fathers, Mike Farris and Mike Smith, who were lawyers by trade, helped a few people, and received requests from many others homeschoolers for support with legal issues concerning homeschooling. They decided to found this organization to support homeschoolers legal rights



and needs. Small membership fees, provide legal protection, support, and advocacy for homeschooling families and children, from all states, and cultures (Homeschool Legal Defence Association, 2016).

### **Myths about Homeschooling**

As Siegel (2013) included myths about adolescents and I reviewed that, since it was another reason for lack of supportive connections and relationships. Many people hold misconceptions about homeschoolers as well, and I would like to address four of the main myths as an effort to promote more understanding of this phenomena and community. This section also addresses some fear parents have when they consider homeschooling.

Michael Romanowski (2006) explored this issue and began by stating that homeschooling is now much more accepted, and proof of the success of homeschoolers had been portrayed in the media. Today there are many stories about homeschoolers' achievements, and colleges and universities changed their approach toward homeschoolers, to one that is welcoming, as they invite these successful, inner motivated, curious, and creative students (Foster, 2000; Jones & Gloeckner, 2004; Romanowski, 2006).

The first myth about homeschoolers is that they lack social skills and become social misfits as adults. In reality, homeschoolers get more socialization opportunities than schooled children, and are not segregated to socialize only with their peers, instead, homeschoolers get to socialized with children of different ages and with adults as well. They participate in extracurricular activities, and their positive self-concept, a factor that is related to socialization, matches or exceeds that of public schooled children (Romanowski, 2006).

The second myth is that homeschoolers are not well prepared to be good citizens because they isolate themselves from the world, and that homeschooling at large weakens the public schools. In reality, this is not true (Romanowski, 2006). In 2003, the Home School Legal Defense Association (HSLDA) wanted to look into the outcomes of homeschooling in adults that were homeschooled as children.

The study *Home educated and now adults* by Brian Ray (2004) from the National Home Education Research Institute, designed research to look into issues of adulthood after being homeschooled. “The target population was all adults in the United States who had been home educated... The survey was posted online...available to anyone” (p. 17). Ray (2004) also mailed the survey to those who heard about the study and requested a copy. Potential participants could learn about the study from support groups of homeschoolers, other homeschoolers’ organizations, and by word of mouth. Participants were 16 years and older, U.S citizens, who graduated from highschool, were homeschooled for at least seven years during their K-12th education journey and submitted a survey to be part of the study. A final number of participants was 7,306 and the report focused on the 5,254 that met all criteria (Ray, 2004).

Ray’s (2004) results showed that the majority of the participants had higher education, were happy to have been homeschooled, and of those who already had school aged children, the majority became homeschooling parents. In comparison to the general population, more adults who were homeschooled, were active civically and in their community, and felt they could “understand and affect society and government” (Ray, 2004, p. xv). Adults who were homeschooled were happier with and about their adulthood life when compared to the general

population (Ray, 2003, 2004). The results clearly show very positive outcomes of homeschooling to the quality of life, civically and personally, in adults that were homeschooled.

The third myth is about the difficulty of homeschoolers to get into college. In reality, homeschoolers are admitted every year to many colleges among them are some of the most prestigious ones (Foster, 2000; Jones & Gloeckner, 2004; Romanowski, 2006). I explore this further in the section on homeschooled adolescents in this chapter.

The fourth and last myth claims that the majority of homeschoolers chose to homeschool because of religious reasons. While this might have been true in the 1980's, it is not true any more (Romanowski, 2006). In another one of Ray's (2016) survey's he explored the common reasons for homeschooling. These included, seeking better academic opportunities than offered at the school, seeking individualized educational plan and curriculum, wanting deeper relationship among the family members, wanting a more guided social experience, looking for a safer environment, and teaching and integrating family values into the education path (Ray, 2016).

In conclusion, all the myths were proven wrong, and homeschooling is meeting needs that are not met by the public education system (Romanowski, 2006).

### **Homeschoolers National Demographic Data**

The homeschooling population of today is heterogeneous and diverse. Around 23% of homeschoolers in 2003 and 2007 came from minorities. There are African American, Hispanic, Native Americans, Orthodox Jews, conservative Catholic, Mormons, Muslims, and more groups as well (Gaither, 2009). Diversity had grown not only in the population of

homeschoolers but in the reasons leading families to homeschool as well. Families wanting to support special talent of a child, families with children with special needs, families seeking academic excellence and meeting the needs of gifted children, special and severe health issues, and today another growing reason is educational philosophy such as unschooling (Gaither, 2009; Lips & Feinberg, 2008; Ray, 2016).

### **Homeschooling in California**

The picture of Homeschooling today is as diverse and colorful as its participants. The diversity comes to play in the ethnicity and culture of homeschoolers, in their reasons for choosing to homeschool, and in the pedagogies and educational theories they follow (M. Gustavson, personal communication, March 31, 2016). Because California has little regulation on homeschooling, it was not possible to get any demographic data on homeschoolers in this state. I contacted the Homeschooling Association of California, California Homeschool Network, and the Coalition for Responsible Home Education, all three organization responded that this data is not available for the homeschoolers in California (R. Coleman, personal communication, April 1, 2016; R. Hamilton, personal communication, March 31, 2016; B. Matessa, personal communication, April 4, 2016).

### **Methods of Legally Homeschooling in California**

There are five options to legally homeschool in California. These options are described in details on the Homeschooling Association of California (Homeschooling Association of California, 2016b ) website in their legal section. The five options include private, charter, and public education, and tutoring. A short descriptive list of these options is available in Appendix D.

## **Literature on Homeschooled Adolescents**

In this section, I will review literature about who are the homeschooled adolescents and what are their main characteristics. I will begin with review the issue of motivation and how this may differ between schooled and homeschooled students as researched by Riley (2015). Then I will describe the perspectives of two homeschooled unschoolers, a thirteen years old and a Ph.D. student who was unschooled homeschooled until the age of sixteen (LaPlante, 2013, 2014; Vandewiele, 2015). I will then describe Drenovsky and Cohen (2012) work on comparing the adjustment to the college of schooled and homeschooled students. I will then move to review a few sources on homeschooled adolescents in the Bay Area.

I begin with the perspective of Mika Gustavson (personal communication, March 31, 2016), a psychologist who is also a homeschooling parent, and has been supporting many homeschoolers in the Bay Area especially gifted and twice exceptional students from the schooled and homeschooled communities. Then I will review Wes Beach (2008, 2012) point of view, as a supporter to homeschoolers and nontraditional students. Lastly, I review Denise Boiko's (2010) input as an alumni homeschooling parents who published a detailed book guiding homeschoolers journey during the highschool years toward applying to college.

### **Motivation**

Lori McKee Walker, the head of Village Home-School in Oregon that provides homeschoolers individual learning in a community setting, said that while many claim intrinsic motivation declines during adolescence, it increases in homeschooled adolescents she is working with. She said, about an hour and two minutes into the movie, that from her experience, the teens want more and longer classes, and experience learning as engaging and

relevant part of their lives (as cited in Stuart & Woodard, 2015). I had mentioned Richard Ryan and Edward Deci's Self-Determination Theory (SDT) and the three basic psychological needs of autonomy, belonging, and competence (Deci & Ryan, 2000), when I reviewed what Alfie Kohn (2014) said about the tragic miss-match between what adolescents need and what schools provide.

Gina Riley (2015) of Hunter College wrote a review about the "Differences in competence, autonomy, and relatedness between home educated and traditionally educated young adults". While Riley focused on young adults, this is still relevant to my study as Siegel (2013) wrote that adolescence lasts until one's mid-twenties, and the study report finding from participants' ages are 18-25 years old. This study also adds perspective on the effect of being homeschooled. Riley (2015), acknowledges the rising numbers of homeschooler in the United States, "Approximately two million children are homeschooled ... and the number of families choosing to homeschool is steadily rising" (p. 12). Riley (2015) found that in many homeschooling environments, parents are the facilitators and the learning is child's led, stem from the love and joy of learning process, and not coming from outer motivation such as testing and grading that is common in the traditional schooling. Riley (2015) also mentioned that there is a connection between the source and type of motivation, and "academic, occupational, and social success" (p. 2).

Riley's (2015) quantitative study focuses on comparing the levels of the three psychological needs identified by Deci and Ryan, autonomy, relatedness or belonging, and competence, in schooled and homeschooled young adults. 500 young adults, 250 homeschooled and 250 schooled, were offered the opportunity to participate. The diversity of

participants was encouraged, and recruitment was done “via Listserv, Yahoo groups, and Walden University Participant Pool” (p. 13). Criteria for participants were age range of 18-25 years old, highschool graduate, homeschooled participants were homeschooled for at least six years, schooled participants included both public and private schools. Riely (2015) used the Basic Psychological Needs Scale (BPNS), and ended up having 99 participants, of which 58 were homeschooled, 41 were schooled.

Riley’s (2015) study results show that “homeschooled students tend to have a higher level of competence and autonomy satisfaction compared to traditionally schooled students” (Riley, 2015, p. 19). On average, there was no evidence that showed a difference in relatedness or belonging. Because homeschooling is growing steadily and at the time this study was done, about 3% of school-aged students in the U.S are homeschooled, Riley’s (2015) results offer important insights to what homeschooling provide for students vs. the traditionally school experience.

The documentary *Class Dismissed* examines the different educational experience schooled and homeschooled students have (Stuart & Woodard, 2015). Curiosity and involvement in your own education were pointed to be the basis of academic success (Stuart & Woodard, 2015). In schools, the grades and rewards serve to increase the performance and motivation, and there is a greater focus on recognition, competition, and grades. Intrinsic motivation, on the other hand, can bring a different kind of learning, as it comes from inner passion and drive, and it is known that mostly due to time limitations, intrinsic motivation is challenging to maintain or nurture within the setting of schools (Stuart & Woodard, 2015). This is one of the strengths and unique qualities of homeschooling, as it revolves around the child or

adolescent's inner motivation to study and learn, and that is one of the primary explanation for homeschoolers' personal and academic success (Riley, 2015).

I have mentioned in the literature review section of homeschooling, that there are several ways to homeschool and in Appendix D, I offer some basic resources for the different styles, philosophies, and pedagogies of homeschooling. When it comes to homeschooled adolescents the variety of ways to homeschool remain clear and valid, though the college consideration begins to influence decisions choices have to be made. Within the limitation of this study, I am not going to portray all philosophies and pedagogies options, however, I do want to shine a light on some experiences homeschoolers share at this age.

### **Homeschoolers Share their Perspective**

Two individual's experiences were shared via TED Talk. One by 13 years old Logan LaPlante (2013), *Hackschooling Makes Me Happy*, a year later he gave another talk, in a different setting, and reflected on his past and new experiences. The other talk was given by Callie Vandewiele (2015), studying for a Ph.D. at the University of Cambridge with a focus on Latin American Studies, and she shares her point of view on *Learning through unschooling*.

**Logan LaPlante talks about homeschooling and happiness.** LaPlante (2013) share that the focus of his education is maintaining good health, being happy, creative, and having a hacker mindset. He defines his education as Hackschooling since for every subject and topic he and his parents follow his lead, find new and relevant opportunities, and make his learning personal, fitting, and interesting for him. LaPlante (2013) used a metaphor of a snow-covered mountain, and how if we follow the mindset of public education we would all ski down in the same run which might be the safest, but will leave much of the snow untouched. Instead what



he saw were numerous opportunities and adventures that represented exploration, creativity, and the inner thrill of discovery.

A bit over a year later, at the 2014 Innovation Arizona Summit, LaPlante (2014) whose TED Talk became famous with over nine million views, came to talk about where he is now. In this talk he talks about the challenges his generation and his parents' generation face, and how happiness and health still takes priority in his life. The focus of his education remains as before, health, happiness, creativity, and hacking mindset. He talks about his many internships, community involvement, his passions, and actions. He shares his love for design, film, video, and the outdoors, how he learned about being published, giving back, friendships, adventures, and taking risks while caring for the safety of yourself and others around you. He ends his talk with two main points, first addressing the issue of comparing homeschooling or hackschooling with regular school. He is adamant that hackschooling is a matter of mindset, no matter where you are. Second, he voices his wish to add to the STEAM (science, technology, engineering, art, and math) the two H's, for health and happiness (TEAMSHH) (LaPlante, 2014). While Logan LaPlante (2013, 2014) became known for the talks he gave, he represents many adolescent homeschoolers that follow their passion, learn through real experience, while caring for themselves and the community to which they feel they belong. This is directly connected to the ESSENCE Siegel (2013) talks about, as LaPlante's learning included opportunities and settings that brought happiness, curiosity, thrill, social engagement with peers and adult mentors, he was able to follow his passion, and his creativity was an organic component in his doing and learning.

**Callie Vandewiele talks about learning through unschooling.** Callie Vandewiele's (2015) TEDx Talk in 2015 provides a young adult perspective on her homeschooling journey. She shares her journey, as an unschooler until the age of 16, later she joined high school, continued to community college, and by 2015 is a Ph.D. student at Cambridge University. As an unschooled student, she followed her passion for a specific type of lizard, horned lizard. Unschooling, she explains, is about following the child's lead, passion, and providing the tools and support needed for his learning process. Vandewiele (2015) tries to explain the validity and advantages of unschooling. She explores one of the main questions many are worried about when it comes to the future of unschoolers, and that is their future in our society. She begins by sharing how she and her siblings are doing as adults who were unschooled, starting with herself as a Ph.D. candidate, her siblings held a variety of occupations, from software design engineer, filmmaker, fire-fighter, elementary school teacher, and a college student (Vandewiele, 2015).

Knowing her audience, students at Cambridge University, Vandewiele (2015), shares some statistics. At the time of her talk, 2015, 3% of schooled age children in the U.S were homeschooled, and of them 10% were unschoolers. She cites a study done by Peter Gray (2014) from Boston College, that looked at 75 grown unschoolers. Participants in his survey were unschooled for at least three years. Gray (2014) found that 83% pursued university education, 80% worked in creative fields, over 40% worked in STEM fields, over 50% were entrepreneurs at some point in their life, 100% sought impactful creative work, and many said they wanted to contribute to others and their communities (Gray, 2014; Vandewiele, 2015). Vandewiele (2015), shares her view on unschooling and homeschooling as progressive

education that aims to meet the new challenges we face in the world and the way our society can honor passion and children, as well as develop and adapt to our ever-changing reality.

### **Homeschoolers in the College Setting**

I am addressing this stage for three reasons. One, college students are adolescents as according to the definition of Siegel (2013) adolescence is until age 24 years old. The second reason is that many people doubt and judge homeschooling and homeschoolers when they think of the college setting. The third and last reason, is that this is also a fear and stressful topic among parents who homeschool. Parents work hard to find balance between the freedom of education and child led education, and at the same time, support getting their child ready for college. For these reasons I chose to include this section.

Drenovsky & Cohen's (2012) study on the impact of homeschooling on the adjustment of college students came to fill a gap they found, that much of the literature supporting homeschooling and homeschoolers tends to come from within the homeschooling community. The purpose of their research was to look more objectively at how homeschoolers are doing mentally and socially in the new, unfamiliar, and often challenging college setting. They looked at whether or not marginality, a term first defined in regards to immigrants, and that those who felt it relates to them often lacked in their wellbeing ( Drenovsky & Cohen, 2012, p. 22), was part of the homeschoolers' experience in college. Data on the level of engagement and class activity, was available as colleges have been collecting this type of data.

Student engagement was defined by how much energy, time, and effort the students invest in their studies, and how many resources, and in what ways did the university or college encouraged students to participate in activities that were proven in the past to be correlated to

students' learning. The researchers assumed that college preparation process began in highschool and was demonstrated in activities such as community involvement, engagement in clubs, and extracurricular activities such as music and sports (Drenovsky & Cohen, 2012).

The survey was distributed online to 1500 college students that were homeschooled in their past education path and 80 traditionally schooled students. Email addresses were obtained from state organizations of homeschoolers who saw value in this research and wanted to support it. Participation was voluntary, and all participants were over age 18 years old. From 1580 students that were invited to participate, 185 answered the questionnaire, and that matched the participation expectation of the researchers, due to the method of data collection and the studied population (Drenovsky & Cohen, 2012). 19 percent of the students who replied were never homeschooled, 81 percent were homeschooled for varying number of years, most, 64 percent were homeschooled for 10-12 years. The average age of students was a little over 20 years old, about 60 percent were females, 40 percent were males, and 64 percent of the repliers were Protestant (Drenovsky & Cohen, 2012).

The results show that students who were homeschooled didn't have lower self-esteem, they had a lower level of depression in comparison to traditionally schooled students, they were more likely to get high grades like A, and overall their experience of higher education was more positive than that of traditionally schooled students. 45 percent reported their experience as excellent vs. 20 percent of schooled students (Drenovsky & Cohen, 2012). These results are in line with Christine Foster's (2000), article titled "In a class by themselves", that was published in Stanford magazine in the alumni section. In this article, she writes about the higher rate of admission of homeschoolers to Stanford when we take into account the percentage of

homeschoolers in the population. Stanford admission officers are interested in learning more about the educational journey homeschoolers' chose, and are willing to let go of some of the grades input schooled students can provide. They acknowledge the supportive and unique combination of “supportive parents, self-motivation, and thirst to pursue new interests” (Foster, 2000, para. 50), and that homeschooling opens the opportunity “to maximize ...potential and customized ...education” (Foster, 2000, para. 52). This literature brings another perspective on homeschooling and the advantages it holds for individuals as well as its developing acceptance by society. It is significant to my study as it shows that following different educational methods can work well in the short and long terms of the adolescents.

### **Homeschooled Adolescents in California and the Bay Area**

In this last subsection I bring the perspectives of Mika Gustavson, a psychologist who works with many homeschoolers in this area (M. Gustavson, personal communication, March 31, 2016), the view of Beach and Wilson (2012), who has been supporting homeschoolers and other young adults who choose non-traditional educational paths, lastly, I will share the point of view of an alumni homeschooling parent who supported her children’s quest into the colleges they hoped for, published a detailed book focusing on homeschooling adolescents when college is the next step and is the leader of the local chapter of the national homeschool honor society, Eta Sigma Alpha (Boiko, 2010).

### **Insights from Mika Gustavson on Homeschooled Adolescents**

In an informational interview with psychologist Mika Gustavson (personal communication, March 31, 2016), who is known to support gifted and twice exceptional students in this area, schooled and homeschooled, she shares her insights on homeschooled

adolescents in this area. She mentions that most of the families she has met in her practice, chose to homeschool because the school environment did not meet their child's needs. Others chose to do so for philosophical or religious reasons. Homeschooling, she said "let each individual child's needs take the forefront at specific times" (M. Gustavson, personal communication, March 31, 2016).

Gustavson (personal communication, March 31, 2016) talked about the need for novelty, "questions about gender role and identity", transitioning from homeschooling to college, and some existential anxiety surrounding their place and role in the world. She mentioned there is less pressure to feign an interest in dating for homeschoolers, as well as less danger for depression and suicide, mostly due to less peer pressure in general, and less pressure to go to ivy league colleges. Family values play a strong protective factor when it comes to homeschoolers. The difference between schooled and homeschooled teens, according to Gustavson might also stem from following different "blueprints" (M. Gustavson, personal communication, March 31, 2016).

Gustavson (personal communication, March 31, 2016) notices that gender roles are not as set and followed by the homeschooled adolescents she talked to, however, thoughts and some exploration of gender identity are more typical to this young generation. She also says that while some people think homeschooled adolescents do not experience peer rejection, that is not the case and that some social issues are not spared from the homeschoolers (M. Gustavson, personal communication, March 31, 2016). Full summary of the interview with Psychologist Mika Gustavson, can be found in Appendix C.

### **Insights from Wes Beach**

Wes Beach (2008), worked in the public school system for more than thirty years. As time passed he identified more with the fact that every person should be able to follow his own path toward his future, higher education, success, and self-fulfillment. His purpose is to “provide empowering information and encouragement” (Beach, 2012, p. iii), and he works with all who walk off the beaten path, not just homeschoolers. He participates and presents at numerous homeschooling meetings, especially when the focus is on homeschooling highschoolers toward college, and offers personal assistance to meet the individual’s needs. He set up his private school that enables him to provide the documentations needed to recognize and acknowledge the unique experiences people had had, and for the support of the person’s next steps (Beach, 2008).

### **Insights from Denise Boiko**

Denise Boiko (2010), a homeschooling parent alumni from Northern California, shares her experience and accumulated knowledge on homeschooling highschoolers when college become their goal. After she had successfully done so for her own children, she decided to offer her support to others that could benefit from her knowledge, at times, trying journey, and success. In her book, she provides a detailed roadmap with options, tips, and encouraging messages. Boiko (2010) is very active in the homeschooling community, in presenting and participating in conferences, meeting, and her book was received with open arms by many homeschooling families.

In the last chapter of her book, Boiko (2010) writes about some of her personal thoughts, encouragement, and life lessons she wants to share. While coming from a faith-based homeschooling style, she offers insights and advice that can be useful to all. She sheds light on

homeschooled adolescents from the parent's perspective, acknowledges the challenges as well as the blessings. For instance, Boiko (2010) cherished the close connection, and strong relationships homeschooling has brought into their family. She celebrated the ability to meet individual learning style even within her small family. She mentioned that for her "the avoidance of peer pressure [was] a major reason for teaching children at home" (Boiko, 2010, p. 376). Homeschooling can add to the safety of an adolescent both physically and emotionally, while the teen can still have a rich social life. Homeschooling adolescents often enable meeting the sleep needs and contributing to a basic ingredient of their wellbeing (Boiko, 2010).

Similar to Siegel's (2013) message of celebrating and appreciating adolescents, Boiko (2010), also reflect on these years of parenting teens as wonderful, unique, challenging, and rewarding from many aspects. She cherishes her role as a parent and her active part in their educational and life's journey. Boiko (2010) does not minimize or ignore the challenges, and calls on parents, as well as adolescents, to reach out to support groups, and other resources, homeschooling is not a lonely path. Lastly, and this message is important, she opens the door to leave or rejoin homeschooling, to find your true path toward college or another goal. There is no right way that would fit all human beings (Boiko, 2010). Hopefully, each family will work and achieve seeing and appreciating, celebrating and supporting their adolescent child in the way that right for them (Boiko, 2010). Boiko's (2010) perspective represent a lot of what homeschooled adolescents experience and the opportunities that are available in the Bay Area of Northern California. Even the faith-based homeschoolers rely on much support from their community, classes or courses with other teachers, and community colleges support as well. The resources she provides in her book can be accessed by many homeschoolers coming from



different pedagogies and philosophies. (more details about her book and website in Appendix D). Boiko's (2010) insights and guidance are relevant to many homeschooled adolescents in this area and time, as it provides clear possible paths to college.

### **Literature on Rock-It-Science**

In this section of the literature review, I will provide information about Rock-It-Science (RIS). The main sources for this section are an informational interview with John McChesney, the founder, and director of RIS, some of the videos of RIS in action, and the RIS website prepared in collaboration of John McChesney and Estelle Gow. I will begin with a brief history of Rock-It-Science with the addition of its mission, then I will describe the theory and pedagogy of Rock-It-Science, and will end with a summary from the teacher's' guide to the seven secrets of Rock-It-Science.

#### **The History of Rock-It-Science**

Rock-It-Science (RIS) is a nonprofit organization with a mission of “develop children’s enthusiasm for science, and to develop the higher order thinking and problem solving skills necessary for both academic and real world success ...” (McChesney & Gow, 2016b, para. 1). To all that attend RIS, John McChesney is known as Mr. Mac. RIS offers science classes in schools, after school sessions, homeschoolers’ classes, field trips, and summer science camps. Homeschoolers can sign for three sessions every year, each session has ten lessons, and these are hands on science classes, that include no homework, no tests, and plenty of exciting experiences in a safe environment (McChesney & Gow, 2016b).

John McChesney (personal communication, March 11, 2016) says about himself that he was a curious child, he tested, tried, and explored his ideas, and in a way, his childhood and

way of thinking is the inspiration for RIS. The idea of science classes for children began when John McChesney (personal communication, March 11, 2016) was working as an engineer in the research department of a robotics company. His daughter loved his inventions and brought them to show-and-tell in her class. From there the distance to begin teaching science in his daughter's class was short, and John McChesney discovered his new passion, teaching children science.

Before he began to teach he met with a college professor to learn about teaching children as far as developmentally appropriate practices and so forth. However, what he was told did not make sense to him, and he decided to test it with an activity he designed. He discovered that children were able to think beyond what the college professor anticipated, and "by 1989 he developed 14 lessons and was giving free science lessons to all the teachers in his children's school" (McChesney & Gow, 2016b, para. 9).

1991 was the year Mr. Mac got to know homeschoolers and discovered teaching them was a fantastic new challenge. Mr. Mac reflected on that time in the interview that homeschoolers were highly motivated to learn, eager, open to new ideas, and asked very different kind of questions than the schooled children did. Designing lessons to answer these questions was a challenge Mr. Mac accepted excitedly (J. McChesney, personal communication, March 11, 2016). Listening to Mr. Mac tell about this, even though it happened 25 years ago, I could see that spark of excitement in his eyes and to me, it was what I imagine emotional spark and creative exploration of the ESSENCE looked like.

In the next few years, 1993-1997, Mr. Mac taught a lot, teamed up with school districts to provide teacher training on how to implement science in classrooms (McChesney & Gow,

2016b). In 1998, renamed The Wizard's Workshop Rock-It-Science, with a friend, first as a mobile laboratory, and between 1999 and 2001, Rock-It-Science was accepted as "NASA Resident Agency at Ames Research Center at Moffett Field" (McChesney & Gow, 2016b, para. 16). Unfortunately, after 9/11 some changes were forced on NASA, and the partnership ended. Soon after, in 2003, Rock-It-Science moved to its current location in the Bay Area (McChesney & Gow, 2016b).

Since 2009 there has been much documentation and videotaping of all the lessons and ideas that Mr. Mac accumulated, in order to promote training for new teachers. About 100 lessons have been edited, transcribed, and are available with the addition of a teacher guide, to serve as an open source to all educators within the online teacher community that was established on 2012 (McChesney & Gow, 2016b).

### **Rock-It-Science's Theory and Pedagogy**

In the interview, Mr. Mac (2016) says that the environment children need to learn science is in a fun, non-judgmental place. The snowball effect of testing high schoolers and requiring them to focus on vocabulary and memorization changed science for elementary school children as well and moved away from the natural way children learn best, which is by play. Most children are interested in "what is going to happen, not how much is going to happen" (McChesney, 2011, 13:14-13:20), and asking them to take data is irrelevant to them (J. McChesney, personal communication, March 11, 2016).

**The Theory behind Rock-It-Science.** Mr. Mac commented that from his experience, what often happens in the schools is that kids ask fewer questions when the focus is on testing (J. McChesney, personal communication, March 11, 2016). Furthermore, in the classroom,

there is a certain mentality of saying what the teacher wants to hear. If the child asks what is interesting for him or her, it is often viewed as a distraction to the flow of the class. “The teacher gets rewarded when they are able to train the child to give the answer she has been taught to look for. Teachers get no reward for answering the questions the child wants to know” (J. McChesney, personal communication, March 11, 2016). The schools and teachers keep the children on the path that the curriculum and standards focus on, and sadly, curiosity is seen as a distraction. Nevertheless, Mr. Mac (personal communication, March 11, 2016) says that it is known and historically proven, that discoveries are made when stepping off the beaten path. Mr. Mac (personal communication, March 11, 2016) believes we want to train and support children’s learning not memorizing specific facts, and said it is not difficult to train the child to want to learn more, all you have to do, is make it fun, playful, exciting, and interesting.

The importance of play came up during the interview a few times, as it connects different parts of the brain and integrates different types of thinking. Mr. Mac (personal communication, March 11, 2016) reflected on how much simple detail, such as adding the different colors of whiteboard markers, made a difference in the level of engagement children had, as he, of course, included them in which color to choose for each detail. They became part of the creators of the story, not just the receivers. Mr. Mac (personal communication, March 11, 2016) says, the crazy stories he weaves into his lessons are interesting, invite the student to immerse in their imagination, explore, and that is why these stories stay with his students when the lesson is over. When Mr. Mac (personal communication, March 11, 2016) tells the end of the story, after the experiment, he anchors the concept the lesson focused on, and the circle is completed.

**The pedagogy of Rock-It-Science.** There are two primary aspects to RIS's pedagogy, the design, and framework of the lessons. Usually in school settings the teacher often begins by introducing a science concept, and then illustrating it with a demonstration (J. McChesney, personal communication, March 11, 2016). On the other hand, Mr. Mac starts with designing the experiment, thinking about what children and adolescents like to do, figures out the science behind it, and creates a story that connects it to the relevant science concept. This backward system has proven to work very well over the years, and children of all ages literally learn as they play (McChesney & Gow, 2016b).

The second aspect of RIS's pedagogy stems from Mr. Mac own life experience as an engineer (McChesney, 2011). Students get a short description of the problem in an animated story format, followed by the *crazy story* which he stops at a cliffhanger. He then opens up the class to suggestions from the students who are invited to use the *ACME store of everything* (see explanation in next subsection), and moves on to the experiment. The majority of class time is spent on the collective intelligence that includes trial and error, excitement, taking risks, sharing ideas, and experiencing the thrill of shared exploration. This, of course, connects directly to all the parts of the ESSENCE of adolescence (Siegel, 2013). Another life lesson students cope with is solving the challenge put in front them with limited resources, and the need for collaboration that entails (J. McChesney, personal communication, March 11, 2016). The last 10 minutes of class are spent finishing the story, where Mr. Mac picks up the all the pieces of the lesson, including current discoveries students made and weaves them into the ending of the story, which anchors the science concept. The end of the story is always pleasantly predictable. Jack and Jill, the heroes, prevail, and evil mustachioed Mr. Fred dies

creatively, with only a fragment of his mustache drifting in the air to mark his passing. Every lesson ends with the chorus of “and they all lived happily ever after, except for evil Mr. Fred” (McChesney, 2011).

And so, just like an engineer who is faced with the process of a problem, access to limited resources, working with others toward a solution, idea, or insight, and having a short time when solutions need to be presented, children and adolescents experience similar setting in each class. The problem presented by a story, limited resources and the need to work with others, limited time to explore and get to some result, not necessarily to success (J. McChesney, personal communication, March 11, 2016).

### **The Crazy Story**

Mr. Mac emphasizes the importance and deliberate manner in which the stories are created and delivered (J. McChesney, personal communication, March 11, 2016). He explained that Jack and Jill are stick-figure so that anyone can identify with them. All the characters in the story are the same each time. In addition to Jack and Jill, there is evil Mr. Fred, minions and kick-me’s. The sense of humor and laughter are a necessary ingredient. The middle part will always be a cliffhanger, and then Mr. Mac always asks the students: “if you were Jack and Jill, what would you do?” (McChesney, 2011, 2:22). Students offer ideas of what to do, having full access to the ACME store of everything which is an imaginary limitless resources place that a student can rely on to make their ideas doable, real, and valid for that moment. This is an important part, since it offers no limitation of what’s real and already exists, and what’s not, what’s accessible and what is affordable. This is where the creative exploration, ideas, and innovative thinking are coming from, and all ideas are embraced with respect. Mr. Mac says “If

they can dream it perhaps they will be able to invent it” (J. McChesney, personal communication, March 11, 2016). Mr. Mac tells the story and draws at the same time, and in the interview, he reflected on an insight he had that only when he is truly invested in the story, students can do so as well. The predictability of the structure of the story, and a few known and repetitive script parts, provide a sense of security and enable everyone to take an active role in the *crazy story* (J. McChesney, personal communication, March 11, 2016).

### **The Seven Secrets of Rock-It-Science**

The last part of this subsection are the seven guidance pointers Mr. Mac shares with teachers for how to implement RIS’s pedagogy in their classrooms (McChesney & Gow, 2016a). First, learning with the whole mind, integrating different kinds of thinking. Second, a stress-free environment. No homework, test, or memorization, no note taking, no judgment, just come, listen, be engaged, play and have fun. The learning in this type of environment will come naturally. The third secret is the power of storytelling, as it offers inclusive, engaging, and open-minded thinking, and as such it is a key to success. The fourth key is hands on experimentation. There is never a demo, the students do it all the exploration with their own hands and bodies. The fifth secret is observation without expectation and shares discovery based learning. Kids discover on their own, from a place of natural, uninterrupted curiosity. The sixth secret is the joy of discovery. Students try, make mistakes, correct themselves, solve problems, and so forth. The seventh and last key is the magic of memory. Without asking them to, with the combination of the stories and the hands on, no stress, discovery-based environment, and fun, students end up learning and remembering the scientific concepts (McChesney, 2012).

This literature on RIS provided a deeper understanding of the setting of my study, as a nontraditional educational classroom, and the background to the data I gathered from my participants, parents of homeschooled adolescents in the teen's classes of RIS.

### **Literature on Qualitative Research Methods**

In this section, I will review the literature on qualitative methods, literature on my data collection methods, and literature on my data analysis methods. Qualitative research is different, philosophically and in actuality, from quantitative. Qualitative methods are based on narrative data, and there are particular ways on how to analyze that kind of data (Creswell, 2014). An example of fields that use this type of research are social and health sciences. In qualitative research the researcher uses and applies inductive reasoning. This means that the researcher begins by looking at a small group of participants, that was chosen with much intent and not randomly, study them carefully by interacting with them on a personal level that is unique to qualitative research (Bui, 2014).

From these interactions and the data collection methods, the researcher gets narrative data, which is based on what is true, real, and relevant for the participants. The researcher aims to get a better understanding of the problem that is being explored by analyzing this data. In inductive reasoning, the principle is moving from the specific to the general, meaning making a generalization based on specific data from the participants (Bui, 2014). In a way, it is creating and synthesizing your own theory.

### **Qualitative Research Methods**

In qualitative research, the researcher does not begin with a hypothesis, instead, the starting point can be a situation that needs exploration, an interesting pattern the researcher



want to investigate, a common problem that the researcher wants to learn more about in connection to the reality of the population the researcher is interested in (Bui, 2014).

Some characteristics of qualitative research are a natural setting, not laboratory ones, and the researcher will go out to the field to collect the data. As participants get to be in their natural environment, it enables the researcher to get the information that is the most relevant and realistic for them, and that offers better understanding, and more meaningful data (Creswell, 2014).

Another characteristic of qualitative research is that the researcher is often the instrument of the data collection process, meaning he or she is conducting observations, and or interviews, getting to see or hear first hand what is most alive for the participants. These opportunities can provide for the researcher rich, deep, and meaningful data (Creswell, 2014). In qualitative research, once the researcher has the data, he or she will begin the next stage of organizing it and analyzing it, by a process of categorizing the data by similar and emergent themes, coding, chunking and finding overarching themes (Bui, 2014; Creswell, 2014).

In addition, in qualitative research, there is much intention behind choosing the participants. It is not random. Instead, there is thought and planning behind it. Choosing the suitable participants is crucial for qualitative research, as they are the key to the researcher's new understanding (Creswell, 2014). Emergent design is another characteristic. The research is a process, it is personal and has to come from learning, reading, struggling to choose the best design for the specific problem the study focuses on. It is a process, and there is no one size fits all, for every topic or problem there is a unique design that will support most effective and meaningful exploration (Creswell, 2014).

One of the main principles of qualitative research is studying the issue from the ground up. The researcher is connected to the participants and provides space and recognition for their stories. This includes reflection process on the data, literature, and the emergent thoughts and connections the researcher can make. It is also about reflection upon self, as the researcher is always involved and not detached when it comes to qualitative research. This process often includes discovering and recognizing one's own biases as part of this meaningful process (Creswell, 2014).

Lastly, qualitative research is built in layers, and it is like a puzzle that has several pieces. To see the big picture one must obtain a holistic approach to grasping the complex situation. To help and support the reader, the researcher often provides a few perspectives and methodically assembles the puzzle which is the focus of the study (Creswell, 2014).

### **Qualitative Data Collection Methods**

In my study, the data collection method is semi-structured interviews with my participants. Interviewing was conducted face-to-face, which is most recommended, and what I did, but can also be done by phone, or online (Creswell, 2014). It is recommended to plan for a strategy to either record the interview, or have another person take notes (Eberly, Joshi, & Konzal, 2007). Bui, (2014) guides us by stating that the interview questions must be designed to answer the research question and any sub-questions of the research. The researcher must come willingly and prepared to tune into the dynamic of the interview and add some follow-up questions (Bui, 2014). Both Bui, (2014) and Genzük (n.d.), say it is recommended to try out the questions on someone who is not a participant at the time of interviews, to help with any

issues ahead of time and make adjustments as needed. Interviewing, they said, takes practice like almost everything in life.

It takes time and a great deal of planning to come up with questions that are not leading, not coercive, and are open in a way that invites the participant to tell us more (Bui, 2014). Genzuk (n.d.), provides a few more tips for successful interviewing. He begins by stating that there is not one right recipe, and that is the beauty of the process. One needs to make the process of collecting data right for him or her, for the topic, and for the participants. Variables to take into consideration are the interviewee and the interviewer, the process needs to work for both. There is a level of sensitivity from the researcher that will promote ease in the interviewee.

Like Bui (2014), Genzuk (n.d.), first calls the researcher to stay on track and focused on the purpose of the research and the main question that is being explored. Second, he suggests planning intentionally for ease and flow in communication during the interview. Third, the researcher must be aware of the disadvantages and the advantages of this type of data collection. Fourth, Genzuk (n.d.) suggests considering combining different types of questions, while making sure all questions are valid. The fifth advice is about being prepared for the type of data one gets in such interview, which includes a combination of knowledge, and feelings, personal experiences, and more. Next, Genzuk (n.d.) suggests thinking ahead and planning the order of questions carefully. It has to make sense, build up content and context wise. Clear, open ended question are always a good idea. Asking one question at a time is another important element to pay attention to.

The ninth tip is to invite an open discussion while providing some feedback for the interviewee about what parts of the information he is sharing are appreciated and helpful. Being a good listener is one of the most basic and crucial parts in many situations of life, and as an interviewer, even more so, including having excellent observational skills as well. Like Bui (2014), Genzuk (n.d.), guides the interviewer to avoid leading questions. The last few pieces of advice are about asking and not interrogating, and showing true interest. Genzuk (n.d.) ends with advice to record and transcribe the interviews, observations, and insights as soon as possible when it is still fresh in the mind (Genzuk, n.d.). I used all of these tips in my interviews.

The data collection method for my study is semi-structured interviews. My participants are five homeschooling parents whose teens are taking Rock-It-Science (RIS) teens' classes and have had a least one prior session at RIS. I recruited participants by coming to RIS on days and times of teens' classes and providing parents an informational letter that explains my research. I was also available to answer any questions they had and made sure to have this discussion a bit away from the group to provide for privacy. Potential participants were invited to schedule an interview at that time or take a few days to think about it. They had my contact information and were invited to ask any questions that might come up for them. I followed up with one email to remind them of the scheduled interview.

Following all the advice from literature and in-class discussion, the interviews were all done in a private setting, in Mr. Mac's office at RIS, a quiet area in the park, and an office at Pacific Oaks College campus. All participants were given consent form to sign and had a chance to ask any questions they might have about it. On the consent form, I also asked for

permission to record the interview. The interview included seven questions, the first two were about the homeschooling choice of the family and their homeschooling style, The next four questions were specifically about the parts of the ESSENCE and how the participants view RIS providing for them. The last question was open to the participants' insights about RIS and their teen's growth in that environment. All interviews were done within the time limit I committed to, which was less than an hour. I transcribed the interview and added notes of reflection the same day about the interview while it was all fresh in my mind. The participants and the data they provided were protected according to the plan approved by IRB. They could withdraw at any time, their identity was not revealed, they received code names, no one had access to my data besides my first and second readers, and data is saved on my computer which is password protected. All other forms of data are kept in a locked box in my study. I will save data for seven years, and then I will shred the papers and will delete the files.

### **Qualitative Data Analysis Methods**

In a qualitative study, where data collection method is interviewing participants, there is a protocol on how to begin the analyzing process. Bui (2014), describes the steps: first, after planning carefully and testing the interview questions, making sure they are designed to answer the research question, and doing all that you can to make the interview more of a discussion, that would bring what is really relevant, unique, and important to the participant in regard to the research (Bui, 2014). To this idea, Genzuk (n.d.) adds that while the conversation is valuable, the researcher should maintain being the leader of the interview, and have some control on how the time is used, and the direction it goes. Bui (2014) continue with the protocol and says that the researcher needs to transcribe the interview. Then the researcher

must read the transcription carefully, and code the transcribed data, by “labeling different topics” (Bui, 2014, p.185). The next step is grouping the topics together into categories that are meaningful for the study and giving them a new label (Bui, 2014). Emerging themes can then be recognized and described with supporting quotes (Bui, 2014).

To analyze my qualitative data, which was narrative from the semi-structured interviews, I followed the protocol Bui (2014) described, and transcribed, categorized, coded, chunked, recorded, and then found themes and added quotes to support them. This process took time and careful attention. I also gave myself space and time to reflect on the data often while going through the analyzing process.

## **CHAPTER THREE**

### **Methodology**

To answer my research question, In what ways does Rock-It-Science provide for the ESSENCE of homeschooled adolescents? I used a qualitative method and collected data using semi-structured interviews with five participants. Participants were homeschooling parents of teens who participated in Rock-It-Science's teen classes.

I organized my data in tables, I began by sorting the transcribed interviews to tables by the question, and then did the process of summarizing, categorizing, coding, chunking, coding again, and finding themes (Bui, 2014; Creswell, 2014). I carefully looked at what my participants said and what messages were behind it, what themes emerged from their personal stories and insights. I included direct quotes from my participants to support these themes.

### **Setting**

My study was about homeschooled adolescents' needs as framed by Daniel Siegel (2013) as the ESSENCE of adolescence, and how these were met for these teens in the science program of Rock-It-Science (RIS), as perceived by their parents. I chose RIS for several reasons: first, because it is an educational setting for teens and it was said that school is the main source for teens' social interactions (A. Faraji, personal communication, March 4, 2016). The second reason was because RIS is a nontraditional educational setting while it still serves both schooled and homeschooled students. Third, because my son had meaningful experiences in his five years of classes at RIS, and lastly, because RIS provided me with access to participants who could share insights, personal history, and perspectives on their teen at RIS.

RIS is a nonprofit organization with a mission of supporting and developing children's curiosity, joyfulness, and ability to successfully learn science (McChesney & Gow, 2016b). RIS has offered science programs in schools and for homeschoolers since the 1990's. John McChesney, also known as Mr. Mac, founded RIS so he could teach science in a nontraditional way while implementing principles of inclusiveness, acceptance, creativity, curiosity, and hands on exploration. RIS does not follow the state standards, and there are no textbooks, note-taking, or tests (McChesney & Gow, 2016a, 2016b).

Table 1 provides a few pictures I took of the RIS lab site to show what the environment looks like. In this table I aimed to show the unique setting and place of Rock-It-Science. I took these pictures on a short visit to the site, and there are more pictures available on RIS's website.

RIS invites students to tap into their creativity and imagination. The environment does not feel or look like a regular classroom, rather it is designed to stimulate their creativity and self exploration. The murals on the walls help students connect to their imagination and to the world that the structured "*crazy story*" provides. (see Chapter Two for more details).

RIS provides a safe environment where students can experience emotional spark by the freedom to express many kinds of feelings, ranging from thrill, excitement, joy, camaraderie, frustration, disappointment, and fear. The environment at RIS set up as a time to be socially engaged as they meet, work, and learn with friends. Furthermore, it is an inclusive environment, inviting and accepting parents and siblings to observe in the classroom during each lesson. It is a place where diverse groups of students and families meet and spend time together exploring science. RIS invites collaboration in many ways. As shown in the third



photo, the class is set up in a way where all students face each other to promote listening, and sharing ideas. Even when students work in small teams, everyone is sharing the big table in the middle so that teams can learn from each other and benefit from others' ideas and results. The collective intelligence is always the most powerful tool in each lesson as they try to come up with ideas when solving the challenge presented at that lesson.

**Table 1**

***Rock-It-Science Lab Environment***

<b>Photos of RIS Lab</b>	<b>Description</b>
	<p>A sign in the lab that set the tone for creative exploration. Mr Mac is not shy about his ideals and values. As stated in the top sign - “A ship is safe in harbor, but that is not what ships are built for” (John A. Shedd). On the bottom part of this sign it is stated that “A creative mess is better than tidy idleness” (photo taken by S. Barkan)</p>
	<p>The lobby where families and students wait for classes and enter the world of imagination. This space is for the student, the parent, and siblings as well. All are welcome to RIS and many stay to observe the classes. (photo taken by S. Barkan)</p>
	<p>This is where the action happens. Small group of up to 12 students in a class with Mr. Mac or another teacher of RIS. Everyone sitting together, working together, facing one shared challenge to be approached by a collective intelligence, and various ideas. (photo taken by S. Barkan)</p>

RIS is a place where students get to do novel and very exciting experiments, using real tools, holding blowtorches, participating in experiences that include burning and exploding things. Student get to do many things their parents would never let them try at home. It is an environment that invites creative exploration where unique, imaginative, and crazy ideas are welcomes and accepted. The signs on the wall as shown in the first photo demonstrate that. Lastly, RIS is a place for self growth. Each student get plenty of opportunities to face their individual challenges and grow, for some this might happen by working with peers, by trying ideas, and sometimes having results that differ from what they expected. For others it might be about overcoming fear and for example, holding the blowtorch, or speaking up in a group setting, and sharing your ideas with others. Everyone can find chances to grow.

RIS was embraced by many homeschoolers, and this program had been a magnet for students and families from different cultures, locations, philosophies about homeschooling, various beliefs, socioeconomic status, different capabilities, and sets of students' needs. RIS provided me with access to a diverse group of homeschooled teens between the ages of 12-16 years old. This setting was a very good fit for my study.

### **Participants**

The participants were adult homeschooling parents in Northern California who had adolescent children, aged 12-16 years old, who participated in at least one Rock-It-Science teen class during the past four month, or longer.

All of my participants spoke English as their first language, were women, and all the teens they provided perspective on were males. I collected demographic data from my

participants, such as when and why they began to homeschool and their homeschooling style and philosophy. This information gave me a better understanding of them and their families' setting. All but one parent homeschooled her adolescent from the beginning of his educational journey, and all participants used some form of the eclectic style of homeschooling in which they pick and choose from different pedagogies, theories, and curricula.

All my participants had years of experience with homeschooling, were very involved in the education of their child, had clear defined values about what education they wanted for their teen, and were able to offer their insights in connecting all these parts in the setting of RIS.

### **Protection of Human Subjects**

The research plan for my study went through the rigorous process of IRB review and approval to make sure all aspects, stages, and procedures followed ethical research codes and to ensure the protection of human participants. Protection of participants began in the recruitment process, continued in the data collection process, and in the data reporting process.

### **Recruitment of Participants**

Recruitment of participants followed a procedure of a few steps. All the documents I used, the agency agreement, information letter, and consent form (see Appendix A) were reviewed and approved by my advisor Dr. Dionne Clabaugh, and the Pacific Oaks College Institutional Review Board (IRB). I began the recruitment process by acquiring an agency agreement from John McChesney, the founder and director of RIS, and talked to him about the specific days of the teens' classes on which I would come to recruit parents as participants.

On the recruitment days I came prepared with the information letter, which included my contact information and was quickly able to find my participants. With most of my participants, I scheduled the interview on the spot, and with a few I communicated via email for a time and location that would work for them and be approved by Pacific Oaks College. I emailed my participants a reminder before the interview.

### **Protection of Participants During Recruitment**

Creswell (2014) named a few criteria that must be met in the effort and intention to protect human subjects.

Identification of the researcher, identification of the sponsoring institution, identification of the purpose of the study, identification of the benefits for participating, identification of the level and type of participant involvement, notation of risks to the participant, guarantee of confidentiality to the participant, assurance that the participant can withdraw at any time, provision of names of persons to contact if questions arise (pp. 134-135).

When I came to recruit participants, I provided potential participants, parents of homeschooled teens at RIS, with an informational letter that included all these details about the purpose of my research, who I was, and the college where I study. The letter was written in an easy to understand manner and contained my contact information as well, in case potential participants would have more questions. I introduced myself and briefly shared all the information contained in the letter, then answered any questions that came up. I emphasized that participants can ask more questions by using my contact information.

I invited potential participants to consider participating, and at the same time made sure to clearly say that it is on a voluntary basis and they can also choose to withdraw at any stage. I explained in detail what participation would include. I talked to them openly about the potential risks, which included them giving me from their time and perhaps feeling uncomfortable with some of the questions. I then explained how I planned to minimize these risks, by ensuring that the interview will not last more than one hour, as I planned it to last 30 to 45 minutes, and that they had the option to not answer any question that might be uncomfortable for them. I took the opportunity to explain how I would protect their confidentiality. Bui (2014) defined confidentiality as "...protecting the participants' identity and records" (p. 284). I promised I would not use their names and that they each will get a code-name that I would share with them but no one else.

### **Protection of Participants During Data Collecting**

I collected my data using semi-structured interviews in a private and quiet setting to ensure participants' privacy and highest comfort level.

After we both reviewed then signed the consent form, I took my recording devices and began recording. I explained again about the ways in which I would protect their identity and informed them of their code name. I said again they did not need to answer any question that made them uncomfortable and spoke briefly again about the risks and benefits. I made sure to adhere to the time limit of the interview and at the end of the interview. I thanked the participant wholeheartedly.

### **Protection of Participants During Data Reporting**

The signed consent forms and interview transcripts were given to my thesis advisors Dr. Bianca Rowden-Quince and Dr. Dionne Clabaugh, for college records. In my data

reporting process, I made sure to represent the participants in the most authentic way and provided supportive quotes to all of the emerging themes from the interviews. Participants were not mentioned by name or even by their code names, and their identity was kept well protected. All papers from the data collection and reporting were kept in a locked box at my home in the study, and only I had access to it. All e-files from this process were kept in a password protected computer. Data will be kept for seven years after which I will shred the papers and delete the files from my password protected computer.

### **Data Collection Instruments and Data Collection Procedure**

The seven questions I prepared and my advisor, Dr. Dionne Clabaugh, reviewed, and were approved in the IRB process, provided a solid foundation for the semi-structured interviews. The seven questions were:

1. When and why did you start homeschooling your child?
2. What is your homeschooling style?
3. In what way does your child feel safe to express his emotions at RIS?
4. In what ways does Rock-It-Science provide opportunities for your child to connect and communicate with peers?
5. In what ways does Rock-It-Science provide exciting and unique experiences for your child?
6. In what ways does Rock-It-Science provide chances for creative thinking and exploration?
7. What experiences do you see as meaningful for your child here at Rock-It-Science?

The purpose of the first two questions was to get to know my participants on a deeper level as homeschooling parents. The next four questions were designed specifically to provide data to answer my research question. Each of these questions addressed one part of the ESSENCE (emotional spark, social engagement, novelty, and creative exploration) at a time. The last question invited participants to tell me their own perspective specifically related to their teen.

Three interviews were conducted by me at RIS's lab, in Mr. Mac's office while the teens attended class, one was conducted in a park in a quiet area while the teen was playing with his friends during a homeschooling park-day weekly gathering, and one interview was conducted in an offices at Pacific Oaks College at the San Jose campus.

At the beginning of each interview, we went over the consent form which included permission to record the interview. After signing it, we moved on to the interview. I provided my participants with a copy of the seven interview questions (see Appendix B) I prepared. I explained they can choose to skip questions if any of these made them feel uncomfortable, though none of them opted to do so. I followed the questions as a guide but did not limit their replies when it went beyond the scope of the question. The interviews were semi-structured interview and turned out to be more of a conversation. All interviews lasted approximately 50 minute, and I thanked my participants wholeheartedly at the end.

Regarding the three interviews conducted at RIS, hearing the background sounds of the class was a perfect backdrop for gathering this information. It made learning about what teens experience at RIS real and authentic. We heard laughter, a big boom now and then and lots of teens talking and sharing, we heard part of the *crazy story* and the signal of class ending, as we

heard the chorus of Mr. Mac and the teens saying “... and they all lived happily ever after, except for evil Mr. Fred”.

I listened carefully to the parents during the interviews, not only to their verbal but also their nonverbal communication. I took some notes during the interview, and more right after it. I made sure to be present for the unique opportunity of the interview and relied more on the recording for the transcription. Shortly after the interview, I began the process of transcribing and summarizing what the parents shared. I wrote a short reflection that I could use later for the discussion part.

### **Reliability and Validity**

The process of ensuring reliability and validity began by having my research question reviewed, re-worded as needed, and eventually approved by my advisor and included in the IRB documents. I carefully planned and tested the interview questions by presenting them to my son and my husband, both of whom are familiar with RIS as well. Their responses and feedback helped me make sure that the questions addressed the topic of my study and research question. I participated in an in-class workshop for best practices on how to design interview questions. I learned how to design the questions so they would not lead the participants, not include any bias, would be open-ended and invite authentic input from my participants, and on how to make sure the questions were clearly articulated, and easy to understand. Next, my interview questions were reviewed, tested for readability using the readability formula tool of Flesch-Kincaid and approved by my thesis advisor. Bui (2014) defined reliability as “...the extent to which an instrument consistently measures what it was intended to measure” (p. 291). My interview questions were reliable because the data they generated answered my



research question, as well as helped me to learn more about my participants' perspective and knowledge about RIS and their homeschooled teens experience there.

I followed the standard and well-known procedure of data analysis as described by Bui (2014) of transcribing, coding, categorizing, chunking, recording, and finding the emergent themes. "...major themes and patterns emerged during the data analysis process" (p. 182). These themes were used to find an answer to my research question.

Bui (2014) defined validity as "...the credibility of findings in a qualitative study" (p. 292). Creswell (2014) wrote that "qualitative validity means that the researcher checks for the accuracy of the findings by employing certain procedures" (p. 295). He mentioned that "validity is one of the strengths of qualitative research" (p. 251) and one way of determining this is by making sure the finding "... are accurate from the standpoint of the researcher, the participant, or the readers" (p. 251). Creswell (2014) guidance refers to the data, which in my study is the transcripts. The transcripts have to be authentic and credible, and these were checked several times by my advisors and by me.

Another step for ensuring validity was making sure that the themes found in my data were all related and connected to the research question. More steps that I followed were using thick description (Creswell, 2014). Bui (2014) defined this as "an explanation that includes both the behavior and the context in which the behavior was displayed" (p. 292). What Creswell (2014) and Bui (2014) mean by thick description is reporting the data in a way that provide the reader a chance to imagine he was there with us at the time of the interview. I followed this process by adding supporting quotes as evidence for each theme.

Creswell (2014) added that we also need to “clarify the bias the researcher brings to the study” (p. 251). In my reflections on my study I discuss how I was looking at RIS from a very specific perspective of the ESSENCE, and how based on my own experience with this program teens were happy and joyful studying there and growing in several aspects beyond the content of science. I also included in Chapter Four a reflection on the participants and on the data I collected. Lastly, in Chapter Five I situated my results in the literature reviewed in Chapter Two, and I presented new literature that does and does not supports my findings. By following the steps Creswell (2014) described, I ensured validity of my findings. Lastly, two steps that added to the validity and reliability of my findings were (a) asking interview questions in the same order, which increased ease, order, and accuracy in the analysis process of the data, and (b) the fact that all my participants, responses contained evidence of the themes based on ESSENCE used to analyze my data (Creswell, 2014).

### **Data Analysis Procedure**

In this section, I will describe my process for analyzing and presenting the data I collected via the semi-structured interviews.

#### **Process of Analyzing Data**

To analyze my data, I began a detail oriented process, with the purpose of understanding the data I collected in my interviews and made sure I represented the voices of my participants as accurately and authentically as possible. The process began by transcribing the interviews. After transcribing, I began to organize the data. Using Google Doc, I created a few tables. One table was for each participant’s transcribed answer to each question. I then created another table for each question, that included the responses of all participants for that

question. After reading all responses per question a few times, I summarized each participant response to that question and then moved to summarize the data for the question as a whole. I added a row with the summary to the table of the question and responses. After doing this process for each of the seven questions, I went back to each summary and found common categories, by “labeling different topics” (Bui, 2014, p. 185).

I coded the categories I found for each question, added them to the tables, re-read the responses of the participants for each question, and marked the codes as they appeared. I tallied up the codes of the categories and added that information to the table for each question. Then, I looked at my data again, chunked the categories and retallied that. I repeated this process for each of the seven questions.

I read again what I have done so far to help reflect on what my participants said and what themes I recognized emerging from that. I extracted themes for each question, added that to the table, coded the themes, tallied it, and recorded their frequencies. I compared in a few places the frequencies of the chunked categories and the themes to make sure my themes represent my finding from before. I added the themes, tallied codes, and frequency to the table for each question.

## **Presenting Data**

After doing this process for all seven questions, I began creating the tables in which I wanted to present my results. I decided that the first part of question one, when the participants began homeschooling, would be best represented in a narrative form, since there were only two options for the reply to this question. The second part of the first question, why they chose to homeschool, and the second question, about their homeschooling styles was

already presented in a table format since there were more categories and options for answers. I also decided that frequency would be represented in numbers of appearance from total responses as this gave a direct representation of the meaning of these results.

For questions three through seven, data was presented in tables with an introduction and a short narrative summary for each one, following by an explanation of the significance of these results. My next step was to find emerging themes that represent the whole pool of data from all participants' responses to all my questions. For that, I took some time to look, digest, read again, and reflect on my tables and themes. In this process, I found meta-themes or overarching themes that would be discussed further in Chapter Five.

## **CHAPTER FOUR**

### **Results and Significance of Data**

My research question was, in what ways does Rock-It-Science (RIS) provide for the Emotional Spark, Social Engagement, Novelty, and Creative Exploration (ESSENCE) of homeschooled adolescents? Using a qualitative research method to conduct five semi-structured interviews with parents of homeschooled teens who participated in RIS, I asked about their perspectives of their adolescents' experiences in RIS, to answer my research question.

In this chapter I will present the results of the data from the interviews and their significance. I will then share my personal reflection on the process of data collection, analysis, and the experience as a researcher.

### **Data Collection Results and their Significance**

The semi-structured interviews included seven questions and lasted about 50 minutes for each interview. My interview questions can be grouped into three groups. The first, includes questions one and two that were designed to provide me with a deeper understanding of my participants, mostly about the homeschooling aspect of their life: when and why did the family begin to homeschool, and what was their homeschooling style? Then I will present data from questions three through six. These four questions were specifically designed to provide direct answers to my research question as they follow one part of the ESSENCE at a time. The seventh and last question invited participants' personal perspective and reflection on what was the most meaningful contribution or aspect of RIS for their teen.

Data will be presented in tables for all questions except for the first part of question one, which will be presented in narrative format. After each table I will explain the data and its significance.

### **Q1 and Q2 Results - Interview Data about the Participants**

**When and why did you start homeschooling your child?** The responses I received for this question are divided into the two parts of the question. For the first part of when homeschooling began, I got two types of replies, *from the beginning* and *under duress*. Four of the five participants said they homeschooled from the beginning, meaning, their child never attended the school system. One participant shared that she began to homeschool her other children under duress, meaning she pulled them out of school due to disturbing happenings such as misogynistic messages about gender roles and abilities. She saw homeschooling worked well for them and decided to add the child who was still in a regular school to their homeschooling journey. This is the reason they began to homeschool the teen who was currently at RIS's teens' classes.

Table 2 displays data and themes that emerged from the second part of Q1, about the reasons participants chose to homeschool their children. All five participants mentioned more than one reason for homeschooling. Answers varied from addressing family needs such as financial needs, or special characteristic of the child such as giftedness, and this reason was mentioned by all five participants. The second reason, that was mentioned by four out of the five participants was seeing others homeschool successfully and its positive effect, or being mentored into homeschooling. The third reason was that homeschooling was a continuation or

actualization of their ideology and values which was mentioned by three participants. Following the table is an explanation of the significance of these results.

**Table 2**

***Reasons Participants Began Homeschooling Their Children***

<b>Theme (Freq.)</b>	<b>Reasons</b>
Homeschooling to meet family and child's needs (5 out of 5 participants)	<p>"...the school system where we live was not great, and ... I found out they [the children] were gifted after testing. This was the clincher..."</p> <p>"... The public schools in the area were really not good... the private school ... tuition was as much as stanford so that would not happen... moving to a better neighborhood to get to a better public schools, was not possible financially...."</p>
Appreciating and adopting the idea of homeschooling after it was modeled, seen, or mentored (4out of 5 participants)	<p>"...I asked my friend whose daughter was already 5 years old ... what are you going to do with your daughter, and she replied 'we are homeschooling', and I said 'tell me more' and she did... she talked about it in a very positive light, ... lent me a bunch of books, mostly by John Holt, and then said there is this group on Wednesdays... And we started attending when my daughter was six months old ... and the rest is history...."</p> <p>"When I was in highschool, I had an aunt and uncle who homeschool their kids, and I knew that 'that is the way!'..."</p>
Homeschooling for ideology and values (3 out of 5 participants)	<p>"... I felt strongly about my values of wanting to be a stay-at-home mom and homeschooling was an extension of that ...."</p> <p>"... a lot of our homeschooling is about what kind of relationships are we having in the community around us, because our children are a process and not a product..."</p>

**When and why homeschooling began** - Results showed that four out of five participants began homeschooling their children from the beginning, meaning the child never attended the school system. This was interesting since it meant the experiences their children had had were mostly of positive educational settings. Often, those who moved into

homeschooling, after negative experience within the school system, carried some scars from that time. It is common for children who begin homeschooling under these circumstances, under duress, to begin the homeschooling journey with time dedicated to healing, getting reconnected to their inner passions and interests, this is called deschooling (Faulconer, 2014). The participant who did not homeschool from the beginning shared why they began homeschooling her oldest daughter and then her youngest son. The teen in RIS was homeschooled as a result of her homeschooling her other children. “By 3rd grade [her daughter] had a teacher that was destroying [her] belief in her own math ability. She said ‘math is hard for girls’ ...[she said to my daughter] girls are going to worry about their weight so get used to it...”. The participant gave a few more examples for how the extremely negative and disturbing messages her children received.

When I asked participants why they were homeschooling, all five participants mentioned more than one reason. This was expected and common from my experience with this community. Homeschooling is a huge decision that usually meets more than one need. All five mentioned meeting some needs for the child or family as a reason. Whether it be a financial need, of not being able to afford private schools’ tuition, or the living expenses of the area where good public schools are. Another type of need mentioned was connected to the children - this could be giftedness, special needs, emotional safety, and so forth. The next two reasons mentioned were seeing that homeschooling worked or being mentored into homeschooling, this was mentioned by four participants, and three participants mentioned homeschooling for reasons of values and ideology. Three main points come from these results, connected to my literature review on homeschooling and to my own experiences within the



homeschooling community. These were multiple reasons for homeschooling even when ideology is mentioned, the importance of mentors in this journey, and third, that homeschooling often met needs for both, child and the family as a whole.

**What is your homeschooling style?** Table 3 displays the themes that emerged from the responses of participants to the second question, about their homeschooling style. Four participants mentioned the theme of seeking to influence content and pedagogy, emphasizing it by providing many details and examples for that. Influence parents referred to was about content, method of teaching, such as hands on, choosing the setting, multi-aged classes, deciding on core elements, community-based learning, religious content, or adding own perspective and critical thinking. More examples were given to the second theme, and the participant who did not mention this directly talked about it in other replies during the interview. Five participants mentioned the eclectic theme, some in straightforward statement and some by explaining their homeschooling in a more descriptive way. Eclectic homeschooling, means that they pick-and-choose from many methods what works for a specific time in the child's life, subject, or topic. I counted the number of times they mentioned each theme for the measure of frequency, with total mentions of 15. For more information about homeschooling philosophies please see Appendix D.

Table 3

*Participants' Homeschooling Style*

<b>Theme (Freq.)</b>	<b>Sample Responses</b>
Seeking to influence content and pedagogy of their child education (10/15)	<p>“ I believe the right way for children to learn is within a community, with other people, and to follow a child-led learning philosophy”</p> <p>“Follow what my child is interested in. Now he is into programming, so he has a few classes and learning C-Sharp, Java, Javascript, Python. He is interested, and so I am finding classes and opportunities for him”</p>
Eclectic Homeschooling (5/15)	<p>“eclectic. We pull from all kinds of different methods”</p> <p>“eclectic would be a good description”</p>

**Homeschooling style** - There are many ways, styles, theories, and pedagogies to choose from and implement when it comes to homeschooling, (see Appendix D for some definitions and resources). When the five participants were asked about their homeschooling style, all replied that it was an eclectic homeschooling, meaning taking in from different methods and combining to meet specific needs by subject, topic, or time and stage in the child's development and educational journey. However, some did not provide quick clear reply to this and only after more details and examples, they concluded or described eclectic homeschooling.

For example, one participant mentioned she was “label resistant”, however, yet when she explained further what they were doing, she mentioned many sources of influence in their homeschooling, and in a sense, she described what eclectic homeschooling was. Another participant began by mentioning the Christian curriculum they use and quickly added that she

“...alter things to make it work for my kids. ... add my own math and language art, and I use the curriculum as a guide, but it is still my school..”. And so, all participants ended up describing their homeschooling style as eclectic. Eclectic homeschooling was mentioned for two main reasons. First, to enjoy the flexibility it brings and thus ability to follow a child-led education, the second reason eclectic style was named was to maximize the freedom of how to educate the child and make choices as needs arise. Data about my participants’ homeschooling style was significant because it reflected a characteristic of the homeschoolers who choose to attend RIS’s classes.

Another interesting part of the data was that all participants mentioned how important it was for them to be able and influence the content and pedagogy of their child’s education. The ability to individualized education to meet the family’s values and child’s needs are two of the most important reason and benefits of homeschooling (Riley, 2015).

### **Q3 through Q6 Results - Interview Data about the ESSENCE at RIS**

Interview questions 3 through 6, were directly designed to address ways in which RIS provides for the ESSENCE of homeschooled adolescents. Frequencies for these responses are provided.

**ES - Emotional Spark.** Question Three was, In what way does your child feel safe to express emotions at RIS? Table 4 shows themes, supportive evidence from the data, and the frequency of these themes from the total of 27 responses.

Daniel Siegel explained this first part of the ESSENCE of adolescence, emotional spark as enhanced emotional states. This could lead to moodiness from one side and strong passion and drive to live life fully on the other hand (Siegel, 2014d). I asked parents to reflect if this

was met at RIS for their teen. Two main themes that came from the responses of the participants. The first theme was related to the environment Mr. Mac, founder, director and lead teacher at RIS, had created. The second was feeling safe, competent, joyful, and nervous.

The first theme was about Mr. Mac's characteristics as a teacher, and the safe and joyous environment he created at RIS, that participants reported to be meaningful and enabled their teens to have the freedom to feel and express a range of emotions. This theme's frequency was 15 out of total 27 responses. The second theme focused on the teens emotional experiences within a safe, judgment-free community, and feeling competent with their experiences done in RIS. One participant who described her son as an introvert said that within this setting of RIS, he does "get excited", another participant reported that RIS is a special place that offer emotional safety for teens to experience and feel "deep profound emotions", and another participant reflected that at RIS her son can be his authentic self, "he is himself just as he is at home". This theme's frequency was 12 out of total 27 responses the participants provided.

Table 4

*Parents' Perceptions of Ways in Which Rock-It-Science Supports Emotional Spark*

<b>Theme (Freq.)</b>	<b>Sample Response</b>
The environment Mr. Mac creates (15/27)	<p>“...he [Mr. Mac] creates a relaxed atmosphere ... there is no judgment... there is trust there”</p> <p>“... RIS is unique as teens can experience all of these deep, profound emotions - joy, eagerness to get here, I know my son is always eager to get here. The safe space where you can be fearful... a very safe space that emulating what proper classroom should be everywhere...”</p> <p>“...I think what Mr. Mac is doing is accepting of everyone where there are at....”</p>
Competency, safety, and judgment-free community (12/27)	<p>“... he [Mr. Mac] expect that the kids are capable. Where a mom might be ‘oh em’ [cringing face]. He expects that they can handle it...[this] raises their level of ability or confidence...”</p> <p>“...there is no judgment, no teasing. It provides, the expectation ... that we are all here together, and we are all going to experience this thing together. And nobody is going to judge anybody here...”</p> <p>“He [her teen] has always felt safe to talk to Mr. Mac... ask questions.... Mr. Mac and that is not something I find him doing outside of RIS... he is himself just as he is at home, his humor comes out, and his ideas....”</p>

**ES -Emotional Spark at RIS** - These results were significant because they explained specifically what emotional spark meant for my participants in regard to their teens, and the way this was provided in RIS by the environment Mr. Mac maintained. Results supported a connection between the personality of the teacher, the environment he creates, and the experience the teens have. This was a motif in the three other parts of the ESSENCE and I will talk about it more in Chapter Five.

**SE - Social Engagement.** Social engagement is the second part of the ESSENCE Siegel described and is focused on the higher need for social interactions, both in quality and quantity, that emerges in adolescence (Siegel, 2014d). The following question ‘In what ways

does RIS provide opportunities for your child to connect and communicate with peers’, invited the parents’ perspectives on this domain..

Table 5 shows there were 40 responses to this item. Four themes emerged from the data in reference to social engagement: opportunities RIS provides for social success, ‘teach life’ which is about social skills life lesson, addressing the emergent social needs, and personal social growth. Frequencies for each theme are provided from the total of 40 responses.

These four themes demonstrate the different ways parents’ saw social engagement needs being met at RIS. The first theme with the largest frequency of 16 out of a total of 40 responses, was opportunities provided at RIS for social success. This theme referred to the many options for social interaction, such as working in pairs, in small group, chances to share ideas and work together, share jokes, time to talk among themselves, and be together a bit before and after class. As one participant said “ I hear the boys making jokes...positive comments on the *crazy story* additions... [they] feel pretty confident and safe...”.

The second theme with a frequency of 10 out of a total of 40 responses was titled, ‘teach life’, this was a term one of my participants used. This theme is about the opportunities that RIS provided to learn real life social skills, situations, and challenges. This has special meaning for homeschoolers because they have a lot of control on when, where, and with whom their child or teen associate with. The third theme was addressing the increased social needs with a frequency of 7 out of a total of 40 responses. This theme was about meeting the need for social engagement by providing structured and predictable opportunities for the teens to be with their friends on a regular basis and more frequently. For four participants this meant signing their teens up for classes with their friends to ensure time together. One participant

shared that this was the first place her son had made new friends and that these friendships extended beyond RIS. The last theme was personal social growth with a frequency of 7 out of a total of 40 responses. This theme focused on how each parent reflected on her teen personal social growth in this setting. This was about meaningful changes the parents noticed in their teen while in the RIS environment. Some examples participants mentioned were beginning to initiate a connection with other teens to meet beyond the class time, learning to work with others whom the teen didn't know before, expanding the social circle, and developing strategies of observation to learn about others.

**Table 5**

***Parents' Perceptions of Ways in which Rock-It-Science Supports Social Engagement***

<b>Theme (Freq.)</b>	<b>Responses</b>
Rock-It-Science provides opportunities for social success (16/40)	<p>"...they pair up... they can share and collaborate with each other.."</p> <p>"...he makes a lot of his assessments of friends based on observation of behavior... allowed him to do [that]..."</p> <p>"...variety of ways to participate...2 children or 3... dynamic... more complex and interesting... they work things out..."</p>
'Teach life' (10/40)	<p>"...I can't guarantee you will work together [with the friend he signed up for class with]..."</p> <p>"There are places you have to go and you make friends or not, work and play or just play, it is life ..."</p>
Addressing emergent social needs (7/40)	<p>"Opportunity, [to] do classes with.. fellow homeschoolers"</p> <p>"I deliberately sign him to classes where he has the group of kids he likes..."</p> <p>"...this is one of the few places where he had found friends...[after moving. Then 6 months later] ...he found that now he is looking for new friends..."</p>
Personal social growth (7/40)	<p>"...he has learned how... to work with a person, he didn't know before...whoever he she may be..."</p> <p>"...he is beginning, and that doesn't happen in any other class besides at RIS, ... to see how they can I get your email... initiating the connection, taking charge, follow through..."</p>

**SE -Social Engagement at RIS** - These results were significant because it demonstrated specifically ways in which RIS's environment supported the emerging social need for teens. It provided structure to be with others, and in every lesson teens worked in collaboration. Mr. Mac encouraged them to learn and springboard from others' ideas. The lesson was planned so that the largest portion of time enabled communication among the teens, and the judgement-free and accepting atmosphere ensured teens expressing themselves freely. The setting supported both real-life social interaction lessons, and personal social growth.

**N - Novelty.** Novelty was the third component of the ESSENCE and Siegel explained the novelty seeking need for teens as a direct result of changes in the brain at that period that caused the need for higher stimulus for the reward circuit (Siegel, 2014d). While this need can bring more danger into the adolescent's life, it is also what enables teens to take risks in every aspect of life, personal, social, intellectual, and so forth, and break free from the comfort of the home later on.

Table 6 displays themes that emerged from data about parents' perceptions of ways in which RIS supports the need for novelty for homeschooled adolescents. The question was worded as, In what ways does RIS provide exciting and unique experiences for your child? Three themes emerged from the parents' reflections: students demonstrate excitement, wonder, and safety to take risks, Mr. Mac is a role model for an unfettered childhood, and RIS provides otherwise-unavailable opportunities for science exploration. There were 40 responses, and the frequency for each theme is provided in the table..

Novelty is the third part of the ESSENCE. In this table, I present three themes that came from the data that had very similar frequencies. The first theme had a frequency of 14



out of a total of 40 responses and was about the excitement, sense of wonder, and feeling safe enough to try and take risks. Parents mentioned the excitement their teen experienced with the more dramatic experiments, and the environment that encouraged extending their comfort zone and taking risks. The second theme was about perceiving Mr. Mac to be a role model to an unfettered childhood with 13 out of a total of 40 responses to this question. Participants mentioned how we live in times when we tend to overprotect our children, and educational settings are often trapped and limited by insurance liabilities, and so the opportunities RIS brought into teens' lives were unique. The explosions, burning, holding blowtorches, using real tools, dealing with smelly situations, and so forth, were the type of experiences that supported the need for novel experiences. As Mr. Mac said "we do not shield ... from dangerous stuff ... instead we teach them how to do dangerous things safely..." (McChesney, 2013).

The third theme was RIS providing otherwise unavailable opportunities for science exploration, including some relatively dangerous experiments requiring resources that parents did not have access to, as well as, teaching science in a fun way that invited cooperation and increased curiosity. These unique experiences not only supported the teens needs, but also the needs of the parents. Mr. Mac added to their homeschooling journey by providing what the parents could not do at home. This theme had a frequency of 13 out of 40 responses.

All three themes are connected to some of the core values of RIS as Mr. Mac believe in exploration, and teaching his student how to do dangerous things in a safe way. Mr. Mac also believe of nurturing the curiosity, creativity, and natural sense of wonder. He is aware that RIS is a setting where unique opportunities can be provided in order to support his wish and belief for less sheltered life and exploration for our kids

Table 6

*Parents' Perceptions of Ways in which Rock-It-Science Supports the Need for Novelty*

Theme (Freq.)	Sample Responses
Excitement, wonder, and the safety to take risks (14/40)	<p>“...excited about the teen classes because there is more explosions and exciting stuff..”</p> <p>“...they are not risk takers and RIS is preserving the risk taking and we are here for the joy of ‘what if?’...”</p> <p>“...burning things and blowing up things....the most exciting so far was when they burned money [laugh]. They love it”</p>
Role model for unfettered childhood (13/40)	<p>“What I really value about it, it helps them [the teens] remain attached to their childhood... remain attached to their inner child....”</p> <p>“...[young teen] was slightly nervous but I [parent] said, you will be fine...”</p> <p>“I tell people the main reason I have my son there is because Mr. Mac is not afraid of explosions, bad smells, and burning things...”</p>
Rock-It-Science provides otherwise unavailable opportunities for science exploration (13/40)	<p>“RIS is a natural extension of the wonder of science....fills the gap between childhood, future science, and what we can do at home”</p> <p>“...this keeps it fun ... keep this mindset that science is fun ... science is part academic and part blowing things up”.</p> <p>“...I can only do it as exciting as I can, but the whole thing about homeschooling, I am not going to torture you, I will find what can work better and be more fun and interesting...”</p>

**N -Novelty at RIS** - The results were significant because they provided specific answers to ways in which RIS provided for novelty experiences. It highlighted yet again the central tenant of the environment created by Mr. Mac as a role model, as one who set the tone for trusting the teens and not shielding them from risks, instead he taught them how to safely handle dangerous things. Also by providing this aspect in the teens life, Mr. Mac supported the

parents who then got to learn more about their adolescent capabilities, and were able to expand their trust in their child. The adolescent's experiences were described in a way that fit what novelty is, excitement, sense of wonder and having a sense of safety to take risks. This kind of risk taking was not only promoting the thrill teens seek, but also provided tools on how to do so safely, and with the presence of an adult in an environment of mutual trust, respect, and acceptance.

**CE - Creative Exploration.** Creative exploration was the fourth and last piece in the puzzle of the ESSENCE. Siegel (2014d) explained that this referred to doing things differently, in our unique way, not following the path but rather creating your own, exploring new ways, options, and ideas. In table 7, I display three themes related to creative exploration: the pedagogy behind *The 'Crazy Story'*, Rock-It-Science's inspiration of creative exploration, and the teens' experience. The table includes the creative exploration themes, sample responses, and frequencies out of 46 total responses.

The first was the reflection on the pedagogy behind the *crazy story*. Participants noticed and analyzed the ways the *crazy story* provided structure with the predictability of its elements, and most importantly, served as a foundation for the creative exploration. The *crazy story*, which is an essential part of RIS pedagogy serves not only as attention magnet, but also as a vehicle through which Mr. Mac brought the scientific concept to each lesson, and most relevant for my study, serves as an invitation, and structured opportunity and guide for creative exploration, when students are asked to come up with their own solutions to the problem presented. To enable this creative thinking teens also had access to the imaginary *ACME store of everything* which offer all tools, and materials, real or imaginary a teen might need for his

creative idea and solution. This theme represented the highest frequency of 19 out of 46 total responses.

The second theme was Rock-It-Science’s inspiration of creative exploration, with a frequency of 16 out of 46 total responses. This was mainly about teens taking the learning to the next level at home, to instilling and cementing the love of learning and thinking, and how Mr. Mac modeled creative thinking. The third theme was the teens’ experience, with a frequency of 11 out of 46 total responses. Participants’ responses included in this themes focused on how parents perceived the basic setup of lessons at RIS and the setting of the lab as a source of support for their teens’ experience of creative and critical thinking, how this core value added confidence, and strengthen their exploration.

**Table 7**

***Way Rock-It-Science Supports the Need for Creative Exploration***

<b>Theme (Freq.)</b>	<b>Responses</b>
The pedagogy behind <i>The ‘Crazy Story’</i> (19/46)	<p>“It always amazes me how the story at the beginning seems as a crazy story that ... has no connection to the class, but then it has everything to do with the experiment they are going to do. Sometimes I don’t see that until the end when the story wraps up and then it is like OH yeah, now I got it..”</p> <p>“it is brilliant that the ACME store is the enabler of crazy ideas ... to imagine, you can’t be busy with getting it right. ... with the creativity, the structure of the story, and the consistency of the characters ...and [then] children thrive”</p> <p>“It takes a real competent teacher to be able to embrace ... put it like in a big basket ... and include and acknowledge all ideas. So the child is co-creator in this experience”</p>
Rock-It-Science’s inspiration of creative exploration (16/46)	<p>“Very often after class my son will go to the computer and research what was talked about in the class”</p> <p>“I see Mr. Mac as a master teacher... lesson plan ... that it is invisible... built into it, contingencies...and [has] deep knowledge...”</p> <p>“In RIS kids really want to learn, because learning is playing and it is fun”</p>
The teens’ experience (11/46)	<p>“He [Mr. Mac] already sets it [creative exploration] out, he doesn’t tell them what to do, he gives them a framework and they need to figure it out...”</p> <p>“For my son the more confident and figuring things out, not being spoon fed by the teacher, it is better, the way Mr. Mac teaches [it] build confidence...”</p>

**CE - Creative exploration at RIS** - These results were significant because they described specific ways in which the creative exploration need was met for the homeschooled adolescents in RIS. It brought the general acknowledgement of importance of teaching via a story and more specifically, a collaborative one. Results focused on the environment Mr. Mac created at RIS. The environment set-up for creative exploration, as one participant mentioned, Mr. Mac empowered and supported the teens to dare and explore in their own way, and one participant shared that the absence of textbook, homeworks, tests,... invited further exploration by the teens. Mr. Mac created a learning environment that was fun, inviting, and nurturing in a way that connected to many different needs. Parents reported that teens with various personal needs found RIS as a place of personal growth, and that time with Mr. Mac at RIS inspired further exploration at home for deeper understanding, gathering more knowledge and creating new experiments for topic they are curious about. One participant shared about her son new interest in learning about super freezing and finding ways to explore that on his own. Participants reported extensively about the meaningfulness impact of the *crazy story* as a way to support creative exploration.

### **Q7 Results - Interview Data about Participants' Additional Insights for their Teen at RIS**

In the last question, I asked participants about experiences they viewed as meaningful for their teen at RIS. This question invited each participant to reflect on their teen's unique development stage, the needs that were most urgent and relevant for him to meet and address, and how it was met in RIS. For some participants social engagement need were discussed, for others seeking of novel experiences were discussed. This question provided more personal data

to answer my research question, and was an opportunity that I cherished. It supported me in representing my participants to the best of my ability, and in the understanding that one setting can provide for different needs as well as support the wellbeing of many adolescents.

Table 8 displays data in response to this last question, What experiences did you see as meaningful for your teen at RIS? In this table I display themes, sample responses, and themes, responses, and frequencies out of 55 responses. The themes emerged: Mr. Mac's pedagogy, support for parent and teen, and specific part of the ESSENCE.

The first theme was Mr. Mac's pedagogy and the frequency of that theme was 22 out of total 55 responses for this question. This theme focused on how RIS connected to and supported the parents' values they chose to include in their family's homeschooling journey. Sample responses included appreciating creativity and curiosity, the value of play at any age, encouraging self expression by acknowledging and accepting all ideas, and instill trust to take chances and learn from disappointing results. The second theme was the support RIS provided for parents and teens, and the frequency of this themes was 20 out of 55 total responses. This theme focused on meaningful learning, personal growth, parents learning more about their teen's capabilities, and Mr. Mac's mentorship qualities.

The third theme was focusing on specific parts of the ESSENCE. The ESSENCE - emotional spark, social engagement, novelty, and creative exploration, are the four areas of needs Sigel found to be meaningful, real, relevant, supporting positive outcome for adolescents, as well as for adulthood (Siegel, 2013). It is anchored in new research and understanding of the changes in the brain during this part of the life cycle (Siegel, 2013). The ESSENCE theme's frequency was 13 out of 55 total responses to this question. Some parents focused more on the

social engagement, focusing of time together or collaborating with friends, some focused more on creative exploration, that was modeled and supported, each participants reflected on the part of ESSENCE that was most relevant for their teen.

**Table 8**

***Participants' Reflection on What was Meaningful for their Teen at Rock-It-Science***

<b>Theme (Freq.)</b>	<b>Sample Responses</b>
Mr. Mac's pedagogy` (22/55)	"...this is the teen equivalent of play for teens" "... the fact that all of the kids' ideas are valid..." "Hopefully taking the lesson and applying them to everything else... explore... trust that it is ok ...to be able to take chances and fail"
Support for parent and teen (20/55)	"if he [the teen] ... come to me and say I want to do... I could accommodate... I have seen him working with these tools..." "... RIS re-enforces the value of the 'What-if' ..." "I really like Mr. Mac demeanor as a mentor...model decent, kind, listening, and encouraging behavior"
Specific part of the ESSENCE (13/55)	"... the creative thought ...being with his friends..." "Letting them really do the things that we would not let them. Would I let my child hold a blow torch at home?!" "...it is a great outlet of so many qualities together - safe, interesting, fun, dangerous, science, all the things together"

**Participants' additional reflection about RIS** - These results were significant to my study as they focused on homeschooled adolescent as an individual with his specific needs, and how these were met at RIS. This ability and availability to address individual needs is one of the core values of homeschooling and connects to the first theme in table 3, where participants reflected on their homeschooling style, and mentioned influencing content and pedagogy of their child's education. They all found different ways in which RIS supported what their teen

needed. Because of the layer of homeschooling and the methodology of interviewing the parents, results brought their reflection on seeing Mr. Mac as part of the team supporting their teen and the family's homeschooling journey.

### **Reflecting on the Analysis Process**

After I had learned about the ESSENCE of adolescence framework (Siegel, 2013), I felt curious and motivated to find out how these were met for the teens who attended classes at RIS. I wanted to understand more about RIS's pedagogy, and how specifically it contributed to the adolescents' needs that I focused on. I wanted to find out what can be learned from this teacher, setting, pedagogy, and content, that perhaps can be shared and implemented in other places. Mr. Mac has been open to sharing his knowledge and values, he created an online community of teachers, in which he shares his detailed lesson plans and tips, with the purpose of supporting implementing his ideas an experience of how to teach science. Mr. Mac was supportive toward my study from the beginning, graciously invested time in the informational interview we had, and allowed me to use his office during the process of data collection.

The semi-structured interviews enabled sharing my participants' stories on a deeper and more authentic level, it also supported better understanding of the societal problem through their perspective, and learning from them what made their teens' time at Rock-It-Science (RIS) meaningful, beneficial, joyous, as well as a place and time for numerous opportunities for personal growth. While I came prepared for each interview with the seven questions that were planned, reviewed, and approved by my advisor, these served as a guide and a conversation ensued in all the interviews with my participants. from my own observation all participants



were comfortable and at ease during the interviews. I got a lot of data from these questions that supported understanding my participants.

The process of interpretation of results was a delight to go through. A lot of what I experienced with my son at RIS, was echoed in what the participants have shared. Mainly, the fact that each family and each teen found what they needed in this environment. Because it was not set as one size fits all, instead it was a place of acceptance with judgement-free environment, and the *crazy story* pedagogy that supported thinking creatively, every parent and every teen were able to take the experience of being at RIS to the place of their own current and strongest need. The ESSENCE were met as a byproduct of RIS unique setting and Mr. Mac values and pedagogy. This can also explain part of the experience I had when I interviewed Mr. Mac. He perceived his doing in a very nonchalant way and was curious to see where this study would take me, but was not familiar with the ESSENCE before. For him, the creativity, curiosity, and hands on exploration were core values, and the story was a tool that had proven to work every time, every place, and for all age groups.

Looking specifically at homeschoolers, enabled me to study alternative settings and in addition it connected to an interesting historical and present phenomenon I believe in and am part of, in which families are choosing to educate their children in different ways than the school system can offer.

The participants I had in my study were a significant and meaningful source of data and supported me in finding the answer to the research question. They knew a lot about the RIS program, they have all observed many lessons, their adolescent had participated in RIS for awhile, and so they could reflect on the growth they witnessed. They provided me with their

perspective on what they saw and valued in the program and about their teen's experience at RIS.

### **Summary of Results**

With the data I collected and the detailed process of analyzing I was able to shed a light on specific ways in which homeschooled adolescents fulfilled their ESSENCE by participating in Rock-It-Science program, spearheaded by Mr. Mac. Furthermore, I was able to find more aspects that fed and supported the adolescents and their parents in their homeschooling, educational, and personal journey.

RIS provided opportunities for teens to experience emotional sparks by creating safe environment for both emotional and physical aspects, setting high expectations, and trusting teens' capabilities. From the perceptions of my participants, having a relaxed, and accepting environment affirmed the invitation for their teens to be their true selves.

RIS promoted social engagement among teens by setting opportunities for homeschoolers to sign up with friends, to regularly meet and work collaboratively and to spend the majority of class time on interacting. RIS also set opportunities for parents to teach their teens valuable life lessons in regard to social interactions, modeling judgement-free, respectful, and kind listening and behaving, and adding a lot of humor and fun to the time spent together.

RIS supported teens' need for novelty, by adding a thread into the teens life that connected their childhood to future science exploration, by celebrating, elaborating, and maintaining the sense of wonder and curiosity. Novelty was fulfilled by providing a place in which explosions, burning, and smelly stuff happened, were planned, and expected. From the

perspective of my participants, RIS filled up the gap between what parents could give and what homeschooled teens sought. Novelty was provided for by having a place that kept the mindset of fun science, cool nerdiness, and teaching student how to take risks in a way that would not risk their lives, instead would be thrilling, satisfying, and empowering.

Lastly RIS promoted creative exploration by many of the details mentioned above, in the way lessons were planned, and the pedagogy of the *crazy story*. According to my participants perceptions, by avoiding homework, tests, and textbooks, Mr. Mac opened the opportunity and space for students to explore further after class on what was most interesting for them, and expand their knowledge and experience beyond the classroom.

It was exciting to find these results that show how adolescents can be supported well within an educational setting when it is one that holds values and use pedagogy that aim to promote creativity and happiness. It was also fulfilling to get the validation that homeschooling enables supporting the wellbeing of teens as it promotes choosing and being in educational setting such as RIS.

### **Researcher Reflection**

During this stage of my studies in Pacific Oaks College of writing the thesis, I had a unique and new opportunity to not only research a subject that was meaningful for me, but also to experience the role of a researcher. In the beginning, I felt uncomfortable giving myself the title of a researcher. I saw myself more like a seeker of knowledge, as a mentor and supportive member in my community. I enjoyed the opportunity to take many theories, varied sources of information, and create something that spoke to me the most. I felt a sense of

mission in what I wrote about, and that kept me energized and invested both emotionally and intellectually. As a researcher, I took responsibility for my mistakes, for time constraints, and was open to trying different techniques and strategies to make sure I represent my participants' stories in the most authentic way possible. I also used a self-reflection, mindfulness, and analytical mode of self to assess and learn what and how I can do better in the future.

My data collection was valid and useful within the restrictions of this thesis which I will talk about more in Chapter Five when I discuss the limitations of the research. I reflected on the moment when I found the focus point of the ESSENCE (Emotional Spark, Social Engagement, Novelty, and Creative Exploration) of adolescence as Siegle identified it (Siegel, 2013) . This was key and a turning point in making my work focused and more measurable. In all the interviews I had, I was satisfied with the seven interview questions I prepared and administered since they covered all the points for the discussion that I will share in Chapter Five. I was able to gather a lot of meaningful data, and it was directly connected to my research question: in what ways does Rock-It-Science provide for the essence of homeschooled adolescents?

During my data collection process, I learned the value of having a plan while being willing to let it go and cherished the time my participants graciously shared with me. One participant said "...[what] guide my home education philosophy is that "children are a process, not a product". This had captured the mindset of the data collecting process for me, and the semi-structured interviews enabled me to be in a listening mode and take in what the participants were willing to share. I was fortunate to get even more information than I planned

for with the tool of the semi-structured interview, and was thrilled to have a way and permission to include that in my research.

The interviews, data collection and analyzing process strengthened my sense of mission on this topic of adolescents wellbeing within educational setting and the huge potential and promise of the Rock-It-Science program. I felt a sense of a shared reality with the participants, hearing about their teen's experiences in the RIS program anchored my personal experiences in this regard, and validated the tremendous potential of this organization's pedagogy, theory, and views about children and education.

My interview questions were designed to answer the research question directly, and that had proven to have worked well, while all the input participants provided enabled me to answer my research question. It was interesting that my own experiences at this program with my son, had some different highlights, and this was another proof for me how unique the education journey is for every child. All in all, the interviews, data collection and analysis processes were a delightful and meaningful experience.

## CHAPTER FIVE

### Conclusion and Reflection

The search and efforts towards providing better education, and support the wellbeing of children and adolescents, have been an ongoing process in the past few decades. Nevertheless, not only has the debate over content and methods continued, but in addition, reality brought before us alarming signals of stress and suffering of students, among other problems (Abeles & Congdon, 2010). In my study, I examined homeschooling parents' perspective on whether or not their homeschooled adolescents' needs were met in the science program, Rock-It-Science (RIS). RIS is a nonprofit organization providing science classes for schools, after school programs, homeschoolers, as well as summer camps. The lens through which I invited the parents' reflection on their homeschooled adolescents in the RIS program was the ESSENCE, which is a set of four domains of needs defined by Daniel Siegel (2013). ESSENCE, stands for Emotional Spark, Social Engagement, Novelty, and Creative Exploration. I chose to focus on homeschooled adolescents and RIS since both are meaningful parts in my life that I hoped to gain a better understanding of, so that I could support and share my insights with others.

Homeschooling restored and nourished my son's love of learning and overall wellbeing. I have met many families who shared similar stories and experience in our area. The children and teens in our community thrived once their educational journey was tailored to fit them, and they were not asked to fit into the system. Homeschooling became an integral part of my parenting, and mission as I became a mentor for others as well. One of the gifts homeschooling brought into our life was the chance to meet teachers and educators who were invested in teaching and supporting, and not in preparing for tests or meeting the standards. One of these

mentors was John McChesney, founder and director of Rock-It-Science (RIS), also known to all his students and their parents as Mr. Mac. RIS was a constant thread throughout our homeschooling journey, and supported other needs besides learning science. It served as a safe and nurturing place to learn about social skills, connect with the natural love of learning, curiosity, creativity, and playfulness. Mr. Mac became as a role model for both my son and me, in education and life.

RIS, a program based on values of creativity, curiosity, storytelling, collaboration, hands on, fun, and imagination, has been touching students' lives for more than 20 years. RIS was a good setting for my research because it provided me with access to the diverse population it serves, and the values it holds. I was also very interested in learning more about this unique program and analyze its positive power and magic in bringing happiness and curiosity to children of all ages.

I was interested in learning more about what adolescents need in order to thrive in an educational setting. I saw homeschoolers who were happy and fulfilling their thirst for knowledge, learning, and creating, and I also saw schooled teens who were in a state of constant stress or even despair. I heard about teens suicide in our area, saw documentaries, attended lectures and read about the crisis teens experience in schools. Caring for teens and their wellbeing in educational setting turned out to be a social justice issue I felt motivated to learn about, and join the effort to address it. My first step was seeking better understanding of adolescents' needs, and how the RIS program provided for that, since in RIS's adolescent students seemed joyous and creative.

I conducted a qualitative research study and used semi-structured interviews to gather my data. This method enabled me to learn about my participants on a deeper level and to better represent their views, values, and insights. My participants were five homeschooling parents of teens that have been participating in RIS's homeschooling teens' classes. The framework I used as a lens to look at needs being met, was the ESSENCE, which serves a dual message, it is the acronym of Emotional Spark, Social engagement, Novelty, and Creative Exploration, and also serve in capturing the importance and essentiality of these domains as the basic meaning of the word, essence (Siegel, 2013).

My research question was, In what ways does Rock-It-Science provide for the ESSENCE of homeschooled adolescents? The semi-structured interview questions aimed to answer this question, give me information and understanding about my participants, their insights regarding the growth of their adolescent child during his time in RIS, and perspectives about how this program supported their homeschooling journey as a family. The interview questions were:

1. When and why did you start homeschooling your child?
2. What is your homeschooling style?
3. In what ways does your child feel safe to express his or her emotions at RIS?
4. In what ways does RIS provide opportunities for your child to connect and communicate with peers?
5. In what ways does RIS provide exciting and unique experiences for your child?
6. In what ways does RIS provide chances for creative thinking and exploration?
7. What experiences do you see as meaningful for your child here at RIS?



I analyzed the data, found themes for each question, and extracted overarching themes for the data as a whole. Overall, most of my participants began homeschooling from the beginning, that meant their child was never in the school system. All the participants mentioned more than one reason for homeschooling, and all of them described their homeschooling style as eclectic to some extent. They all reported on many ways in which RIS supported the ESSENCE of their teens, and many times what they said circled back to Mr. Mac's personality, the environment he created at RIS, and the support they appreciate receiving from him.

### **Analysis**

In this section an analysis of my data on ESSENCE and parents' perspectives of RIS is described and I specifically answer my research question of in what ways does RIS provide for the ESSENCE of homeschooled adolescents?

#### **Ways in which RIS Provides for Emotional Spark (ES)**

Themes that came from this data set, show that within the environment Mr. Mac created, the homeschooled adolescents felt emotionally safe to experience and express many different feelings, be themselves and accept other students' feeling as well with no teasing or judgment. This part is important in adolescents' development, as Siegel, wrote about the need for having a space to be who you are in the moment, feeling and expressing life fully, being excited and thrilled, acknowledging fears and other emotions (Siegel, 2013). These are all part of the process of integration of different parts of the brain and mind, and finding your identity.

#### **Ways in which RIS Provides for Social Engagement (SE)**

The themes that emerged from this data set, provided a clear answer to this part of the research question. Having structure for a set place and time to meet, converse, and work with

friends, was the first step in supporting the teens growing need for social interactions with peers, and added a sense of predictability and continuity to their relationships. This is something that homeschooling parents and students have to work consciously toward, because of the nature of homeschooling. Another way RIS provided for the social engagement need was through its pedagogy. Lessons were structured with an emphasis on social collaboration and communication between the students as well as with Mr. Mac. He always kept the lecture part very short, about 5 minutes and then move to the *crazy story*, which is a collaborative and engaging process. The chances to meet and work together, and talk with Mr. Mac, who served for some as a role model, were ways to fulfil this need.

Another aspect of homeschooling and social engagement that was met in RIS for the teens, was what one of my participants identified as 'teach life'. Again because of the nature of homeschooling, parents have a lot of control, and say in who their teen interact with and on what terms. RIS provided a social reality that was not controlled by the parents, rather it was led by Mr. Mac and his values, and the safe environment he created. These real social emerging opportunities were very meaningful to the parents as they could not have provided it for their teen at home, or in their circle of friends and small co-ops. Having to work with someone you do not know for instance, or working and being in a class that is inclusive of a diverse population are examples of these opportunities. The way RIS was set, and with the leadership of Mr. Mac, social engagement interactions for students were perceived by the parents as set for success. Any issue that would come up, would be addressed in a supportive way for all who were involved.

### **Ways in Which RIS Provides for the Need of Novelty (N)**

Novelty is a strong need for adolescents, stemming from changes in their brain reward circuit. Support fulfilling this needs in a way that is thrilling and safe is essential for adolescents wellbeing and success in adulthood as well (Siegel, 2013). From the parents' perspective students felt thrilled and excited, and celebrated their sense of wonder. Parents also reflected on their sense of support and partnership with Mr. Mac as he provided what they were not able to. Participants reflected that Mr. Mac provided a unique setting that anchored back in the term one of my participants used, an unfettered childhood. Being able to be, to explore, to take risks, and get very excited about exploring science using real tools that others might consider as dangerous. This portion of RIS is very intentional, as Mr. Mac wants to teach his students how to do dangerous things, safely, and not shelter them from enriching experiences. The teaching and opportunities Mr. Mac provided went hand in hand with the philosophy parents chose to follow or include in their education journey for the children. Parents reported that these experiences at RIS not only taught them to trust their teens more, but also nurtures their teen's curiosity, hunger, and willingness to learn more and in a deeper way on their own.

### **Ways in Which RIS Supports Creative Exploration (CE)**

Creative exploration is the last part of the ESSENCE. Providing for this domain is very important because once again, it is connected to the teen's brain is developing and new abilities he experience with and master. These new ways of thinking, exploring bring ability and thirst for finding unique ideas and solutions of thinking, solving, and addressing challenges.

The data participants provided for this question brought not only clear answers but also new insights. The theme with the highest frequency was about the pedagogy behind the *crazy story*, which is a core thread to RIS's pedagogy, and there is much intention in this particular

tool. The *crazy story*, which is explained in details in Chapter Two, supports getting the students' attention, the story is interactive, and students are invited to be an integral part of its progression. Participants shared how they viewed the *crazy story* as very imaginative, yet as they talked more about it they acknowledged that this was the way Mr. Mac explained the science concept relevant to the lesson, that the story promoted and relied on thinking outside of the box, and the predictability in the characters of the story and the ending. All my participants emphasized Mr. Mac acceptance and appreciation of all ideas. Through the *crazy story*, in the part where students are invited to come up with their solutions, creative exploration took center stage and brought this mindset of exploration to the hands on activity, in which students had to solve a challenge in their own way. This was almost always combined with working as a group, an added opportunity to springboard from others' ideas, and use the collective intelligence, as well as practice voicing your ideas in an accepting environment.

The second theme that emerged from the data was the inspiration RIS brought to students' lives for creative exploration. Parents referred to students extending their exploration after the class was done. For some it was about research, for others it was leading a full project at home from start to finish. From research, and building a hypothesis, coming up with experiments to test that, and building your own theory. This exploratory mindset, was also mentioned in the article "In a class by themselves" (Foster, 2000) in which she said Stanford was looking forward to accepting homeschooled students because of their "...mix of unusual experiences, special motivation and intellectual independence..." (para. 8). This mindset takes us to the third theme that focused on the teens' experience with creative exploration. This ties together the pedagogy of RIS and the teaching style of Mr. Mac, as he posed open ended

challenges, with teammates to work with, tools to share, time to communicate and think collectively, and some clues in the *crazy story*.

This is where the questions that were aimed to provide answers to ways in which RIS supported the ESSENCE, came to an end. One last question, added the personal point of view of the participants of RIS and its contribution to their teen and family.

### **Participants' Reflection on What was Meaningful for their Teen at Rock-It-Science**

This question was aimed to obtain data on the needs that were most relevant for the teen the parents reflected on, and how these were met for him at RIS. While the ESSENCE as a whole were my framework and lens, each person as an individual has needs, that at specific time are most alive and urgent to be met and supported. Meeting the needs of the child is one of the values of homeschooling and what parents reflected on when they mentioned their homeschooling style.

Homeschooling parents' replies brought three main themes. The first theme from this rich data set, was appreciation and reflection on Mr. Mac's pedagogy, the second was recognizing the support RIS provided for both the teen and the family, and the third, was specific part of the ESSENCE. For many of the parents, Mr. Mac and RIS become part of their homeschooling journey. They found a place with shared values and a mentor. RIS was a place where it was safe for their teen to be himself, be accepted, feel many feelings, be with friends, and spend time with another adult they really liked and look up to. From analyzing the data and my own experience with this community I learned that homeschooling is a journey in which the family needs people and meaningful connections make the journey of homeschooling work and be successful. Mr. Mac was a welcomed and supportive companion. The fact that

parents reflected on different parts of the ESSENCE as most relevant for that time for their teen, was not surprising, as development is individualized to each one, and each teen was working on one area or another of the ESSENCE.

### **Overarching Themes**

Thus far I reviewed themes that came up directly from the responses to the interview questions. After I reviewed all that, and reflected on the process of data analysis, I was able to come up with overarching themes for the data as a whole. I did that by using the “good-old post-it method” that we used several times in Pacific Oaks courses. I wrote all the themes on small post-it notes and marked which dataset they came from, and started moving them around, and grouping them. I gave myself some time to look at it, and reflect on these themes, until I reached a point of new equilibrium and felt set and comfortable with these new meta themes. Three overarching themes emerged from the data were Mr. Mac’s personality and pedagogy, supporting parents, and the ESSENCE environment. (the order of themes does not represent their frequency).

The first overarching theme was Mr. Mac’s personality and pedagogy. Uri Bronfenbrenner wrote in 1974 “...children [true at any age] gauge their freedom not by the extent of open areas around them, but by the liberty they have to be among people and things that excite them and fire their imagination” (Bronfenbrenner, 1974, p. 2). In RIS, the homeschooled adolescents were in a place that invigorated and sparked their creativity and imagination via the *crazy story* and the experiments that were discovery based and hands on. Mr. Mac modeled his natural curiosity, creativity, and joy of science and learning by doing. The setting of the RIS lab was supporting this sense of imagination and freedom as well, with

the walls covered with murals, entering the lab meant entering a world of imagination, creativity, and new ideas. Mr. Mac created an environment that supported the needs framed as the ESSENCE.

In his article *Unconditional Teaching*, Alfie Kohn (2005) talked about the role and mission teachers have in a child's life through their actions and disposition in the classroom. Mr. Mac's role in the RIS program was to find out what children like and want to do, figure out the science behind it, and find a way to teach that concept through the proven method of interactive storytelling. I would like to clarify that several of my key authors talk about children, and yet I take their knowledge, insights, and research to be relevant in this context for adolescents as well. A classroom of unconditional acceptance is a good example, as this is a basic value that holds true for children at any age, adolescents and adults as well. Kohn (2005) dedicated part of the article to "providing unconditional acceptance" (Kohn, 2005, para. 23). Mr Mac modeled unconditional acceptance and teaching by being himself, staying connected connected to his child-like curiosity and enthusiasm, owning and solving unpredictable problems during lessons, and conducting an informal way of managing the class and leading the lesson.

The second overarching theme was supporting parents' values. This theme was about a sense of a supportive team and community. Mr. Mac became part of the homeschooling journey the parents led. Together with Mr. Mac they were able to support the adolescent. Evidence for this theme was apparent every time participants reflected on what was happening in RIS that met their individual needs, philosophy, and values. "...RIS is a natural extension of the wonder of science...fills the gap... [of] what we can do at home...". Homeschooling like

everything else in life, does not happen in a vacuum, homeschoolers rely on communities and support for their children and themselves. What the participants' reflections and responses showed, was that the environment Mr. Mac created at RIS supported not only the students, but their parents as well, thus actualizing their values and philosophies about education. Parents and their teens had a choice of whether or not to join the RIS classes and those who chose this program, found what they were hoping for and even more, in the values and ways Mr. Mac taught. This is one of the advantages homeschooling offer, a freedom and choice for parents and their children to learn from teachers that match their beliefs, values, and needs.

The third overarching theme, was the environment that supported and provided for the ESSENCE. While Mr. Mac may not have planned officially to support these domains of needs, his priorities for creativity, curiosity, exploration, and joy, created a place and an educational setting that met the ESSENCE needs. Both the setting and the many ways in which Mr. Mac and RIS provided for all four areas of the needs Siegel (2013) described as the ESSENCE of adolescence, were described by participants during the interviews. I was able to collect many details on the ways RIS provides for that. I will elaborate on that in the next section as this answer my research questions directly.

### **Conclusions**

The answer to my research question from the perspective of my participants, is that the Emotional Spark (ES), was supported by providing an environment that is safe, physically and emotionally, encouraging teens to take chances and risks, and to speak up and share their ideas. Parents felt that there was no judgment not from the teacher's point of view, not from fellow students. Mr. Mac and RIS as an environment, provided a sense of competence that stem from



trusting the teens' ability, and designing activities that were doable, enjoyable, invited unique and innovative ways of thinking about how to approach the challenge. Parents reflected on the combination of safety and competence, and that it encouraged students to own and face their feelings, trust themselves, speak up, share and try out their ideas.

In Ken Robinson (2010) TED Talk *Bring on the Revolution* he talks about ideas and dream and about 16 minutes into the talk, he quote a poem by W. B. Yeats,.

Had I the heavens' embroidered cloths, enwrought with gold and silver light, the blue and the dim and the dark cloths of night and light and the half-light, I would spread the cloths under your feet. But I, being poor, have only my dreams. I have spread my dreams under your feet. Tread softly because you tread on my dreams." And every day, everywhere, our children spread their dreams beneath our feet. And we should tread softly. (16:11-17:23)

Mr. Mac created an environment that is safe and respectful of feelings and ideas, and dreams, and so, the teens spread them, shared, and grew.

The social engagement (SE) need was met for the homeschooled adolescents as a place to meet and work together. In addition to that, by the environment Mr. Mac created, he set up RIS to be a place where personal growth was enabled, invited, and celebrated because of the level of freedom and judgment-free atmosphere. For instance, learning to work with many other teens some are familiar friends and some are new, or learning to speak up, share ideas, and take risks in a group setting. RIS and Mr. Mac's values served as a fertile ground on which parents could teach their adolescents life lessons that were meaningful for them as a family. Lastly, one of RIS's core value is collaboration and not competition. At RIS lessons were set in

a way that students worked together, they were encouraged to learn from each other, to teach each other, and to celebrate the success of the group, not necessarily of the individual. In every lesson there were opportunities for social success, and these were evident from the responses of all my participants.

The need for novelty (N) was met for the homeschooled adolescents in RIS by the level of trust Mr. Mac held toward the capability of the teens. He trusted them to use real tools, to do exciting and risky experiments, his presence and design of the activities were always a gentle dance between taking chances and risks, overcoming a bit of fear, celebrating success, and pure joy of the high of excitement. Mr. Mac mentored this aspect with both the teens and to their parents. Part of his pedagogy was to not avoid what is dangerous, instead, to teach how to do it safely. In their responses parents not only appreciated the support of providing the teens what they looked for and could not get at home, but also they learned more about their adolescent's abilities. Parents felt supported by Mr. Mac, and he became part of their team in their efforts to provide their child the education they sought.

Lastly, the need for creative exploration (CE) was met for the homeschooled adolescents in RIS by the design of each lesson. Parents reflected that Mr. Mac almost never instructed the students on what to do and how to do it, rather, he provided a problem to be solved, a few tools, and friends to work with. The exploration and the unique thinking each one brought into the process was an essential part. The *crazy story*, set the tone, as not only the concept was taught in a fun and more connecting way, but also in the way that he asks them "if you were Jack and Jill, what would you do?" (that was part of the same words he repeated every lesson, it was part of the constancy and structure), they each came up with

their own continuation, ideas, and scenarios that invited individual and creative thinking, and with his way of including all these ideas, it invited the acceptance and respect toward others' ideas.

### **Addressing the Social Justice Issue**

The social justice issue I chose to address in my study was teens' declining wellbeing brought on by the current pedagogy of schools. Teens often feel marginalized within current schools and classroom environments, as their innate joy, love of learning, social, and emotional needs are not supported. I felt this issue touching our life when my son's wellbeing was jeopardized in the school he was at and how we restored his happiness and love of learning through homeschooling.

In order to learn more and understand the complex needs that contribute to teens' wellbeing, I read literature, as well as listened to and attended lectures by my key authors: Kohn, Robinson and Siegel. I also watched documentaries created by local and emerging leaders, such as Vicki Abeles, demonstrating work toward change in how schools and classrooms should function. Though these experts came from different starting points, their messages funneled toward the need to put children and teens first, their wellbeing, their social and emotional needs, and even a basic need such as sleep. With new understanding of teens' development, we can support a more successful, nurturing, and embracing childhood and adolescence. Meta theories such as SDT has brought new insights and path toward actual change. Many new researchers in education, and psychology, are addressing this gap between what teens need and what they receive experience in the school.

This gap is also where entrepreneurs in education such as Mr. Mac, founder and director of RIS, bring their positive influence and are actually doing the change that is needed.

From writing this research study, I learned that students need a different approach to learning. I learned how Mr. Mac's personality and RIS's pedagogy provided a special environment in which teens felt an emotionally safe, had many opportunities to build relationships and collaborate with peers, and experienced exciting and thrilling lessons. I learned how much fun and play were the basis and channels through which learning happens, and how Mr. Mac's teaching via a story, his *crazy story* had brought creativity, thinking outside of the box, supported the joy of learning, increased the natural curiosity, and the pursuit of knowledge and understanding.

RIS supported the homeschooled adolescents' wellbeing by providing for their ESSENCE. ESSENCE stands for **E**motional **S**park, **S**ocial **E**ngagement, **N**ovelty, and **C**reative **E**xploration, and was defined by Siegel (2013) who based his work on new understanding of changes happening in the brain of adolescents. Adolescence holds great value and meeting these needs was not only resulting in a successful and happier adolescence, but also, setting the stage for a positive adulthood as well (Siegel, 2013).

Homeschooled adolescents who attended RIS teens' classes received opportunities to satisfy these four domains of needs and their parents reported of joyous, and happy, outcome, that brought personal growth for all of them. My participants shared that in RIS their teens felt safe, free to be themselves. Enthusiastic about learning, enjoyed time with others, and developed more social skills. Participants also reflected that their teens were excited, benefited from thrilling activities, connected and expressed their imagination and creative thinking. The

teens' wellbeing was supported in the educational setting of RIS. For these reasons my social justice issue was addressed in this study.

### **Realizations about the Process and the Data**

One of the realizations I had in this process, was when one participant shared in her interview that the Math curriculum they use, *Life of Fred*, had several similarities to Mr. Mac's at RIS. I saw this as an encouragement that the magic, care, and values, that Mr. Mac offered students and families at RIS, was something that could be replicated and implemented in other subjects and frameworks of teaching. There is only one Mr. Mac, yet, the intention from which he acts, and the values he followed, his pedagogy, and energy, could be adopted by other teachers. Teachers and educators would benefit from having the freedom to teach and mentor, focus on education and not on testing, standards and so forth. Most teachers enter this field with a sense of mission to connect to their students, to offer better support, encourage self growth, explore new knowledge, and promote the overall wellbeing of children of all ages. New policies that tap in the unique gifts each teacher can bring will enable educators to focus on real teaching, creative guidance, mentoring, relationships with students, and contribution to adolescents' wellbeing.

The second realization I had as I analyzed the data, was how valuable and important Mr. Mac was to the parents. He became part of the team that nurtured and educated their child. Not only did he provide services they could not do at home, but he also became a role model and mentor for both the parents and their teens. He enabled the parents to learn more about their teen and thus recognized and acknowledged new and emerging development. Homeschooling a child or a teen never happens in isolation, families gather together, take

classes, and often meet teachers that become part of this journey and community, as they saying goes from the African proverb, 'it takes a village'.

The third realization I had was regarding my choice of RIS as the setting for my study, I believe this choice of RIS, brought a unique advantage. RIS reflected an environment that was free of the limitation standards and testing. It was key ingredient in being able to analyze how and if the ESSENCE needs were met, and what is actually happening in RIS that is so supportive to numerous teens and families. I view tests and standards, as limiting the teacher's degree of freedom in his classroom, and he has to operate within this forced set of content and goals. Also as Maidan & Ariely (2012) said what we are tested on becomes what is important to us. Often teachers are measured by their students' success at these tests and the results are sometimes tied to their financial bonus (Abeles & Congdon, 2010). Mr. Mac had the freedom to create the environment and lessons, with the content and methods that made sense and to him and were aligned to his own values. He was able to teach in a way that met his own values and creativity. I would suggest that if this study is to be replicated it should be done within an educational setting where these conditions applies.

The fourth realization I would like to share, was about how Mr. Mac's personality was key in this experience. From the very beginning when I approached him about doing this study, his level of curiosity, cooperation, willingness to give me his time for informational interviews, agreeing to let me to collect data, interviewing my participants in his office while he teaches, and so on has deepened my appreciation to him and strengthened our friendship. His warm personality was evident in the years my son was his student, and his ongoing support, and unconditional acceptance and encouragement for my son and myself, has been an absolute

honor, pleasure, and inspiration. What I discovered during the data analysis was that Mr. Mac was not only a role model for the students, but for the parents as well, as one participant mentioned he made her a better teacher. He shared his passion with others, and in this way spread his values and joy of discovery, creativity, and meaningful learning.

The fifth and last realization I had from analyzing the data and the process of this study was the power of play and story in teaching adolescents. I knew about how play as a meaningful part of children's life, but have not connected that to teens' education. In the years my son was at RIS and I observed many lessons, I thought of the story as a way to get the students' attention, but I discovered in this process that it was much more than that. It brought the students' engagement, it brought their creativity, and imagination, thrill, and joy. I have no doubt the story part in Mr. Mac's pedagogy is key to his success and contribution to the wellbeing of the students. I will bring new literature that support this new realization later on in this chapter..

### **Limitation and Benefits**

There were four limitations and six benefits to this study. The participant's related limitations included not being able to represent the diversity and inclusion of RIS, due to recruitment procedure and ethics restrictions. Limitations stemming from methodology were related to time restriction of the study and resulted in limited numbers of participants, and interviewing only the parents. The benefits of the recruitment protocol were, easier communication with the participants, potential participants felt invited and welcomed to participate, participants had extensive experience with RIS. Benefits of the methodology were, deeper understanding of my participants, having better ability in representing their views, and

that I was able to offer a more holistic view to the topic of study. Following a list of these limitations and benefits, I reflect on my participants.

### **Limitation Regarding Participants and Recruitment Protocol**

I had three limitations in regard to my participants. First, because I decided to include in my study parents of teens who had taken at least one prior session at RIS, there were a few families that showed interest of participating but were not included as this was their first time at RIS. Unfortunately, these families would have added more diversity to my participants, a characteristic normally represented in the RIS population. One family was Latino, which, in this area, is not common within the homeschooling community, the other families were religious Muslims. To some extent I wished I could have included them as well, yet having the experience with the program was crucial as I was depending on parents reflecting on the teen's personal growth in this environment, and their on-going familiarity and insights about this program.

The second limitation was, because I was not going to ask parents about their child's special needs if any, I didn't get to explore that side of the inclusion and diversity that characterized RIS. The third limitation is about my recruiting protocol. I relied on meeting families face to face at RIS and did not take into account the fact families carpooled a lot. If I would have done it again, I would have asked Mr. Mac to send an email to all the families of the teens in his program. I think with this addition I would have gotten to more families and perhaps more representation of the diversity in the RIS's population. Nevertheless, I provided my introduction letter to many families and I was there to explain about who I was and the intention of my study. I ended up being very lucky and had more people interested in my study



and willing to participate than I intended to interview within the limitation of time constraints of the study. I wish I had more time in this framework to interview more parents and listen to more stories and insights.

### **Benefits Regarding Participants and Recruitment Protocol**

My protocol did ensure easy communication with the participants, providing them with my contact information, and sending reminder for the interview. Another benefit of the protocol was that it ensured participant had previous experience with RIS, which was essential to having a deep reflection starting point, and of course, focusing on adolescents was natural in the setting of the teens' classes. I also believe the face-to-face aspect of recruitment, for both myself and the parents, made participating more inviting and less intimidating, as I was able to respond to all questions that came up on the spot.

### **Limitation on Methodology**

Limitation of my methodology stemmed from keeping this work feasible and within the timeframe allocated. It had affected the number of participants, deciding to interview only the parents, and not go further with observations and interviews of the teens, or even add a survey for alumni teens from RIS. Perhaps in future studies these can be included. If I had the opportunity to add the teens' perspective it would have been interesting to compare that to the parents' perspective, and get the first-hand experience insight and reflection. A survey of alumni students would have added a hindsight wisdom on how the experiences they had had in RIS served them in their current adventures and studies. All in all, it would have given me a more complete and comprehensive picture of how RIS promotes opportunities for ESSENCE for adolescents.

Another level of continuing this study, can be by looking at other alternative or progressive education settings and students that are not homeschooled. I would guess that some values, such as collaboration, exploration, and trust, would have similar effect on students whether they were homeschooled or not.

### **Reflection on Methodology**

Doing this qualitative study enabled me to get to know my participants on a deeper and more meaningful level. Bui (2014) mentioned a few advantages of the qualitative method. One was a chance for studying the topic on a deeper level, the second was representing the participants, not the researcher when it came to analyzing the data, and the third advantage, was having a more holistic way of viewing the situation on which the study focused on. My interview questions were designed in a way that not only provided me with direct answer to my research question, but also gave me a chance to learn more about the participants and included their personal reflections and insights. The fact the interviews were semi-structured, and an open conversation ensued, served as an invitation for the participants to share with me even further on what was meaningful for them, and that most definitely enriched my study and scope on this topic.

I chose to collect data from the parents not only because it was a convenient sample, but also because it was not their first session at RIS, they already had a relationship with Mr. Mac, and a perspective on his support to their homeschooling journey. In addition, I believe parents know their child in a way that could provide a more complete picture of how the RIS experience had affected their teen, beyond the lesson time.

The process of analyzing data, which was meticulous and systematic, and followed Bui (2014) and Creswell (2014) supported my ability to get to the core and find the answers to my research question, as well as some overarching themes that have taught me further about the setting of my study and the topic. It also supported several connections to literature I have read, such as what Siegel, Kohn, and Robinson, had wrote and talked about in regard to education and adolescents. Another benefit was validation of the choice of many homeschooling families, to come to RIS. The interviews served perhaps as a reflection time for parents to acknowledge and verbalize all that their teen has been receiving and gaining from participating in the RIS program.

### **Reflections on My Participants**

Upon reflection on my participants, the feelings that came to me were of gratitude and appreciation. My participants invested their time in talking to me, they shared some details about their homeschooling, their children, their wisdom, and some life experiences. There was basic trust that I would protect them, their children, their stories, and intention. I took it to heart and saw this as the core experience of being a researcher. Do no harm, and honor the stories that were entrusted to me.

I celebrated the fact that I knew some of my participants as we are part of the homeschooling community, and some were new to me, and I had the privilege to get to know them during this process of my study. Instead of asking demographic questions I chose to focus on homeschooling reasons and style as anchoring characteristic, as I found it more relevant in this state and area of Northern California. All of my participants were women, and all the teens they talked about were males. This was definitely true representation of the

homeschooling community in this area for this age group from my own familiarity with this community. Two more common characteristics are the fact that most of my participant were secular and all described their homeschooling style as eclectic to some extent.

All my participants were experienced with homeschooling, because most of them homeschooled from the beginning and they talked about their child who was a teenager, some had brought even more years of experience as the teen that was currently at RIS was the youngest in the family, two participants had been homeschooling for more than twenty years. This was of great benefit for me, as they shared rich and deep experiences. I also had one family who was Christian and used Christian curriculum, however, as she explained, they use it as a guide while still making choices that fit her children best, and so that added diversity to my data.

### **Theory Building**

In the process of this study, using the qualitative method, I learned to appreciate the potential this methodology held and saw my responsibility to my participants as the core and key values to staying focused in content and intention. I felt honored they shared their stories with me and it changed how I felt the drive in this process. It began with my own beliefs, personal journey with my son over the years, then it evolved through the literature I read, and I found validation, and the social justice issue I felt connected to. The presence and content my participants added, brought a grounding force, affirmation, and a new meaning to my own journey and sense of mission.

I had the pleasure of reading a lot of great and current literature in the process of my study and was able to find some key authors I felt connected to their message and theories.

The rich knowledge, intense research and studies they did, and their insights, provided me with a solid foundation. This, along with my data collection and analysis brought a new process of building my own theory that fits me, my doing, thinking, and hopes. In the next section I will share my thoughts and new constructed knowledge.

### **Standards and Testing**

Alfie Kohn's work was not new to me, I have attended several of his lectures over the years and saw him as a pioneer in progressive education I wanted to follow and support. I was drawn to his energy, clarity, and bravery in identifying what schools must do differently and what children and adolescents need from education setting in order to thrive. He mentioned that there was a fear of a situation when education might be fun (Kohn, 2011a, 2011b), and I thought about this a lot as I reflected back on the years I observed my son in RIS, and when I wrote about RIS, as a place where fun and laughter were some of the main threads of the pedagogy. I too, used to view the ingredient of fun in education as secondary to knowledge and critical thinking, however, as I read and learned more in the process of this research, I was able to look at my old belief again and from a more educated, point of view.

Kohn (2011a, 2011b) said, there was more appreciation toward what he called, *rigor* and *working hard*. I must add that when he said these words, in one of the talks I attended, his tone of voice sounded to me as affected by much anger and pain. I connected this to a tidbit I heard Dan Ariely say that "what we are measured on becomes what is important to us" (Maidan and Ariely, 2012). I found the combination of Kohn and Ariely's words to be pinpointing the beginning of the problem and crisis adolescents face within the school system. If we take away fun, creativity, and curiosity, and we focus on testing, achievement,

competition, and the preparation for college, instead of living fully in the present, the opportunities it holds, getting to know our students, and nurturing them, we end up robbing our adolescents of their essence, the joy of life, the energy to discover and be who you are, learn to follow your passion and tap into your natural talents. When we do this, we are contributing to the crisis Robinson (2010) talks about. In his talk *Bring on the Learning Revolution* (Robinson, 2010), he quoted Abraham Lincoln who faced one of the most immense crisis of this nation in the midst of the Civil War. As he talked in the the second annual meeting of Congress, on December, 1862, he said:

The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so we must think anew and act anew. We must disenthrall ourselves, and then we shall save our country. (6:04-6:40)

Robinson (2010) explained, and I agree, that the education of today is set in a way that focus on knowledge and necessities from the past, and that we need to let go of that and “disenthrall ourselves” so we can support the new way of education our children, of all ages, need and deserve.

My new belief about standards, in their current function, standards serve mostly as obstacles for connection and love of learning, because they do not take into account each student’s needs, interests, gifts, and dreams. It make students become faceless and not seen for their unique individuality, talents, and passion. It also does not give teachers a chance to shine and follow their values and talents as educators. Furthermore, I believe that testing should not be the tool by which we measure knowledge, understanding, and success.

Instead conversations and meaningful projects students have full say on content, context, and methodology will enhance their understanding and will promote their love of learning. Assessment can be part of a child-led education, adjusted and relevant to each student. I believe that when we make learning personal, have it fit the child, not the child fit it, we make it meaningful and support the natural curiosity, creativity, and love of learning we are all born with. From the reading and the data I collected and analyzed, I believe teachers should be given more chances to mentor, tutor, and connect with students, as well as have more say of how and what they teach, and thus influence and promote students' wellbeing by consciously addressing and aiming to meet students' ESSENCE. After analyzing my data, it is clear there is a connection between happiness and wellbeing and being in a setting that provides for these needs, emotional spark, social engagement, novelty, and creative exploration - ESSENCE (Siegel, 2013).

### **Nurturing Creativity**

In the past, I viewed creativity as the next step after being taught the basic knowledge. At times, I even viewed this as luxury to have included in every subject. I also did not trust that every teacher is able to bring this side of learning into the classroom in a way that would support all students. I saw creativity as an individual quest and a bit obscure one as well. As I began my study and found the work of Robinson (2006, 2010, 2015), I learned more about the importance and urgency of including creativity in education.

Robinson (2010), said that while we now can finally admit and acknowledge that there is a climate crisis, he pointed to another crisis that is in need of our attention. This he said was a crisis of human resources. He talked in his unique way of humor, sadness, and genuine

worry, that many people, and in this case adolescents as well, endure life instead of living it fully. Robinson said that education should serve as a setting for finding and connecting to your passion and talents. Instead, the education today, separate students from their natural talents, creativity, and unique thinking (Robinson, 2010). In another TED Talk he gave on 2013, he summed up three principles that are needed for people, thus adolescents as well, to thrive. One was about acknowledging our uniqueness and diversity, the second was that curiosity was the lifeline and energy for thriving. Here Robinson even went further to say that teaching is a creative profession and not a delivery system of facts and already processed knowledge. The third principle was that both teaching and learning must be individualized. He said that the education mission should be to engage the students, their curiosity, individuality, and creativity.

Given this information from Robinson (2010, 2013), I now believe that my participants' choice in homeschooling and child led learning is the materialization of what Robinson prompts, that the freedom of RIS enabled Mr. Mac to teach creatively, and create an environment based on values he believes in, such as curiosity, creativity, discovery, collaboration, acceptance, and imagination. I believe the combination of child led education and the environment Mr. Mac created paved the way to a place where adolescents could receive what they needed, their ESSENCE.

### **Supporting Better Connection**

Siegel's (2013) book *Brainstorm*, which was key in my study, came about from seeking literature to support understanding and connection between adolescents and their parents, since Siegel did not find any literature to support his connection with his own teens, he wrote one to support many other parents and teens. From this book I adopted the framework of the



ESSENCE and proved it was met at RIS. I also found his work to be bridging between the science, of neurobiology, and the consciousness of mindfulness, and reflective practice. His emphasis on human connection, learning to provide and receive support, practicing the joy of being seen and heard, supporting parents and teens to connect in ways that enrich both of them, spoke to some of my own values and doing of Nonviolent communication (NVC), a theory and practice Marshall Rosenberg created (2003), and brought hope that we can contribute to make adolescents' life better, happier, and safer. I now believe that investing energy in creating and strengthening connection between adolescents and the adults in their lives, is possible and need to become a priority for us.

### **Homeschooling is One Option**

I connected to what Kohn (2011) and Robinson (2006, 2010, 2013) said, schools as they are today are a broken system, furthermore, they bring stress to the lives of children and adolescents (Abeles & Congdon, 2010; A. Faraji, personal communication, March 4, 2016). I do not say homeschooling is the answer to all our problems, and it does not fit everyone, however, the growing numbers of homeschoolers, prove that people vote with their feet to revolutionize the education system. In the course of my study, from reading, and collecting data, I have learned that homeschooling provides for many the freedom to meet needs, connect to their passion, talents, creativity and so on. It serves as a way to teach life, and make learning part of life, instead of something temporary to pass and forget about. From the data I collected and analyzed, as well from my own experience, homeschooling contributed to the wellbeing of the children and adolescents.

### **Concluding Reflection on RIS**

The data I collected from five parents of the homeschooled teens, and the analysis process showed that in RIS, the homeschooled adolescents had a choice in how to solve the problem and challenge Mr. Mac presented in each lesson. The data also revealed that from the parents' perspective, their teens had a relationship with Mr. Mac, were accepted for who they are, they explored, and succeeded in handling the challenges he provided. Success was not about the result but the process of doing, thinking, trying different ideas and collaborating, learning from others and teaching each other. There was no failing, no testing, and no stress involved. Instead there was joyful, collaborative, exciting exploration. Not only did RIS provided for the ABC- autonomy, belonging (also called relatedness, or affiliation), and competence as defined by Deci and Ryan (2016), but also for the ESSENCE Siegel (2013) identified as needed for the wellbeing of adolescents, that also set the tone toward a positive and healthier adulthood.

### **New Literature that Supports My Research Results**

Something I found as I analyzed the data, that was beyond the ESSENCE, was about the power of story. I found that the *crazy story* served many purposes. It was the way Mr. Mac focused their attention in a positive and relaxed way, the method through which he taught the science concepts and the content of the lesson,. The purpose of the *crazy story* was *often* a chance to be creative, to speak up, and it invited social interaction as well. The *crazy story* also added consistency to the program. The characters are always the same, the wording that invites input from the students is the same, as well as the ending sentence. This added predictability and collaboration. I searched for new literature to support the power of story in teaching and found several articles about that.

Wilson (2002) wrote about teaching science via the power of stories. He wrote, "...the universal love of stories is not a coincidence; our brains function by constructing narratives. Adults and children alike live, learn, and relate to others through stories.... stories engage our emotions and imagination in the process of learning" (p. 8). In another article that looked into teaching science by using the storyline approach it was said that "...story involves imagination, activation of prior experiences, knowledge, and imagery" (Isabelle, 2007, p. 16). Isabelle (2007) continued and said that this method characterized a community of learners, which is what Mr. Mac created at RIS.

For Mr. Mac the *crazy story* served all these goals as well. He promoted a sense of community by inviting all students to contribute to the story and modeled listening without judgement, he offered the *ACME Store of Everything* as a resource for all imaginary things that students might need to talk about their ideas for the *crazy story*, and used the story to teach the science concept that the lesson activity focused on.

Another new piece of literature that supported my findings of the value of the way science is taught at RIS by Mr. Mac to meet the needs of adolescents, was a new work by Kawalkar and Vijapurkar (2015). They looked at "Aspects of teaching and learning science: what students' diaries reveal about inquiry and traditional modes". They worked with fifty eighth grade students. Twenty-five of them learned science via inquiry method, and the other twenty five learned sciences by traditional method. Each student wrote a diary about these lessons. Inquiry learning was characterized by hands on exploration, and concepts were not taught, instead the teacher guided the students' exploration and discovery toward finding their own explanation to evidence. This is a similar concept to that of RIS, since Mr. Mac used

discovery based learning, the concept was told within the structure of the story not using science vocabulary, and most of the lesson's time was spent on hands on activities. The traditional mode of teaching science was the lecture and textbook type.

Kawalkar and Vijapurkar (2015) began from the already researched knowledge that "...reflective writing... can take students to deeper levels of ... identifying the significance and meaning of a given learning experience for them" (p. 2115). However, they used a freer form. The writing was not an integral part of the teaching, it was informal, open-ended questions that were suggested as guide, and it was used as a tool to compare the two types of science teaching. Results showed that the students who were taught by inquiry, had more than double of numbers of entries (284 vs 126) in their diaries 225 percent . When it came to writing about the content, the students who were taught in traditional way, used statements they have heard in class, while the students who were taught via inquiry, used personalized voice and showed more understanding. Kawalkar and Vijapurkar (2015) were able to show, by using the tool of diaries, that inquiry method supported better and deeper understanding of the concepts. This research shows that the advantage of RIS's pedagogy of teaching with the story, discovery based, choice, and collaboration, and so forth is not only meeting the ESSENCE needs, and thus support wellbeing, but also promote better learning, in which students internalize the material and concepts.

The power of storytelling has roots in our history as human being, it is how we connect, express ourselves, communicate, and learn. I learned from Mr. Mac and my participants about the importance of this fundamental part of RIS's pedagogy, and was able to find new literature to anchor and support this finding.

### **New Literature that Contradicts My Research Results**

I was not able to find any literature that specifically talked against the pedagogy of RIS, or the ESSENCE. What I was able to find that related negatively to my finding related more to the type of homeschoolers. Green-Hennessy (2014) wrote a study based on the national survey of drug use and health (NSDUH) that was done in 2002-2011. It looked at students at ages 12-17 years old and divide students based on homeschooled vs. traditional schooling, and religious affiliation, stronger vs. weaker. Green Hennessy (2014) showed that secular homeschoolers, with weaker religious affiliation, were at higher risk, three times more likely to be below grade level, have no reported extracurricular activities, and have parents with relaxed attitude toward substance use. Green-Hennessy (2014) suggested as a result of her study, that homeschoolers without religious ties can be seen as at-risk group. Only one of my participants identified herself as Christian, yet all five participants did not share any information about being concerned that their teen is at-risk for negative behavior in general or specifically due to the homeschooling lifestyle they lead.

Denise Boiko (2010), an alumni homeschooling parent, who successfully supported preparing her children to attend the colleges of their choice, shared her knowledge and advice with other homeschooling parents that choose to continue homeschooling their adolescents through high school and in preparation for college. In her book, *Homeschooled and headed for college*. Your road map for a successful journey, she explained what she had done and learned, and what needs to be done in order to meet different college criteria, and be able to aim high at the most prestigious universities, though she recommend to expand the search of college beyond the ivy league schools.

When it came to science classes, and courses, she named a few tips to follow. First to do two-four years of laboratory science courses. She encouraged parents and teens to go beyond the textbook and ensure having a lab component. Boiko (2010) pointed out some sources of science courses that can be acknowledged by future colleges admission officers, such as in community colleges. When working within the charter schools for homeschoolers, or the independent study program within the school district, homeschoolers would be asked to have high school science courses that are A-G approved by the UCs (university of California), system. RIS classes are not A-G approved. Boiko (2010) did mention a hybrid option and I have found from my own experience with homeschoolers in this area, that many students who go to RIS during their highschool years are taking more classes, or self study at other places, that can either prepare them for standardized testing such as AP (advanced placement), SAT subject tests, or have another course that is A-G approved.

Boiko (2010), emphasized that community college courses are a great sources for for courses, toward college, with high level of knowledge and are affordable. Many parents had found Boiko's (2010) guidance to be clear, easy to follow, and very supportive. I recognized, though disappointed, that RIS cannot be considered as a high school science course, however, the hybrid system she mentioned could be a good compromise, in making sure the adolescents get the knowledge, the ESSENCE, and what the education system requires of them to have on paper as well. From our own experience, a combination like that can work really well.

### **Praxis**

I am aware that my thesis is long and thorough, I do not expect many people to read it from start to finish, therefor, writing the synopsis will support more the availability of the

knowledge I want to share. Sharing the information and insights I have gathered, is a common thread in my praxis plans. I plan to have the synopsis ready by the end of January, 2017.

As part of my praxis I plan to share the synopsis of this study with Mr. Mac at RIS, so that he can add it to the RIS website as another proof of their validity and value not only as a science program but also as an educational setting and a place that supports growth and wellbeing for teens. Having the synopsis on the website will be available not only to parents, but also to the online teacher community Mr. Mac leads. I will also share this synopsis with my participants who wanted to see the results, and psychologists Mika Gustavson and Ahuva Faraji who contributed their time to me during the informational interviews in the beginning of this study.

The sharing of the synopsis serves not only as the praxis plans, but also as a way of showing gratitude to those who have helped me, and also as a way to include them in the final product of this thesis journey.

I will contact the California Homeschooling Association (HSC) monthly magazine to see if they will publish it. On the website of HSC there is a direct link to contact the editor of *The Homeschooler* magazine, and I plan to contact her by the beginning of February, 2017. Sharing my information mostly via storytelling, is important type of praxis for me. I believe people connect via stories and hearing or reading my story will hopefully make some difference for people whose lives are connected to adolescents or education.

I plan to continue mentoring and supporting parents interested in homeschooling, and will add my new knowledge from this study to what I can share with them. I will also share my knowledge when presenting in information meetings about homeschooling, and when

supporting parents of children with special needs in NVC practice groups I am part of and facilitating. I hope this will add to parents' knowledge about the ESSENCE, needs of adolescents, and the extensive value of RIS's way of teaching. I hope these new understanding will support the choices of curriculum and content for their teens, and in this way it will support enhancing the adolescents' wellbeing. The monitoring I do is an ongoing process that is flow when people contact me, when local leaders invite me to speak in a meeting , and there is not precise timetable, the fact I am choosing to stay available and willing to do that support people asking me to continue my mentoring on many occasions.

I will continue to share my beliefs, that caring for teens' needs is possible within an educational setting and perhaps we can consider letting go of methods that stresses teens and chip away from the natural love of learning, instead we can embrace a different ways of teaching and learning that are more organic, respectful, and creative.

Lastly, ways my praxis is connected to my social justice issue, by sharing my study's findings I will contribute to promoting teens' wellbeing. Sharing the information about the ESSENCE, will add knowledge and understanding to parents, and learning about RIS as a program, in which teens are thriving and learning creatively, will provide more options for specific actions to care for their teens. Also if Mr. Mac will choose to add the synopsis of my study to his website, it will support promoting knowledge of the ESSENCE as well as the added benefits of his pedagogy. The online teachers' community will have access to that and hopefully it will support them adopting part of all of this pedagogy that was shown to promote the wellbeing of adolescents in educational setting.



### **Personal and Professional Growth**

For many years I held strong beliefs about education, what I saw as the right and supportive ways. However, these were only my opinions. Now, after this study I have theories that back up, validate, and affirm my thinking. I feel better prepared to debate and act toward change for the wellbeing of teens. I found many leaders and authors I am interested in continuing following. And perhaps find a way to support their future research or actions.

I learned how to do qualitative research, and want to learn more on how to do quantitative ones as well. I feel competent in researching further this and other related topics. For many years I was interested in gifted and twice exceptional students. I hope to find a way to join and support the organization Support the emotional Needs of the Gifted (SENG). Another organization I will try to contact and join their future research efforts, is the National Home Education Research Institute, that has been leading numerous studies on homeschooling and homeschoolers.

Lastly, as I mention in my praxis, I plan to continue my mentorship within the homeschooling community and support families in their research and exploration toward homeschooling, as well as times of struggle. I will continue to focus on families with children who have some special needs, might be gifted, and twice exceptional, mostly by coaching and sharing resources I am familiar with. I plan to continue being available for information meetings, and offer more personalized support and coaching to those who are interested. Completing this study provided me with confidence and resources to share.

I would like to end with a poem inspired by Bessie Anderson Stanley, Siegel (2013) added at the end of his book *Brainstorm*. We all want our children and adolescents to succeed

and yet how do we define success? Is it grades? Is it the ability to earn a lot of money? What is success for me as a Pacific Oaks College graduate? As Dr. Dionne Clabaugh told us, the thesis serves as a springboard to what comes ahead, what we do later with our new knowledge, skills, connections, and abilities. This is just the beginning of something wonderful, a continuation and strengthening of the path of supporting others and contributing to their wellbeing with a new sense of volition.

### **Success**

To laugh often and love much;

To win the respect of intelligent persons and the affection of children;

To earn the approbation of honest critics and endure the betrayal of false friends;

To appreciate beauty;

To find the best in others;

To give of one's self;

To leave the world a bit better, whether by a beautiful child, a garden patch, or a redeemed social condition;

To have played and laughed with enthusiasm and sung with exultation;

To know even one life has breathed easier because you have lived -

This is to have succeeded. (Siegel, 2013, pp. 306-307)

May all the children we know, raise, and the one we once were, succeed.

## References

- Abeles, V. (Producer), & Abeles, V., & Congdon, J. (Directors). (2010). *Race to nowhere* [DVD]. CA, USA: Reel Link Film
- Beach, W. (2008). *Opportunities after "High School". Thoughts, documents, resources.* [Booklet from workshop]. 4th edition, Soquel, CA: Wes Beach.
- Beach, W. (2014). Education Options TV. *Proven nontraditional educational paths - 2014* [Video file]. Retrieved April, 2016, from <https://www.youtube.com/watch?v=HMnHh4PeZG8>
- Beach, W. & Conrad Jansen, L., (2014). *HSC - Homeschooling teens.* Retrieved April, 2016, from <http://www.hsc.org/homeschoolinghelp/homeschooling-teens.html>
- Beach, W., & Wilson, S. J. (2012). *Forging paths: Beyond traditional schooling.* Ashland, OR: GHF Press.
- Bluth, K. & Blanton, P. W. (2014). Mindfulness and self-compassion: Exploring pathways to adolescent emotional well-being. *Journal of Child and Family Studies, 23*(7), 1298-1309.
- Boiko, D. (2010). *Homeschooled and headed for college. Your road map for a successful journey.* Morrisville, NC: Lulu Enterprises.
- Bronfenbrenner, U. (1974). Developmental research, public policy, and the ecology of childhood. *Child Development, 45*(1), 1-5. doi: 10.2307/1127743
- Bui, Y. N. (2014). *How to write a master's thesis.* Thousand Oaks, CA: Sage Publication Inc.

- Center for Disease Control and Prevention, U.S. Department of Health & Human Services. (April 14, 2014). *CDC's Mission, Role and Pledge*. Retrieved April, 2016, from <http://www.cdc.gov/about/organization/mission.htm>
- Chawla, I., & Njoo, L. (July 21, 2016). *CDC releases preliminary findings on Palo Alto suicide clusters*. Retrieved November, 2016, from <http://www.stanforddaily.com/2016/07/21/cdc-releases-preliminary-findings-on-palo-alto-suicide-clusters/>
- Choudhury, S., Blakemore, S., & Charman, T. (2006). Social cognitive development during adolescence. *Social Cognitive & Affective Neuroscience*, 1(3), 165-174. Doi: 10.1093/scan/nsl024
- Cooper, B. S., & Sureau, J. (2007). The Politics of Homeschooling-New Developments, New Challenges. *Educational Policy*, 21(1), 110-131. doi:10.1177/0895904806296856
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed method approaches* (4th ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Darling-Hammond, L. (1997). *The right to learn: A blueprint for creating schools that work*. San Francisco, CA: Jossey-Bass
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*, 11(4), 227-268.
- Deci, E. L., & Ryan, R. (2016). *Theory*. Retrieved July, 2016, from <http://selfdeterminationtheory.org/theory/>
- Drenovsky, C. K., & Cohen, I. (2012). The impact of homeschooling on the adjustment of college students. *International Social Science Review*, 87(1/2), 19.

- Eberly, J. L., Joshi, A., & Konzal, J. (2007). Communicating with families across cultures: An investigation of teacher perceptions and practices. *School Community Journal*, 17(2), 7-26.
- Erikson, J. M. (1988). *Wisdom and the senses: The way of creativity*. New York, NY: W.W. Norton & Company.
- Farenga, P. (n.d.a). *John Holt Growing Without Schooling (GWS)*. Retrieved April, 2016, from <http://www.johnholtgws.com/>
- Farenga, P. (n.d.b). *What is unschooling?* Retrieved April, 2016, from <http://www.holtgws.com/whatisunschoolin.html>
- Faulconer, J. (February 24, 2014). *From school to homeschool: What is deschooling?* Retrieved July, 2016, from <https://www.thehomeschoolmom.com/school-homeschool-what-is-deschooling/>
- Foster, C. (2000). In a class by themselves. *Stanford Magazine*, November/December, Retrieved July, 2016, from [https://alumni.stanford.edu/get/page/magazine/article/?article\\_id=39384](https://alumni.stanford.edu/get/page/magazine/article/?article_id=39384) Alumni section.
- Freire, P. (2000). *Pedagogy of the oppressed*. New York, NY: Bloomsbury Academic.
- Gaither, M. (2009). Homeschooling in the USA: Past, present and future. *Theory and Research in Education*, 7(3), 331-346. Retrieved February 25, 2016
- Genzuk, M. (n.d.). *Tips for writing good interview questions*. Retrieved April, 2016, from <http://www.tamuc.edu/academics/colleges/humanitiessocialsciencesarts/departments/literatureLanguages/firstYearWriting/interviewQuestions.aspx>

- Goldin C. (1999). A brief history of education in the United States. *National Bureau of Economic Research. Working Paper Series, Historical Paper (0119)*. Retrieved March, 2016, from <http://www.nber.org/papers/h0119.pdf>
- Gray, P. (January 7, 2014). *A Survey of grown unschoolers 1: Overview of findings*. Retrieved August, 2016, from <https://www.psychologytoday.com/blog/freedom-learn/201406/survey-grown-unschoolers-i-overview-findings>
- Green-Hennessy, S. (2014). Homeschooled adolescents in the United States: Developmental outcomes. *Journal Of Adolescence, 37(4)*, 441-449.  
doi:10.1016/j.adolescence.2014.03.007
- Homeschool Association of California (HSC). (2016a). *Home page*. Retrieved March, 2016, from <http://hsc.org/home-page.html>
- Homeschooling Association of California. (2016b). *Legal 101*. Retrieved March, 2016, from <http://hsc.org/legal.html>
- Homeschooling Association of California. *General information about homeschooling*. (2016c). Retrieved March, 2016, from <http://www.hsc.org/homeschoolinghelp/general-information.html>
- Holt, J. C., & Farenga, P. (2003). *Teach your own: The John Holt book of homeschooling*. Cambridge, MA: Perseus Publishing.
- HomeSchool Legal Defense Association. (2016). *About HSLDA*. Retrieved March, 2016, from <http://www.hslda.org/about/>

- Isabelle, A. D. (2007). Teaching science using stories: The storyline approach. *Science Scope*, 31(2), 16-25. Retrieved from <https://tcsedsystem.idm.oclc.org/login?url=http://search.proquest.com.tcsedsystem.idm.oclc.org/docview/226067201?accountid=34120>
- Jones, P., & Gloeckner, G. (2004). Perceptions of and Attitudes Toward Homeschool Students. *Journal Of College Admission*, (185), 12-21. Retrieved March, 2016, from <http://files.eric.ed.gov/fulltext/EJ682479.pdf>
- Kawalkar, A., & Vijapurkar, J. (September, 2015). Aspects of teaching and learning science: What students' diaries reveal about inquiry and traditional modes. *International Journal of Science Education*, 37(13), 2113-2146.  
doi:10.1080/09500693.2015.1067933
- Kohn, A. (1999). *The schools our children deserve: Moving beyond traditional classrooms and "tougher standards"*. Boston, MA: Houghton Mifflin.
- Kohn, A. (2005, September). Unconditional teaching. *Educational Leadership*, September(2005) Retrieved June, 2016, from <http://www.alfiekohn.org/article/unconditional-teaching/>
- Kohn, A. (2007). Rethinking homework. *Principal*, January/February(2007). Retrieved April, 2016, from <http://www.alfiekohn.org/article/rethinking-homework/>
- Kohn, A. (2011a, April 6). *Alfie Kohn on feel-bad education* [Video file]. Retrieved February, 2016, from <https://www.youtube.com/watch?v=aviOJ9DVcyo>
- Kohn, A. (2011b). *Feel bad education and other contrarian essays on children and schooling*. Boston, MA: Beacon Press.

- Kohn, A. (2014). *The 3 most basic needs of children and why schools fail* [Video file]. Retrieved February, 2016, from <https://www.youtube.com/watch?v=T3T8pFxEIeyY>
- Kohn, A. (2015). *Schooling beyond measure and other unorthodox essays about education*. Portsmouth, NH: Heinemann.
- LaPlante, L. (February 12, 2013). *Hackschooling makes me happy. TedxTalk* [Video file]. Retrieved August, 2016, from <https://www.youtube.com/watch?v=h11u3vtcpaY>
- LaPlante, L. (2014, August 20). *Hackschooling Makes Me Happy* [Video file]. Retrieved August, 2016, from [https://www.youtube.com/watch?v=Zg\\_8aQZZ1q4](https://www.youtube.com/watch?v=Zg_8aQZZ1q4) 2014 Innovation Arizona Summit held in Scottsdale.
- Lips, D., & Feinberg, E. (2008). *Homeschooling: A growing option in American education*. Backgrounder. No. 2122. *Heritage Foundation*.
- Maidan, K., & Ariely, D. (2012). חוצה ישראל - קובי מידן בראיון עם פרופ' דן אריאלי. [Across Israel - Kobi Maidan interview Prof. Dan Ariely Video file]. Retrieved March, 2016, from [https://www.youtube.com/watch?v=e1J1DwyiR\\_E](https://www.youtube.com/watch?v=e1J1DwyiR_E)
- McChesney, J. (2011). *Rock-It-Science* [Video file]. Retrieved April, 2016, from <https://www.youtube.com/watch?v=L5n8gKYf1t0>
- McChesney, J. (2013). *How we do Rock-It-Science* [Video file]. Retrieved October, 2016, from <https://www.youtube.com/watch?v=l2Ep9IqZaBc>
- McChesney, J., & Gow, E. (2016a). *How we teach science. Seven secrets of Rock-It-Science*. Retrieved July, 2016, from <http://rockitscience.com/sevenssecrets/>
- McChesney, J., & Gow, E. (2016b). *Our mission and history*. Retrieved April, 2016, from <http://rockitscience.com/missionhistory/>



- MacFadden, R. J., (2014). *Neuroscience and clinical practice*. Retrieved April, 2016, from <http://www.robertmacfadden.com/downloads-3/>
- Mohney, G., & Pitts, B. (February 16, 2016). *Disturbing suicide cluster prompts CDC to start investigation in Palo Alto* [Video file]. Retrieved March, 2016, from <http://abcnews.go.com/Health/disturbing-suicide-cluster-prompts-cdc-start-investigation-palo/story?id=36953874>
- Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education*, 7(2), 133-144. doi:10.1177/1477878509104318
- Offer, D., Ostrov, E., Howard, K. L., & Atkinson, R. (1988). *The teenage world: adolescents' self-image in ten countries*. New York, NY: Plenum Medical.
- Ray, B. D. (2003). *Homeschool Legal Defence Association (HSLDA). Homeschooling grows up*. Retrieved April, 2016, from <https://www.hsllda.org/research/ray2003/>  
<https://www.hsllda.org/research/ray2003/Socialization.asp>
- Ray, B. D. (2004). *Home educated and now adults: Their community and civic involvement, Views about homeschooling and other traits*. Salem, OR: NHERI.
- Ray, B. D. (March 23, 2016). *National Home Education Research Institute. Research facts on homeschooling*. Retrieved June, 2016, from <https://www.nheri.org/research/research-facts-on-homeschooling.html>

- Riley, G. (2015). Differences in competence, autonomy, and relatedness between home educated and traditionally educated young adults. *International Social Science Review*, 90(2), 2. Available at:  
<http://digitalcommons.northgeorgia.edu/cgi/viewcontent.cgi?article=1093&context=issr>
- Robinson, K. (2006). *Do schools kill creativity?* TED Talks [Video file]. Retrieved January, 2016, from  
[https://www.ted.com/talks/ken\\_robinson\\_says\\_schools\\_kill\\_creativity?language=en](https://www.ted.com/talks/ken_robinson_says_schools_kill_creativity?language=en)
- Robinson, K. (2010). *Bring on the learning revolution!* TED Talk [Video file] Retrieved March, 2016, from  
[https://www.ted.com/talks/sir\\_ken\\_robinson\\_bring\\_on\\_the\\_revolution?language=en](https://www.ted.com/talks/sir_ken_robinson_bring_on_the_revolution?language=en)
- Robinson, K. (2013). *How to escape education's death valley.* TED Talk [Video file]. Retrieved July, 2016, from  
[https://www.ted.com/talks/ken\\_robinson\\_how\\_to\\_escape\\_education\\_s\\_death\\_valley](https://www.ted.com/talks/ken_robinson_how_to_escape_education_s_death_valley)
- Robinson, K., & Aronica, L. (2015a). *Creative schools: The grassroots revolution that's transforming education.* New York, NY: Viking.
- Robinson, K. (2015b). *Revolutionizing education from the ground up.*[Video file]. Retrieved February, 2016, from <https://www.youtube.com/watch?v=p5J2Y9VqEXM>
- Romanowski, M. H. (2006). Revisiting the common myths about homeschooling. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 79(3), 125-129.
- Rosenberg, M. B. (2003). *Nonviolent communication: A language of life.* Encinitas, CA: Puddledancer Press.

- Rosin, H. (2015). The Silicon Valley suicides: Why are so many kids with bright prospects killing themselves in Palo Alto? *The Atlantic, Education Magazine*, 2015(December). Retrieved March, 2016, from <http://www.theatlantic.com/magazine/archive/2015/12/the-silicon-valley-suicides/413140/>
- Ryan, R., & Deci, E. (2016). *Self determination theory*. Retrieved April, 2016, from <http://selfdeterminationtheory.org/theory/>
- Santrock, J. W. (2013). *Children* (12th ed.). New York, NY: McGraw-Hill.
- Schickedanz, J. A., Schickedanz, D. I., Forsyth, P. D., & Forsyth, G. A. (1998). *Understanding children and adolescents* (3rd ed.). Boston, MA: Allyn and Bacon.
- Siegel, D. J. (2009). *The power of Mindsight TEDxBlue - Daniel J. Siegel, - 10/18/09* [Video file]. Retrieved January, 2016, from <https://www.youtube.com/watch?v=Nu7wEr8AnHw>
- Siegel, D. (2010a). *Biography*. Retrieved November, 2016, from <http://www.drdansiegel.com/about/biography/>
- Siegel, D. (2010b). About interpersonal neurobiology. Retrieved November, 2016, from [http://www.drdansiegel.com/about/interpersonal\\_neurobiology/](http://www.drdansiegel.com/about/interpersonal_neurobiology/)
- Siegel, D. J. (2011). *Mindsight. The New Science of Personal Transformation*. New York, NY: Bantam Books.
- Siegel, D. J. (2013). *Brainstorm: The power and purpose of the teenage brain*. New York, NY: Jeremy P. Tarcher / Penguin.

- Siegel, D. (2014a). *Are we our mind? Dan Siegel at TEDxPrague 2013* [Video file]. Retrieved January, 2016, from <http://tedxtalks.ted.com/video/Are-we-our-mind-Dan-Siegel-at-T;search:Siegel>
- Siegel, D. (2014b). *Dan Siegel: "Brainstorm: The power and purpose of the teenage brain"*. Talks at Google [Video file]. Retrieved April, 2016, from <https://www.youtube.com/watch?v=kHZzhKyBW-I>
- Siegel, D. (2014c). *Daniel Siegel - The Teenage Brain* [Video file]. Retrieved September, 2016, from <https://www.youtube.com/watch?v=TLULtUPyhog>
- Siegel, D. (2014d). *The ESSENCE of adolescence*. Retrieved June, 2016, from <http://www.drdansiegel.com/blog/2014/02/07/the-essence-of-adolescence/>
- Smith, M., & Farris, M. (2016). *Home School Legal Defense Association (HSLDA) - State of homeschooling address* [Video file]. Retrieved March, 2016, from <https://www.youtube.com/watch?v=8NNYIkZ3gic>
- Somerville, S. W. (2001). HSLDA. *The Politics of survival: Homeschoolers and the law*. Retrieved July, 2016, from <https://www.hslda.org/docs/nche/000010/PoliticsOfSurvival.asp>
- Sorooshian, P. (n.d.). *123 Go Homeschooling quick start guide 1. Get legal 2. Learn about learning 3. Choose your Educational method or style* [PDF]. HomeSchool Association of California [www.hsc.org](http://www.hsc.org) [http://media.wix.com/ugd/b2c588\\_56243cbe50fb47c0ae41fea52eca6738.pdf](http://media.wix.com/ugd/b2c588_56243cbe50fb47c0ae41fea52eca6738.pdf)

Stanford University. *Common Data Set 1999-2000*. (n.d.). Retrieved April, 2016, from

[http://ucomm.stanford.edu/cds/cds\\_1999#C.FIRST-TIME,FIRST-YEAR\(FRESHMAN\)ADMISSION](http://ucomm.stanford.edu/cds/cds_1999#C.FIRST-TIME,FIRST-YEAR(FRESHMAN)ADMISSION)

Stuart, J. & Woodard, D. (Producers), & Stuart, J. (Director). (2015). *Class Dismissed*. A film about learning outside of the classroom [DVD]. CA, USA: 3 Story Films

Thomson Reuters, (2016). *Find Law - Compulsory education laws: Background*. Retrieved March, 2016, from

<http://education.findlaw.com/education-options/compulsory-education-laws-background.html>

Trail, B. A. (2011). *Twice-exceptional gifted children. Understanding, teaching, and counseling gifted students*. Waco, TX: Prufrock Press.

Vandewiele, C. (September, 2015). *Learning through unschooling. Callie Vandewiele TEDx Cambridge University* [Video file]. Retrieved February, 2016, from

<https://www.youtube.com/watch?v=FIm7dmEJKfM>

Wilson, E. O. (2002). The power of story. *American Educator*, (Spring), 8-11. Retrieved

from <http://kbsgk12project.kbs.msu.edu/wp-content/uploads/2011/02/POWER-OF-STORY.pdf>

**APPENDIX A****Agency Agreement Letter and Consent Forms****Pacific Oaks College****Master's Degree Thesis in the School of Human Development****AGENCY REQUEST & AGREEMENT**

ROCK-IT SCIENCE

John McChesney, Executive Director

2110 Walsh Ave. Suite F

Santa Clara, CA 95050

Tel: [408.969.1900](tel:408.969.1900)

Date April 24, 2016

Dear Mr. McChesney,

Thank you so much for supporting my continuing education. As you may know, I am in the final stages of my graduate program at Pacific Oaks College to earn a Master's Degree in Human Development with an emphasis in Educational and Human Services Leadership.

For my thesis project I am exploring how Homeschooled adolescents' needs are met in the Rock-It-Science program. I am interested in this topic because I value homeschooling, care about the wellbeing of adolescents, and think the right kind of education and teaching can be supportive of many of the adolescents' needs.

My data collection plan is to interview three to five parents of students from the teens' classes. I hope to learn from them about their perspective and insights on their child's needs, and his or hers growth in this environment. I also would like to learn what do they value and appreciate in this unique educational setting.

I will recruit these participants by coming to Rock-It-Science on the second week of May. I will come to Rock-It-Science on the days and times of the teen's classes, to meet the

parents, to provide them with an informational letter, and answer any questions they might have. For those who will decide to participate I will offer to choose the time and place for the interview. For parents who show interest but would like time to think about it, I will point out my contact information on the letter, so they can chose to contact me within two days. I will also ask them for their email so I can follow up once with them.

I will provide a detailed consent form to each participant for him or her to sign before his or her interview. I plan on interviewing the parents in the second half of May 2016.

I wonder whether it is a possibility for me to collect this data at Rock-It-Science. I have included my thesis advisor, Dr. Dionne Clabaugh, in this email and she is happy to answer questions you may have about my project, now or in the future. You can contact her at Email: [dclabaugh@pacificoaks.edu](mailto:dclabaugh@pacificoaks.edu) or Phone: (669) 999-4304

I request email approval from you by May 2, 2016 in order to continue the next steps of my thesis project at your location.

I appreciate your support of my commitment to the wellbeing, and love of learning of homeschooled adolescents. I look forward to hearing back from you soon.

Thank you,  
Sharon Barkan  
Student at Pacific Oak Graduate Program  
[i.sharon.barkan@gmail.com](mailto:i.sharon.barkan@gmail.com)



## **Pacific Oaks College**

### **Master's Degree Thesis in the School of Human Development**

#### **Pacific Oaks College Informed Consent Form**

#### **Introduction:**

My name is Sharon Barkan. I am a student at Pacific Oaks College in California. I am conducting a research study on Homeschooled teenagers in Rock-It-Science' classes and how their wellbeing and personal needs are met. I am completing this research as part of my master's degree. I invite you to participate.

#### **Activities:**

If you participate in this research, you will be asked to:

1. Answer 7 questions about your views on Rock-It-Science, and your child's experience in the Rock-It-Science program.

#### **Eligibility:**

You are eligible to participate in this research if you:

1. Have a child between the ages of 12-16 who participates in the teen class at Rock-It-Science now.
2. If your child has been in Rock-It-Science before.

You are not eligible to participate in this research if:

1. This is your teen's first session at Rock-It-Science.
2. If you child is not in the age range of 12 to 16 years old.
3. If you don't homeschool your child.

I hope to include 5 participants in this research.

#### **Risks:**

There are minimal risks in this study. Some possible risks include: spending time on the interview, and feeling uncomfortable talking about your child.



To decrease the impact of these risks, you can: choose to stop participating at any time or skip specific questions. The interview is planned for 30-45 minutes. I will do my best to not ask questions that are not too personal. You will be invited to tell me about what you feel comfortable sharing.

**Benefits:**

If you decide to participate, you will have a chance to think about your child's needs and growth. You will also have a chance to note Rock-It-Science's classes contribution to your child and your family.

The potential benefits to others are: Support of Rock-It-Science's way of teaching. Support teaching that promotes curiosity, creativity, and wellbeing of adolescents, and focusing attention on homeschooled adolescents.

**Confidentiality:**

The information you provide will be kept confidential to the extent allowable by law. Some steps I will take to keep your identity confidential are: I will use only the first letter of your first name and will add P (for parent) to that. I will not ask any questions that will reveal your identity or your child's identity. I will keep your answers in a locked box in my study.

The people who will have access to your information are myself, my thesis advisor, and second reader.

I will secure your information with these steps: I will keep the papers with your information and answers in a locked box at my study. Information will also be as an electronic file on my password protected computer.

I will keep your data for 7 years. Then, I will delete electronic data and destroy paper data.

**Contact Information:**

If you have questions for me, you can contact me at: [sxb8748@po.pacificoaks.edu](mailto:sxb8748@po.pacificoaks.edu) or call my cell phone 4 [REDACTED]

My thesis advisor's name is Dr. Dionne Clabaugh, she works at Pacific Oaks and is supervising me on the research. You can contact her at Email: [dclabaugh@pacificoaks.edu](mailto:dclabaugh@pacificoaks.edu) or Phone: (669)-999-4304

If you have questions about your rights in the research, or if a problem has occurred, or if you are injured during your participation, please contact the Institutional Review Board at: [IRB@PacificOaks.edu](mailto:IRB@PacificOaks.edu).

**Voluntary Participation:**

Your participation is voluntary. If you decide not to participate, at any time, there will be no penalty to you. You will not lose any benefit to which you are otherwise entitled.

**Signature:**

A signature indicates your understanding of this consent form. You will be given a copy of the form for your information.

_____	_____	_____
Participant signature	Printed Name	Date

_____	<u>Sharon Barkan</u>	_____
Researcher signature	Printed Name	Date

**Audiotaping:**

I would like to use a voice recorder to record your responses. If you don't agree to be recorded, I will take notes by hand and will ask you to slow down, so I could write all that you say.

Please sign here if I can record you: \_\_\_\_\_

## **Appendix B**

### **Data Collection Items**

#### **Interview Questions:**

1. When and why did you start homeschooling your child?
2. What is your homeschooling style?
3. In what way does your child feel safe to express his emotions at Rock-It-Science?
4. In what ways does Rock-It-Science provide opportunities for your child to connect and communicate with peers?
5. In what ways does Rock-It-Science provide exciting and unique experiences for your child?
6. In what ways does Rock-It-Science provide chances for creative thinking and exploration?
7. What experiences do you see as meaningful for your child here at Rock-It-Science?

## **APPENDIX C**

### **Informational Interviews Summaries**

In this appendix I offer the summaries of three informational interviews I had in the process of my research. First with John McChesney, also known as Mr. Mac, the founder and director of Rock-It-Science, the second was with Ahuva Faraji, MFT, who supported my learning of adolescents within the school setting, and the third was with Mika Gustavson, MFT, who helped me learn more about adolescents, and homeschooled adolescents.

#### **Summary of Interview with John McChesney**

This interview from March, 2016, was done in Rock-It-Science (RIS) lab. John McChesney, also known as Mr. Mac, was gracious to give me his time and share with me more information, insights, and the background to the magic that happens in this unique educational setting.

#### **A Little History about RIS**

RIS used to be called “Wizard’s Workshop”, however, the name was causing some issues with Christian parents. Wanting inclusion and consideration for as many people as possible, Mr. Mac changed it at 1998 to Rock-It-Science. RIS began as an idea after Mr. Mac’s daughter brought a lot of his inventions to show-and-tell in her school, and in order to support the teacher understanding, he prepared a lesson. His uncle who was a teacher left him some funds after passing away, and out of respect for his uncle, and seeing the thirst for knowledge in his daughter’s school, Mr. Mac created lessons and began his journey.

In 1990-1991 Mr. Mac was teaching in public schools that had low budgets and students from families with limited financial resources. Around that time a homeschooling mom asked him to teach her children and this was how he began teaching homeschoolers. He was excited and delighted with the level of curiosity, inquisitiveness, and challenging questions homeschooled students brought.

An example Mr Mac shared was about a question homeschoolers asked about rainbows. How come there are rainbows? Mr. Mac in turn researched a bit and found in Scientific American an article that was helpful and inspired him. The article shared the experiment or demonstration of a dark room with super thin hollow glass and one drop of water. The researcher then focused white light into the water and the room was filled with rainbows. Now this was very complicated to replicate and Mr. Mac had to find a way to come up with a more feasible experiment to explain the rainbow phenomena. These kinds of challenges were much more fun than engineering, and he celebrated the wonderful questions

homeschoolers came up with. He also was delighted they were open to the messy and more adventurous side of hands on science.

### **The Theory and Pedagogy Behind RIS**

**Celebrating creativity and exploration.** When Mr. Mac reflected more on the differences between schooled and homeschooled students, he mentioned that the schooled students had a different mentality. They were more interested in what the teacher wanted to hear, and less about what they wanted to know. In the school the teacher's work is often focused in making sure children stay on the path that the curriculum and standards focus on, and thus curiosity, many times, is viewed as distraction. However straying away from common path of education is the way discoveries have been made for decades if not even centuries. Mr. Mac added, as an example, the story of how immunotherapy was discovered, how it was accepted in the science world with much resistance. He shared how just recently it's potential has being addressed and celebrated.

**The importance of play at any age.** Mr. Mac was comparing the process of immunotherapy, teaching the body to fight the disease, to training the child to learn instead of teachers pouring facts into the mind of the child, teaching him or her how to learn. This is much more powerful, holds stronger potential for future discoveries, and is one of the principles of RIS. He explained, it's actually not difficult to train children to want to know more. The process has to include, play, having fun, as these open channels, and connect different parts of the brain to work together and develops integrated thinking power.

**The power of storytelling.** The way this is done at RIS is the special combination of the stories with colors, imagination and so on, with the hands on activity. Mr. Mac found that children of all ages responded so well to the addition of color to the story. Another part of RIS pedagogy was not hearing the whole story, instead, leaving it at the cliff-hanger. Then after the experiment they have to refresh their own brain, this process of recall that come from within, was the role of the story, and it anchored the concept that was taught and explored Mr. Mac learned from parents and past students, that the stories stayed in their brain for years and years.

The storytelling, Mr. Mac discovered, was an essential part to the success of this method. He also found he had to be really involved and excited about the story, just replicating the same story class after class, did not have the same effect as him being truly and deeply invested and connected to the story. Being in the mode of storyteller and incorporating the ideas and input from the students captured their attention each time, and set the tone for collaborative and creative work while having fun.

While the teens took some time to get used to the story and the creativeness it invited, it has always been worth the wait, and after a few classes they get the message of the atmosphere of RIS and dive in.

**From an engineer's point of view to core values of RIS.** The basis of Mr. Mac pedagogy stem from his work as an engineer. You get a problem, a few tools and budget, and a window of time to find some solutions. This is the framework in which students explore in every lesson at RIS. A few more core values of RIS include curiosity, play, crazy ideas, collaboration and building on and from others' ideas. The environment at RIS is safe emotionally, as there is no judgment and acceptance is key. There is basic trust in the capability of the students, and that brings more trust of students in themselves. The role of the ACME store of everything, when students can contribute their ideas to the story is to take away all the fences of what is really possible in our reality of today and let imagination and some visionary outlook lead the students.

Mr. Mac explained that there is too much focus on standards, and memorising facts, and vocabulary. Instead RIS is about being able to play and explain in simple terms and tools complex thinking and concepts.

#### **What Mr. Mac is Still Working On**

Some things Mr. Mac is working on today are writing all of his lesson, not as a "how-to" rather in a more holistic way that encapsulates the whole thinking behind the science. He is coming up with some guidelines and tips for other educator who would like to adopt his pedagogy. These include asking for help and learning to rely on parents funds of knowledge. He is aware that most teachers would not be able to do all the parts he has been doing and that they will have to create a team. Time and other resources are very limiting teachers and he is trying to offer more support in that aspect.

**Mr Mac as role model and the environment of RIS.** He sees teens today as worried about what others will say or think about them. Mr. Mac said he is hopeful that the judgment free environment he created will serve teens to feel comfortable to create and try new things. He mentioned "there is an increasing need for being truthful and not hurting others". This connects to the emotional safety that is a byproduct of the judgment free atmosphere. The environment hopefully serves also as an invitation and legitimacy of silliness and taking chances. Mr. Mac explained RIS is a place where there is no competition, instead there are always chances and need to collaborate. The emphasis is not on being right and getting the product but rather on the process of exploration and discovery. Mr Mac said he is really “

interested to learn about their thought pattern”, come up with their own solutions, it is like sitting with a team of engineers and brainstorming ideas.

He is happy to be part of the education of the children, and sees how much power and influence there is to “how ...parents view education”. Kids and teens are at RIS from a place of choice and that already puts the learning, all in a mode of a team that contributes to the education path of the child.

### **Summary of Interview with MFT Ahuva Farraji**

I met Mrs. Faraji for an interview on March, 2016. Ahuva Faraji is a licensed Marriage and Family Therapist (MFT) with a Master's degree in Counseling Psychology from Santa Clara University. She has her own clinic and teaches at Foothill Community College as well. The focus of the interview was to learn more about adolescents especially in the context of the education system.

#### **The Current Situation**

Ahuva Faraji said that “Students in public schools have a narrow view of their options in regard to their college and professional choices. They tend to feel as if the choice they make now will be the one they will have to commit to for the rest of their lives. This adds a lot of stress”. Attending community college is viewed by many as a failure. The message many students hear is *Ivy league or bust*.

In addition to the stress from school, Faraji explained about the effect of social media on teens' lives. Teens feel a strong need to prove to others they have fun, lots of friends, and that all is going well in their world. However in reality many experience anxiety, and depression. This constant facade, and embarrassment about their true feelings, pushing their feeling down, is exhausting and lowers the chance of them asking for help when it is needed. What others think about them is extremely important for them. And so, parents and teachers might not know about their needs and crisis, until it is too late or severe. Teens usually seek help after trying to hurt themselves, cutting, suicide attempts and so forth.

Another issue Ahuva Faraji was talking about is the pressure they deal with in regard to sexting. This, she said, is another big source for stress. Another issue she sees a lot, is the pressure put on teens by their parents, especially those with limited financial resources. Both teens and parents are under some impression that by 18 years old the child must be able to turn into a totally independent person in every aspect of life.

#### **What Teens Need from Parents**

Ahuva Faraji explained that the type of guidance and instructions teens need is concrete and detailed. When it is said to them in a general way, it confuses them. This, she explained, is a source for many conflicts between teens and their parents, however, it has become more common for parents to invest in learning how to communicate better with their teens.

Another lack Faraji pointed to was the diminishing time and opportunities for 1:1 communication. Really being and talking together. “Parents don't know how to talk to their teens and tend to give up”. Faraji hopes to see parents work more on courting “their teens and providing ample of opportunities to communicate and connect”. These chances must be



focused not on arguments but rather on listening and getting to know their teens better. At the same time, she explains, “parents need to know that the individuation process is natural and it is developmental”. Ahuva made sure to emphasize that the parents are not being pushed aside, instead there is a change to their position to the background. From what she sees, it is a common occurrence that “parents are just lost in how to talk to [teens], so it is easier to retreat to the separate rooms”. Faraji explains that often parents feel as the “punching bag for the teens”, however there is an explanation for this situation. “The parent is the object through which the teen learn about the world. The parents needs to understand this, never take it personally, to continue and provide limits and lots of love and support”. This, Faraji explains is the current support parents provide for the teen who is learning about the world.

**More on the relationship between the teens and their parents.** The parents can’t give what they don’t have. In addition in many homes, two processes happen - one, parents project conflict from their own nuclear family onto the teen, the second thing that happens is, lack of satisfaction from themselves and projection of this onto their child. They can’t teach what they don’t have.

### **The Emergent Social Needs of Teens**

Faraji explained further about the pulling away parents feel from their teens. The source of this is a stronger need for privacy, wanting to be with peers, searching for peers to identify with, and on the surface needing the parents less. She talked more about how crucial it is for the teens to find friends at school and what are some risks they face if that is not happening, such as looking for friends online, developing depression, screen addiction and so on.

### **What Can We Teach Teens to Support their Wellbeing**

Some topics Faraji would have liked to see taught in schools in order to support teens include mindfulness, stress management, and awareness of self and others. Parents can add to teens wellbeing if they would change the message that stress the need to be successful, as this brings an incredible competition between the teens in the school. For many families the message teens hear is that happiness is second to success and that achievement takes the highest priority. Both teachers and parent should be trained on how to notice early signs of distress and how to address that. Recognizing the crisis before it is too late is very important and Faraji was part of a team that trained parents and teachers about this.

Another area of need Faraji pointed to, and that is from her work with older teens, is the lack of preparation to life beyond highschool. Teaching some basic life skills is a missing link that leads to another deficit about knowing when, how, and who to ask for help when one needs that.

Risky behavior of teens includes, drugs, which are alarmingly accessible and early sexual activity. If parents would be more involved and will make sure to keep communication channels open and free of judgment, the teens would more likely ask for help and be open to guidance. Faraji often urges parents to talk to teens not from a place of anger, instead a place of wanting to deepen connection and appreciating being involved in their lives.

To contact Ahuva Faraji or learn more about her work with teens and adults, please go to <http://ahuvamft.com/>.

### **Summary of Interview with MFT Mika Gustavson**

On March, 2016 I had an informational phone interview with psychologist Mika Gustavson, MFT.

#### **About Mika Gustavson**

Mika Gustavson works with children, teens, and families, from the homeschooling community and the schooled one as well. She is also known to be a source of support for gifted and twice exceptional community. She has written several books about homeschooling and giftedness and is an active leader in the Gifted Homeschooling Forum (GHF) and the Supporting the Emotional Needs of the Gifted (SENG).

#### **Gustavson's Perspective on Homeschoolers**

Mika began by referring to Erikson's framework of development. She explained homeschooling was not just for gifted children, and many homeschool for different reasons other than giftedness. Many families she had met in this area chose to homeschool after the regular school system did not meet the needs of the child. Other choose to homeschool from philosophical or religious reasons. Gustavson mentioned that one interesting impression about homeschoolers is the opportunity to "let each individual child's needs take the forefront at specific times". From Gustafson's experience, most homeschooler are doing well economically, but she pointed out she sees families that have some problem they seek more support for and that can afford her services. She also mentioned that from what she sees in this area, many homeschooling families rely on one salary and usually this one salary is substantial enough to provide for the whole family. Another demographic impression she offered was that most homeschool families have at least college degree. Those who do not have that, it is usually because they are free-spirited parents and not due to lack of opportunity or lack of appreciation for education.

Lastly from what she sees the population ethnicity reflects the white, Indian, and Asian, in this area, but not representing the Latino or African American communities. In other places of CA like Southern CA there are more African American Homeschoolers. From her professional and personal experience, lots of homeschoolers "have started by having their kids in the school system and then felt a "slap in the face" and ended up homeschooling their kids". Chinese, Japanese, and Korean are more inclined to go with the way the school system is set up.

#### **About Adolescents**

Gustavson pointed that the age range for my study, 12-16 years old, invites wide range of development differences, as puberty might have started or not, and development has its own

rhythm for each child. Generally at this age the process of individuation begins. Gustavson pointed out Siegel's Brainstorm book about teens to get more understanding about teens behavior. She talked more about the need for novel experiences, the biological cause for this stronger need at this age and the variation it can have with different teens, for example wanting to learn new things or having more conflicts with parents. Another insight she added was about what she saw from her experience and especially with homeschoolers, the deep thoughts about "how they are going to launch themselves in the real world". In the transition from "highschool via homeschooling to college" there can be some "existential anxiety at that age range".

Another emerging issue is having more "questions about gender role and identity". The difference from this aspect between schooled and homeschooled teens is clear, as Gustavson said, since homeschooler "don't have the same blueprints". Gustavson said the questioning about gender identity is common in this generation, and there is a lot of push and pull when it comes to this subject.

Gustavson pointed out that experiencing rejection is not spared from homeschooled adolescents, and in this population too parents might not be aware of that. Social issues and needs are similar to some extent for all teens homeschooled or schooled. However, there is less pressure to feign an interest in dating for homeschoolers, and less peer pressure in general.

### **Risk and Protective Factor for Homeschoolers**

Gustavson spoke about some risk factors and shared that homeschooler are in less danger to have depression and suicide, because they can have less pressure toward the ivy league colleges. The stress about colleges begins really early and is affecting everyone that is involved. In homeschooling the family values are a stronger protective factor than in schooled teens because homeschoolers spend more time with their parents and parents are more involved in their teens life in general. "For homeschooler there is less worry about premature sex, drugs, unprotected sex...". Gustavson emphasized that this is true for the secular homeschooler, and she does not have enough familiarity with the Christian homeschoolers.

To learn more about Mika Gustafson's work or contact her please go to Gifted matters - when smart is just the tip of the iceberg at <http://www.gifted-matters.com/>

## APPENDIX D

### Some Resources for Homeschooling

Here are compiled resources, books and websites, about homeschooling. It is a collection of sources from the homeschooling community I am part of, my mentors, families, books, colleagues, and my own experiences. Sections include several sources about general homeschooling, homeschooling in California, Giftedness, twice-exceptional, unschooling, and Christian homeschooling. I hope this will be useful to those who would like some additional information about some topics mentioned in my study.

#### General Homeschooling

##### Books

- John Holt books - *How Children Learn*, *How Children Fail*, *Teach Your Own*, *Learning All the Time*, and there are more.

Many people, including some of my participants have mentioned these books as their first read about homeschooling.

- *Dumbing Us Down: The Hidden Curriculum of Compulsory Schooling*.

Author: John Taylor Gatto, 10th Edition, 2002.

Another book that had supported many people making the leap into homeschooling.

- *Homeschooling and the Voyage of Self-Discovery: A Journey of Original Seeking*. Author: David H. Albert, 2003.

- Highschool

- *Homeschooled and Headed for College. Your Road Map for Successful Journey*. Author: Denise Boiko, 2010.

This book offers a lot of information and guidance for the highschool years, and how to make sure the student will be well prepared for college admission. The last section has plethora of additional resources. For more information you can also go to <http://homeschoolroadmap.com/>.

- *Forging Paths: Beyond Traditional Schooling*. Author: Wes Beach. 2012.

##### Websites

- *The Home School Mom* - this website is a good place to start with it has useful information and design in a way that aim to prevent feeling overwhelmed.

<https://www.thehomeschoolmom.com/start-here/>.

- *Homeschool Legal Defense Association (HSLDA)*  
I mentioned this resource in my study, and want to add it here as place to get legal support, as well as guidance on many issue related to homeschooling.  
<http://www.hslda.org/>
- National Home Education Research Institute  
On this website you can find many uptodate and high quality research related to homeschooling.  
<http://www.nheri.org/>
- The website that continues John Holt’s work, by Pat Farenga.  
Growing Without Schooling (GWS)  
<http://www.johnholtgws.com/about-pat-farenga/>
- Secular Homeschool, where secular homeschoolers ARE the majority.  
<http://www.secularhomeschool.com/content/>  
This website offers articles and resources. Can support to homeschoolers in general and for unschoolers as well.

### **Homeschooling in California**

There are five options to legally homeschool in California. These options are described in details on the Homeschooling Association of California (Homeschooling Association of California, 2016b ) website in their legal section. <http://hsc.org/legal.html>. The five options include private, charter, and public education, and tutoring;

- Private School Affidavit (PSA), which is an option families have to establish their own private school, yearly forms must be filed with California Department of Education;
- Private Satellite Program (PSP), is an existing private school, often differ in philosophy and financial structure, that serves homeschoolers by offering classes, guidance, distance learning, and online learning;
- Independent Study Program (ISP), is offered by some school districts and is similar to enrolling in any public school, it is usually led by one primary teacher or school within a district that meets with the students;
- Charter schools are state funded schools for schooled and homeschoolers. For homeschoolers, charter schools offer a combination of professional guidance, special education services, and some funding for classes and material;
- Tutoring, is an available option for parents with a valid teaching credential. They can teach their children only the grades they have the credential for. There are some

specific rules as to the language of instruction, hours per day and days per year (Homeschooling Association of California, 2016c).

HSC is a great source for information and networking. They have conferences every year where homeschoolers from around the state meet, connect, learn, and share knowledge, experiences, and information. They also have monthly newsletters and forums, and offer free access to legal advice about homeschooling, as well as to local mentors (Homeschooling Association of California, 2016c).

### Websites

- The Homeschool Association of California  
This website should be one of the first go to resources when figuring out how to legally homeschool in CA, where and when is the next convention. On this website you will be able to find many other resources and support.  
<http://www.hsc.org/home-page.html>
- California Homeschool Network  
Another great resource for general information about homeschooling in CA.  
<http://www.californiahomeschool.net/about/>
- Diane Flynn Keith is the Founder and Editor of Homefires.com, homeschooled her children in the beginning of the 1990's, and became a leader of homeschoolers in CA. Her website offer a lot of information.  
[http://www.homefires.com/ca\\_style.asp](http://www.homefires.com/ca_style.asp) , [http://www.homefires.com/dk\\_bio.asp](http://www.homefires.com/dk_bio.asp)
- Homeschooling in California  
This website offers information and resources on many topics such as homeschooling philosophies, pedagogies, different age groups, different family structures, how to homeschool within a specific budget, homeschooling highschoolers, and much more.  
<http://www.homeschoolingincalifornia.com/>
- Peach Blossom School is a Private Satellite Program (PSP) for homeschoolers and has been supporting homeschoolers in CA since 2006. The website offer many resources for statewide, county, and local support.  
<http://peachblossompsp.wix.com/homeschool>
- Facebook San Jose Homeschool  
This group offer a lot of support and access to free and high quality guidance  
<https://www.facebook.com/groups/SanJoseHomeschool/>

- Wes Beach is the Teen Advisor for the Homeschool Association of California. When dealing with questions about homeschooling highschoolers in CA, Wes Beach can offer invaluable support and resources.

<http://beachhigh.education/>

## **Giftedness**

### **Books**

- *Exceptionally Gifted Children* 2nd Edition. Author: Miraca U. M. Gross. November, 2003
- *High IQ Kids: Collected Insights, Information, and Personal Stories from the Experts.* Editors: Kiesa Kay, Deborah Robson, Judy Fort Brenneman. September, 2007
- *Perfectionism and Gifted Children.* 2nd edition. Author: Rosemary Callard-Szulgit Ed.D, 2012

### **Websites**

- Gifted children in your classroom? Gifted kids in your home?  
<http://www.hoagiesgifted.org/>
- Gifted Homeschooling Forum. Changing the way the worldviews education. The website includes resources for homeschooling, gifted, and 2E.  
<http://giftedhomeschoolers.org/>
- San Francisco Bay Area Gifted Homeschoolers  
The website include resources for homeschooling in general, homeschooling gifted children, and for giftedness in general.  
<http://www.sfbaghs.org/index.html>
- Summit Center  
Summit center offers guidance, assessments, and some therapies for gifted children and their families. While this website is not specifically for homeschooling many homeschoolers in the Bay Area have benefited from their services and they hold close relationships with San Francisco Bay Area Gifted Homeschoolers as well as other support groups.  
<http://summitcenter.us/resources/links/>



## Twice Exceptional - 2E

### Books

- *Uniquely Gifted: Identifying and Meeting the Needs of the Twice-Exceptional Student*. Reference Edition. Edited by Kiesa Kay, 2000.
- *Twice-Exceptional and Special Population of Gifted Students*. Editor: Susan Baum, 2004.
- *Twice-Exceptional Gifted Children. Understanding, teaching, and counseling gifted students*. Author: Beverley A. Trail, Ed.D. 2011.
- *Twice-exceptional kids : a guide for assisting students who are both academically gifted and learning disabled*. Author: Rosemary Callard-Szulgit Ed.D, 2008
- *Critical Issues and Practices in Gifted Education, 2E: What the Research Says*. 2nd Edition. Authors: Jonathan Plucker Ph.D. and Carolyn Callahan. 2013

### Websites

- Resources for Gifted Children with Special Needs (ADD/ADHD, Learning Disabilities (LD), Asperger Syndrome, etc.)  
Compiled by Meredith G. Warshaw, M.S.S., M.A. Special Needs Educational Advisor Contributing Editor, 2e: Twice-Exceptional Newsletter  
<http://uniquelygifted.org/>
- 2E newsletter. For parents, educators, and other professionals helping 2E children reaching their potential  
<http://2enewsletter.com/>
- Supporting Emotional Needs of the Gifted.  
<http://sengifted.org/>

## Unschooling

### Books

- *The Art of Self-Directed Learning: 23 Tips for Giving Yourself an Unconventional Education*. Author: Blake Boles, 2014.
- *College without High School. A teenagers guide to skipping high school and going to college*. Author: Blake Boles, 2009.
- *Creative Home Schooling: A Resource Guide for Smart Families*. Author: Lisa Rivero, 2002.

- *Free Range Learning: How Homeschooling Changes Everything*. Author Laura Grace Weldon, 2010.
- Books by David H. Albert: *Have Fun. Learn Stuff. Grow.: Homeschooling and the Curriculum of Love, And the Skylark Sings with Me: Adventures in Homeschooling and Community-Based Education*.

### Websites

- Place based education - "...Introducing place-based education in schools and communities works best when you give its roots a chance to grow deep and strong before expecting too many flowers...." from [http://www.promiseofplace.org/what\\_is\\_pbe/principles\\_of\\_place\\_based\\_education](http://www.promiseofplace.org/what_is_pbe/principles_of_place_based_education)
- Leaping from the box, offers Homeschooling and Unschooling email lists, support groups, Facebook groups, associations, message boards, forums and newsletters for those practicing home education, in California, The Golden State, including statewide support groups and state associations. <http://www.leapingfromthebox.com/hs/elists/california.html>
- Facebook group - SEA Homeschoolers. Secular, eclectic, academic (SEA)... This group is not specific for gifted and yet very supportive and friendly for that population as well. [https://www.facebook.com/groups/seahomeschoolers/?hc\\_location=ufi](https://www.facebook.com/groups/seahomeschoolers/?hc_location=ufi)
- Secular Homeschool, where secular homeschoolers ARE the majority <http://www.secularhomeschool.com/content/>  
This website offers articles and resources. Can support to homeschoolers in general and for unschoolers as well.
- David H. Albert's website Skylark Sings. David is a father, husband, author, magazine columnist, itinerant storyteller, and speaker. <http://www.skylarksings.com/>

### Christian Homeschooling

#### Books

- *A Biblical Home Education: Building Your Homeschool on the Foundation of God's Word*. Author Ruth Beechick. 2007
- *102 Top Picks for Homeschool Curriculum*. Author Cathy Duffy, 2014

**Websites**

- Christian Book Distributors has a vast selection of faith-based homeschool curriculum

<http://www.christianbook.com/page/homeschool?navcat=Homeschool>

There are many more resources, charter schools for homeschoolers, Independent Study programs (ISP) via school districts and Private satellite programs (PSP), tutoring centers that offer a-g courses, AP courses, and many many classes and vendors. (A-G courses are ones the UC and State University system asks students to go through in order to be eligible for college. Each letter of the A-G stands for a subject).

I decided to stop here, as information has to be relevant for the area in which one chose to homeschool, also some new resources may be available now and other from the past might not be active any longer.

I invite people who are curious about homeschooling, or would like some more information beyond this to attend one of the conventions or an information session.