2011

Preludio: Powerful Learning Experiences of Teenaged Musicians Through Three Vantage Points

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PRELUDIO: POWERFUL LEARNING EXPERIENCES
OF TEENAGED MUSICIANS THROUGH
THREE VANTAGE POINTS

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A Masters Thesis presented to the Faculty of the
Graduate Program in Communications
Ithaca College

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In partial fulfillment of the requirements for the degree
Master of Science

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by

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March 2011

Ithaca College
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CERTIFICATE OF APPROVAL

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MASTER OF SCIENCE THESIS

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submitted in partial fulfillment of the requirements for the
Degree of Master of Science in the School of
Communications
at Ithaca College has been approved

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Date:_____29 April 2011_____

ii

Abstract

This study examines powerful learning experiences – those that stand out in memory because of their high quality, their impact on one's thoughts and actions over time, and their transfer to a wide range of contexts and circumstances. A series of investigations has found that powerful learning experiences remain unique to individuals despite the coherence of the learning situation and the individuals involved; the present investigation tests these findings in a new and even more coherent setting. This study was conducted through in-depth interviews of teenaged violinists at a summer music camp to provide a more cohesive group than those in the previous series, and to find out if non-adults have an ability to report and offer insights about their own powerful learning experiences. Contributing factors were examined from the vantage point of the teens as well as teachers and an observer. This was to see if the teens recognized factors that made their powerful learning experiences more likely, to ask if the teachers could see a powerful learning experience in a student, and if so, to see if the contributing factors reported by the teachers were consistent with those reported by the students. In addition, the research questions went a step further to ask about possible interactions of these factors, even as complex adaptive systems. Study results give additional support for the conclusion that powerful learning experiences show a pattern of uniqueness. The results also show that non-adults can reflect and think deeply about powerful learning experiences. The teens were insightful in their descriptions about the factors they felt contributed to their experience. There were mixed reports about the ability to observe a powerful learning experience in another person. When the teachers and observer felt they did observe powerful learning experiences, they reported factors that were quite similar to the teens, but it became evident that there is a need to look at the design of the

learning experience holistically, as well as to examine the parts or factors. The developing

concept of Design Thinking was found to be an important theoretical lens through which to look

at the complexity of a powerful learning experience, whereas reports of factors and possible

interaction of factors were difficult to quantify through the interview process. The two concepts

of attunement and liminal thinking—constructs that describe the intangible nature of these

interactions—offer a helpful view. Implications for educators and learners are considered, based

on these findings.

Table of Contents

Chapter 1. Introduction

Powerful learning experiences (PLEs) are those that stand out in memory because of their high quality, their impact on one's thoughts and actions over time, and their transfer to a wide range of contexts and circumstances. This is the definition used in five studies over a span of a decade (Rowland & DiVasto, 2001; Rowland, Hetherington, & Raasch, 2002; Rowland, Lederhouse, & Satterfield, 2004; Rivera & Rowland, 2008; Reuning-Hummel & Rowland, 2011). These studies show that while adults are able to recognize, reflect upon, and talk about their powerful learning experiences, these learning experiences can vary greatly, even when the actual settings and circumstances appear to be much the same. In addition, the factors (components reported to contribute to the PLE) are extremely numerous and unique to the participants. Though some similarities of reports of factors exist between individuals, the correlations are not strong enough to establish one single formula for a PLE. More information on these studies can be found in the Literature Review chapter of this thesis.

In this study I examined the most cohesive group of people in any of the studies of the PLE series to see if there were more commonalities of factors with this group and to shed light on the uniqueness of experiences and interaction of factors. I used a qualitative case study to learn from musicians who participated in a music camp for three weeks in July of 2009 and/or 2010. The participants of the study included seven high school violinists (two who attended the camp in both 2009 and 2010), two violin teachers, a piano coach, and a teacher observer. All of the students at each camp were in the same age group, had similar levels of musical interest, and exactly the same schedule throughout the three weeks, offering a very cohesive group of people, settings, and set of circumstances for study.

In addition, this study was designed to see if non-adults could recognize their own powerful learning experiences. I also set out to see if adults could recognize powerful learning experiences in others, and if they could, to find out if they reported about the same experiences and the same factors as the students did. Through in-depth interviews, this study offers insight about the elusive world of powerful learning experiences. My hope is that in the future, teachers can learn to set conditions that make powerful learning experiences more likely for their students and themselves.

Chapter 2. Background

I have been passionate about PLEs (without knowing the term for them) for the thirty-five years I have been a Suzuki violin and viola teacher and the twenty-five years I have been a Suzuki Teacher Trainer. In 2008 I began study towards a Master of Science degree in Communications at Ithaca College and received an assistantship with Dr. Gordon Rowland who has been examining PLEs for more than a decade. When offered an opportunity to research the subject, I immediately considered the Suzuki world for study since it is a world I know much about, where many of the teachers teach well past retirement age because they are so passionate about it. As I learned about the term PLE, I realized that this is why I have remained so dedicated to my own teaching—that I feel drawn to experiencing PLEs with my students again and again.

I began my research with Dr. Rowland in interviews in 2008 with eleven Suzuki teachers who had all worked with Dr. Suzuki early in their careers. I interviewed them twice: once to hear about their personal, initial experiences with the Suzuki approach and to examine the possibility of PLEs happening in similar situations with Dr. Suzuki, and once to talk with them about whether they saw PLEs in their own students, and what factors they thought were involved leading up to the PLEs. These data now make up the fifth in the PLE series, as of yet unpublished.

I then sought to find a younger age group to study. Up until this time, the only studies of PLEs had been with adults, and I wanted to know if children could recognize their own PLEs. I decided to begin with teenagers. For the past thirty years I have been teaching each summer at a Suzuki Institute at Ithaca College for two weeks, where I work with teachers and young children. Seven years ago, a second camp called Preludio was formed that began one week earlier than the

Suzuki Institute (under the Institute "umbrella"), and then ran concurrently for two weeks. This camp has included 11–13 teenaged advanced violinists each summer since then. I took notice of how motivated the students were in this camp, what a high level of playing they demonstrated in their performances for the Suzuki Institute each year, and how excited their teachers were about the camp and the progress of the students. A Suzuki teacher (who I ended up interviewing) began a yearly routine of arriving a week early to observe the Preludio teaching before her teaching duties began at the Suzuki Institute the following week. I talked to her about what she saw and realized that it appeared that PLEs were happening very consistently. It was this kind of group that I sought.

In the summer of 2009, my seventeen year-old son attended Preludio. At the end of the three-week experience, he talked to me at length about the life-changing experience he had at the camp. I realized that I had found a group to interview. I am fortunate that because of my peripheral knowledge of the people involved, the interviews were able to happen with little difficulty, and the participants were able to talk with me easily and deeply, knowing my understanding of their field of music.

Chapter 3. Research Questions

1. What is the nature of a powerful learning experience?

2. What factors do participants perceive to be involved in making their experiences powerful? How do these factors interact with each other? Do these factors interact as complex adaptive systems? If so, how?

3. To what extent are reports of powerful learning experiences and contributing factors consistent within a coherent learner group (as opposed to less coherent groups in previous studies)?

4. How does a teen's ability to talk about and offer insight into his or her PLE compare to that of adults in other studies?

5. Are the teachers in the study able to talk about the PLEs of others? If so, are factors and experiences reported by the teachers (about the students) consistent with the student reports?

Chapter 4. Literature Review

This chapter is divided into four sections. In the first section I examine the experience of

learning through different viewpoints from the literature. The second section takes a closer look

at the five studies in the PLE series that led to this Preludio study. In the third section I

investigate three studies that examine learning that is very similar to PLEs, and discuss their

similarities and differences. Finally, in the fourth section I look at factors that may contribute to

PLEs. This section concludes with a discussion about the concepts of attunement and liminal

thinking. These two concepts were found to be important in the fifth study in the PLE series, and

may help us begin to examine teaching and learning as more complex phenomena.

Learning Experience

Many philosophers, psychologists, and educators have been interested in experience as a

construct, and have examined how it affects our learning. Psychologist William James (1842-

1910) was fascinated by attention and how it shapes our world. Our choice of focus is vital to our

own unique experience (Gallagher, 2009). Abraham Maslow (1908-1970) spoke about *peak*

experience as well as self-actualization and even self-transcendence (1971). The educational

theorist, John Dewey (1938) spoke of experience as arousing curiosity, strengthening initiative,

and setting up desires and purposes that "are sufficiently intense to carry a person over dead

places in the future" (p. 38). He wrote that every experience is a moving force where its value is

judged on the grounds of what it moves towards and into.

This discussion of experience leads to an examination of the *process* of learning. Some

scholars focus on this process, while others concentrate on *outcomes* of learning. Keeping in

mind the definition of PLEs—that there is impact and transfer over time—it is clear that part of

the focus of PLEs is on the outcomes of the learning, although the experience itself and the process are also part of the study of PLEs, and important to view as a whole (Illeris, 2009). This addition of focus on outcomes somewhat differentiates PLEs from the constructs described below, but it is worthwhile to examine these constructs for their contribution to an understanding of experience and process. It is also highly likely that they are part of the PLEs themselves, at least some of the time.

Flow is one of the experiences most referred to by scholars with an interest in learning (Csikszentmihalyi, 1993, 1996). Flow is a mental state that causes us to "focus our whole being in a harmonious rush of energy" (1993, p. xiii). It involves a narrowing of attention that causes one to become so absorbed that self is forgotten. Often one feels "a sense of transcendence, as if the boundaries of self had been expanded, and an awareness of time disappears" (1993, p. xiv).

Peak performance (Privette, 1981) is defined operationally as "behavior that exceeds one's predictable level of functioning, represents superior use of potential in any human endeavor" (p. 57). The distinguishing dimensions of peak performance have been found to be:

- absorption and clarity—clear focus;

- spontaneity and behavior that is unrestrained;

- expression of self; and

- similarly to flow, the behavior occurs effortlessly and spontaneously.

Empowerment is a difficult concept to define, and lacks a consensus of meaning within scholarly literature. In *Empowerment: In Search of a Viable Paradigm*, Anthony O. Putman (1991) searches for a way to describe this concept. One key question that helps locate a definition pertains to changes that happen with empowerment. Putman states that what must

change in order for empowerment to take place, is a product of both the individual and the environment. He refers to this as "behavior potential," meaning, "here-and-now available behaviors, which need only an appropriate occasion to turn into observed performance" (p. 8). He believes that, "empowerment occurs when behavior potential is increased" (p. 8). This then leads to an investigation of what we can do to bring about empowerment, which has direct implications for the creation of purposeful PLEs.

The learning constructs examined above—peak experience, flow, peak performance, and empowerment—offer two potential types of insights into PLEs. First, each construct may be a possible contributing factor of a PLE. Secondly, the constructs may contain contributing factors that are the same as PLEs. For instance, the construct of "flow" might include a quality of openness and suspension, which could also be a contributing factor of a PLE. There at least seem to be links between these constructs and PLEs that are worth considering.

Related Studies

The PLE series.

In five related studies, Rowland and graduate students explored powerful learning experiences with adult learners. In the first study (Rowland & DiVasto, 2001), a small group of learners identified factors that were key to their experiences and these factors were compared with the views of experts in instructional design. In the second study (Rowland, Hetherington, & Raasch, 2002), a larger number of learners were surveyed to check on the hypothesis that the uniqueness of experiences and factors found in the first study would be reduced with more coherent groups (with individuals who had similar backgrounds and professions). In the third study (Rowland, Lederhouse, & Satterfield, 2004), groups of learners were surveyed. These

learners were chosen because of similar career interests that led them to enroll in one of three college professional programs. These groups were studied in order to address the question of whether an even greater coherence in groups would lead to identifiable themes. In the fourth study (Rivera & Rowland, 2008), a group of adult students working within a distance-learning environment were studied to see if powerful learning happened through e-learning. This particular study concentrated on learners with multiple years of professional experience. In the fifth study (Reuning-Hummel & Rowland, 2011), eleven Suzuki music teachers (an even more coherent group) were interviewed in order to look at their own very similar experiences with their first exposure to Dr. Shinichi Suzuki and his philosophy, as well as to examine what they felt contributed to PLEs in their own teaching. This was the first time that teaching was studied. Through these studies, several aspects of PLEs became clear:

- Adults are able to recognize, reflect upon, and talk about their powerful learning experiences. They speak about their PLE with a deep knowing and surety about their experience.

- As people experience a change in perception through their PLE they also come to know themselves and their path more fully. This points to a paradox of simultaneously being transformed while at the same time solidifying their identity; in other words, becoming more themselves (Stacey, 2001,Waldrup, 1992).

- Reported PLEs can vary greatly. Sometimes the experience occurs in an "aha" moment, where in an instant the understanding or way of looking at the world is changed. Sometimes it occurs over an extended period of time, and it is only upon reflection that the experience holds power. Powerful learning often comes from an experience that is

positive, but sometimes can come from a negative experience that later leads to learning that is positive in nature.

- A few common factors of PLEs seem to emerge, such as participation in authentic and hands-on situations, and relationship between the individual and a mentor. These factors are not always mentioned as contributing, however, and there are many other factors reported—both internal (such as interest of the respondent) and external (such as interest of the teacher). The evidence seems to show that the factors are unique to each individual and/or special circumstance. In fact, this uniqueness seems to be the strongest pattern found.

- As the fifth study in the PLE series (Reuning-Hummel & Rowland, 2011) examined the teacher/learner relationship more fully, it was found that the concepts of attunement and liminal thinking might be key to some understanding about what is happening in this relationship and that this understanding might help to bridge the gap of our ability to understand the complexity of PLEs.

- It was found that it is likely that there is interaction among the factors. There is an emergent quality of the interactions that may be compared with characteristics of complex adaptive systems.

Similar studies.

The three studies included here were found from an investigation of research of learning experiences similar to PLEs. A special emphasis of the search was in finding studies that included children's reports of this type of learning. The studies below investigate types of

learning, types of instruction, and stories about experiences that are pivotal, transformative, and

meaningful. One study includes reports from children.

The first study that I will review is called *Profound Learning: Stories From Museums*

(Perry, 2002). This study was chosen because it focused upon experience that had great meaning

to the participants and that was remembered over time, as in the PLE reports. As Perry notes,

numerous studies have shown that museum exhibits and programs offer opportunities for

different types of learning than that of other venues of education. Until recently, the emphasis of

the learning/educational field has focused on structured learning and teaching. Learning can

happen in three areas:

> *informal learning* has the characteristics of being intrinsically motivated, generally non-
>
> linear, incorporating both cognitive and affective aspects, and self-directed....
>
> *formal learning*—learning that tends to take place in classrooms and schools, tends to be
>
> teacher-directed, and is often extrinsically motivated....
>
> *nonformal learning*—learning that tends to take place in classroom-like settings, but is
>
> generally intrinsically motivated, such as adult education courses. (Perry, 2002,
>
> pp. 21–22)

Museums tend to fall into the category of informal learning and offer "pivotal,

memorable" (p. 21) learning experiences that fit the PLE definition well. It is important here to

note that it appears that reports of PLEs most often show that it is informal and non-formal

learning experiences that contribute towards PLEs, unless the specific question to the participant

is about formal learning. Many of the studies that were found involved more formal learning

experiences, which were not as applicable to the PLE research.

In the Perry study, five researchers received support for a project to study museum professionals and collect their stories of these pivotal learning experiences. Three of the researchers attended two museum conferences that were scheduled back-to-back in Philadelphia, and found 76 respondents with 400 stories to share. Twenty-three hours of video were taped. These were all transcribed and then analyzed.

The results of the study were rich stories that were placed into four categories: sparking an interest, delayed learning, visceral learning, and wrap-around learning. The specific way that the interviews were focused came through the request, "tell us about your pivotal museum experiences." Information that stood out for each storyteller was sought, leading to richer information than that provided by surveys.

The respondents spoke of learning in various ways that led to the above categories. For instance, *delayed learning* was where the realizations came later, and *visceral learning* was where the learning came in an "aha" moment. These categories are similar to the variety of reports in the PLE series. As mentioned earlier, the informal learning category of the museum reports also matched the PLE reports well.

A difference with the intention of the museum study, as opposed to the studies in the PLE series, was that the respondents spoke less about what led to their learning than about their particular memories and what was worth sharing about them. Questions were not asked about the factors involved in the learning, as that was not the purpose of the research. Also, in contrast to the Preludio study, all of the respondents were adults.

The second study I review is that of a college course where transformative learning was studied (Wilson, Parrish, & Velatsianos, 2008). Transformative learning has many definitions in

the literature, but this study was chosen because of the similarity of the transformative and PLE definitions. Wilson and colleagues used the following indicators to define transformative learning:

- *Lasting impression.* The learners hold details about the learning experience in memory.

- *Part of the person's self-narrative.* The learners reference the learning experience within a narrative about themselves or their relation to a subject matter of importance to them.

- *Behavioral impact.* The learners can point to specific changes in their lives as a result of the learning experience.

The results of the study showed that transformative learning is not controlled by the designer, but involves a combination of guidance, provision of conditions of learning environments, as well as learners who are ready (and willing) to become passionately engaged. Wilson and colleagues used a three-prong approach towards the goal of providing these experiences, using a cognitive approach (applying principles of cognition to guide thinking towards desired learning), aesthetic design (using instruction as an aesthetic creation, used to heighten experience), and mythic design (taking the learner on a mythic journey that goes through high-risk exploration, struggle, resolution, and arriving home with lessons). These approaches provide possibilities for instruction to not only be effective, efficient, engaging, and good, but to expand the learning to be transformative.

There are a number of similarities between the Wilson study and PLE series. As stated earlier, the Wilson definition of transformative learning is very close to the definition of a PLE— the closest found in this investigation. The study also views learning through a lens of

complexity (i.e., through a comparison to the characteristics of complex systems), which is a consideration in some of the studies in the PLE series.

A difference between this study and the PLE series was that the reports in the Wilson study came from the perspective of the instructors. The PLE series mainly examined PLEs from the view of the learner, although vantage points of instructors were viewed in the fifth study in the series as well as in the Preludio study. In addition, adults (college students) were the targeted learners in the Wilson study as opposed to the Preludio study.

The third study is that of Visser & Visser (2000). This study was chosen because of the purposeful examination of meaningful learning experiences outside of the venue of formal instruction. It was also significant because conditions that influenced the learning were examined, and children were included. Visser and Visser undertook a project of storytelling about learning experiences, storing the accounts online. As they say in their problem statement:

> Learning is a poorly defined concept. For many people, its meaning is biased towards what happens in the traditional schooling and training contexts. However, learning, as an essential dimension of the human existence, pervades life in all its different aspects. It engages people, as well as the social entities they constitute, throughout the lifespan. The strong focus on learning as a consequence of instruction in existing discourse has created a mindset among researchers and practitioners that looks upon the creation of the conditions of learning mostly in terms of instructional parameters. As a result, there is a deficit in learning research in areas that are not covered by or connected to instructional practice. Consequently, insufficient attention is paid to creating the conditions that foster and support learning in non-instructional settings. There is, therefore, an urgent need to

explore the meaning of learning in its broadest sense. The research reported on in this session aims at contributing to broadening our vision of learning so as to refocus current research and inspire the opening of new fields. (p. 1)

To address this deficit, they undertook qualitative research to make a systematic inquiry of perceptions of the most meaningful learning. As with the PLE series research, they approached the interviews from the learner's point of view. As with the museum study, the focus was on non-formal learning, and there was a storytelling approach to collection of data. The age of storytellers was from age seven years old and older, so this was the first study found that included reports from non-adults, as in the Preludio study. The three areas queried were:

- "elucidation of the participant's most meaningful learning experience;

- clarification about why these learning experiences were considered meaningful; and

- determination of the key conditions that allowed these learning experiences to occur"

   (p. 1).

The results were a rich collection of stories from people of a wide range of ages. Of the three studies presented here, this study is probably the most similar to the PLE series and the Preludio study because of questions about specifics of learning that were presented to the participants. There are still strong differences, however. First, there does not seem to be a clear definition of the term "meaningful." It does not appear that the term is intended to have the long-term ramifications of powerful learning experiences. Secondly, and more similarly to the museum story, the stories were presented as the people told them, without depth of interviewing and probing that happened in the Preludio study and the fifth study of the PLE series.

Factors.

One way to examine PLEs and other learning constructs is to look at factors that contribute to the experience, which has been a focus in the PLE series. In the third study (Rowland et al., 2004), 41 participants reported 333 factors that contributed to their 123 powerful experiences. In a chart (pp. 47–48), these were listed in categories which included: relationships with others, hands-on learning, realism, independence and personal responsibility, newness/surprise, importance/impact, intensity and challenge, interest/enthusiasm (of respondent), learning about others, environment, learning about self, attitudes and beliefs, seeing it/visuals, achieving goals, passion/enthusiasm/interest (of teacher), teaching others (learning from this, helping), emotions, expectations, fun, speed, group, giving to others/community, death of someone close, being young when it happened, introspection/reflection, connection with speaker, free time, balance, personal nature, work ethic, open mind, and professionalism.

With all the factors of the first three studies in the PLE series added together, 720 factors were reported (Rowland et al., 2004). With this large number it becomes difficult to determine what is significant in the data. The two most often mentioned factors in the PLE series were relationship with others and hands-on learning, but importantly, not all respondents mentioned these as contributors. So far, there has been no formula or "prescription" found for PLEs.

It is of interest to note that none of the studies in the PLE series included reports of rewards or incentives contributing to the powerful learning experience. Also important to notice is that some of the reported factors were *internal* (such as interest/enthusiasm of individual), and some were *external* (such as environment or passion/enthusiasm of the teacher).

In the next section I examine some of the more intangible or inferred factors that may or may not be specifically mentioned in the PLE series or the Preludio study. These particular factors were found to be important in the interviews of the fifth study of the PLE series (Reuning-Hummel & Rowland, 2011). Following these findings, I researched scholarly literature for more information on these particular factors. This is only a very brief review of a very few factors, but an understanding of these may lead us to more of an understanding of the complexity of PLEs.

Reflection.

This is a factor mentioned by participants in the PLE series. As Roger Martin (2009) states, reflection "speeds you along the path to integrative thinking by maximizing what you learn from each new experience" and, "Reflection, which defeats the tendency to take the obvious for granted, is what gives experience value" (p. 191). It is interesting to consider that without reflection, the experience might not necessarily hold the same power.

Focus and attention.

Csikszentmihalyi, in *Creativity* (1996), writes about the duality of being open and receptive as well as focused. He says that "any complex behavior issue has attention at it core" (as cited in Gallagher, 2009, p. 102). In *Rapt,* Winifred Gallagher writes, attention "governs how people think about well being and also governs the experience" (2009, p. 119). Howard Gardner goes a step further and links focus and attention with intelligence. "No doubt what you focus on is determined in significant part by the strengths of your intelligences, which channel your attention" (as cited in Gallagher, 2009, p. 61). There seems to be general consensus that what one focuses upon determines what one thinks about and therefore what one learns.

Openness and suspension.

Csikszentmihalyi refers to openness in terms of creativity. He states that in a state of flow, one will "often feel a sense of transcendence, as if the boundaries of self had been expanded" (1993, p. xiv). In *Presence* (Senge, Scharmer, Jaworski, & Flowers, 2004), the similar state of suspension is explored. "Seeing freshly starts with stopping our habitual ways of thinking and perceiving" (p. 29). The "Design Thinking" literature (e.g. Nelson & Stolterman, 2003; Brown, 2009) also frequently addresses the states of openness and suspension, which allow us to have new learning experiences. In the fifth study of the PLE series, intangible factors such as these seem to be served by the term *attunement.*

Attunement.

Many of the factors brought up by the teachers in the fifth study of the PLE series (Reuning-Hummel & Rowland, 2011) involve intangible ideas that contribute to an open response of the teachers to and with the students. This openness seems to allow unfiltered information to reach both the teacher and student, making PLEs more likely. Teacher participants from the study spoke of getting cues from everything and then taking direction from the cues, "becoming" the child, and intuition and experimentation being more important than a plan.

Ideas about attunement began with psychologist Carl Rogers, who looked at "necessary and sufficient conditions for personality and relationship change" (as sited in Griffin, 2009, p. 49). These included three principles that needed to be perceived by the client:

- Congruence—the match between inner feelings and outer display. The counselor is genuine and real.

- Unconditional positive regard.

- Empathetic understanding—the skill of entering someone's world as if our own (pp. 49-50).

Although these ideas came from a therapeutic setting, Rogers felt they were just as important in all interpersonal relationships. They were certainly all mentioned by the participants in the fifth study in the PLE series. These initial ideas then evolved into the work of Psychoanalytic Therapy and Integrated Psychotherapy (Stern, 1985), which recognizes and uses the principles of attunement.

The concept of attunement first came up in an interview in the fifth study in the PLE series (Reuning-Hummel & Rowland, 2011), with one of the participants who is a psychoanalyst and Suzuki teacher. The term "attunement" encapsulated many of the intangibles about which the participant teachers in the fifth study spoke.

Attunement begins with empathy. Empathy means being metaphorically in someone else's skin. Attunement then takes the moment beyond empathy, to finding a resonating response. Attunement behaviors "recast the event and shift the focus of attention to what is behind the behavior, to the quality of feeling that is being shared" (Stern, 1985, p. 141). Attunements occur almost automatically and largely out of awareness (Stern, 1985). This ties in with the intuitive nature of the teaching experiences. There is a response to the uniqueness of the student as well as the situation that is a factor in attunement and in teaching. There seems to be a particular kind of involvement and presence, coupled with a resonance with the unique person and moment that is reported both in cases of attunement as well as in cases of PLEs.

Liminal states.

A number of teachers in the fifth study in the PLE series mentioned this concept, although not in these words. A commonly expressed example was that of holding a long-term vision for a student while at the same time accepting what *is* in that moment. Through that simultaneous "holding," a third state is created. Rowland and Wilson (1994) call this the liminal state, the state of "betwixt and between," and give an example of twilight which holds properties of both day and night but has a third property of its own. As Eastland puts it (as cited in Rowland & Wilson, 1994), the liminal state is "a state of tension, accompanied by a heightening of sensibilities that is a feature of human beings coping with ambiguity" (p. 33). We feel this tension and then are transcended to be "able to leap to something previously unimagined" (p. 33).

Others report about liminal states, even though they also do not call them by the term. An excellent example of this is in the book, *The Courage to Teach* by Parker J. Palmer (1998). In Chapter III: The Hidden Wholeness: Paradox in Teaching and Learning, he addresses either-or thinking that has given those in our society a fragmented sense of reality. He finds it profound to "think the world together" (p. 62), as many in the fifth study in the PLE series seemed to speak about. A couple of examples of liminal states that Palmer names are, "My inward and invisible sense of identity becomes known, even to me, only as it manifests itself in encounters with external and visible 'otherness'" and, "Good teaching comes from identity, not technique, but if I allow my identity to guide me toward an integral technique, that technique can help me express my identity more fully" (p. 63). In *The Opposable Mind* (2009), by Roger Martin, the idea of holding on to "two conflicting ideas in constructive tension" (p. 7) is seen to be an important trait

that innovative leaders share. Similarly to Palmer, he goes on to write, "Integrative thinking shows us a way past the binary limits of either-or" (p. 9).

Chapter 5: Theoretical Framework

In this next chapter I examine three theoretical perspectives—the Suzuki approach, constructivism, and complexity—that provide helpful frameworks for examination of PLEs at Preludio. In addition, the theoretical perspective of Design Thinking unifies the three perspectives, and will be the overarching theory used when looking at the data.

The Suzuki Approach

The Preludio camp is an outgrowth of a Suzuki institute, and the Preludio teachers have Suzuki training and backgrounds that cause them to embrace the Suzuki philosophy. In addition, most of the Preludio violinists come to the camp with the Suzuki approach as their musical background. In the fifth study of the PLE series (Reuning-Hummel & Rowland, 2011), it was found that many of the teachers who were interviewed reported frequent and expected PLEs with their students. Various aspects of the Suzuki approach seemed to contribute to the likelihood of PLEs. An overview of the Suzuki approach is included next.

Shinichi Suzuki was a violinist in Japan who found inspiration in the remarkable ability of children to readily learn to speak their native language. While others before him had commented on this ability, he was the first to take certain principles of learning one's language and apply these principles to another field of learning. He chose music, but often said that the principles could and *should* be used for any learning.

The first principle of what he called the "Mother Tongue Method" is that every child can do it. We do not expect that there is any typical child who will *not* speak his or her own complicated language fluently, and with the accent of the region in which he or she is raised. This led to his assumption that every child has the capacity to be a fluent musician if provided

the same environmental opportunities as when learning his or her language. Branching off of this idea was his belief that every person has potential far beyond what she or he may actually achieve or realize. Dr. Suzuki then took a variety of principles of learning one's language and applied them to learning to play the violin. These are:

- start young

- bathe children in the sounds of music

- maintain a positive, fun approach to learning music

- remember that everyone learns at his or her own pace

- develop close interaction with parents who encourage and help the learning, as well as with other children who "speak the same language" of music

- slightly delay reading so that the ear can be developed first

- keep all of the repertoire in use, just as words are used and built upon, not discarded

- assume excellence

- build upon small steps for 100% success, and celebrate each small step

Among Suzuki teachers it is common practice to try something new if something is not working, or to try and help an aspect of the environment to be more conducive to learning. Instead of a belief that a child will not be able to learn, the teacher searches for a solution to whatever is not working for the child or parent at that moment. Suzuki teachers are also unusually open to the exchange of ideas with colleagues. It is common for advice to be sought for teaching challenges. This is not a field where teachers keep techniques and ideas to themselves.

Suzuki teachers have relationships with children and families that stretch over the long term. It is not uncommon for one teacher to teach a student from age four to eighteen. Most teachers are able to adapt their teaching styles to fit the student and family over time. Many Suzuki teachers appear to use attunement principles and liminal thinking in their work, as found in the fifth study in the PLE series.

Learning, and Constructivism and the Learning Environment

Learning.

Since the phenomenon being studied involves learning, some aspects of learning are examined next, starting with definitions. Even a simple definition of learning is difficult to settle upon, but is necessary before we grapple with the complexity of understanding how learning occurs, how we can support it, and how we can know to what extent it has occurred (Rowland, 1999). Some definitions of learning are:

- "Any process that in living organisms leads to permanent capacity change and which is not solely due to biological maturation or aging" (Illeris, 2009).

- "The act or process of developing knowledge or skill" (Rowland, 1999).

- A) "Learning as persisting change in human performance or performance potential."

  B) "To be considered learning, a change in performance or performance potential must come about as a result of the learner's experience and interaction with the world" (Driscoll, 2000).

Many theories of learning can be seen to stem from two perspectives—objectivist and constructivist.. The objectivist view assumes that knowledge exists outside of us—that there are intact truths that we acquire through our lives. Objectivist learning theories fall into two

branches: behaviorist and cognitivist/information processing (Rowland, 1999). The constructivist view holds that knowledge exists only in the mind of the individual. In this case, one "constructs" the knowledge in his or her unique ways. There is no "objective" truth lying outside of the person. Learners are seen, not as blank slates, but as knowledge constructors who are socially negotiating meaning in the context of their environment (Driscoll, 2000).

In *Contemporary Theories of Learning* (2009), Knud Illeris writes that there are four types of learning. The first is *cumulative* learning, which consists of isolated accumulation of knowledge. This learning happens most often with young children who do not have existing knowledge with which to compare their new addition of knowledge. The second, and most common type of learning studied is *assimilative*, which involves the addition of knowledge to that which is already learned. These two types of learning are often viewed through the objectivist perspective. The third type of learning, is *accommodative*, which implies that a learner breaks down what he or she already knows (an existing scheme or part of a scheme) and then transforms it so that a new situation links in. The fourth type (unnamed by Illeris) is that of a far-reaching learning such as Carl Roger's *significant* learning, Engestrom's *expansive* learning, Alheit's *transitional* learning, or Mezirow's *transformative learning* (as cited in Illeris, 2009). This fourth type of learning results in changes to one's self by complete restructuring, usually through crisis situations. PLEs are sometimes reported as negative experiences that then end up producing a lasting positive change, but they most often appear to be positive in nature as opposed to the description of crisis situations that contribute to Illeris' fourth type of learning. On the other hand, the restructuring that happens sounds very much like a PLE. Examining both the third and fourth types of learning that Illeris describes might contribute to further

understanding of PLEs. These types of learning are most often viewed through the constructivist perspective, which I will now examine more closely.

Constructivism and the learning environment.

As mentioned earlier, hands-on experience and relationship with a mentor are two of the most frequently mentioned factors of PLEs in the PLE series. It is worth taking notice that even if these factors are not mentioned by all of the participants, they relate well to constructivist views, particularly to the collaborative constructivist view influenced by John Dewey and Lev Vygotsky (Dewey, 1938, Vygotskty, 1986). As pointed out in previous studies in the PLE series (Rowland & DiVasto, 2001; Rowland et al., 2004; Rivera & Rowland, 2008), the constructivist view could be an important lens for the study of PLEs, especially if we hope to create conditions to make them more likely. For this reason, I will next address specific learning environments, implicated by constructivist theory.

According to the constructivist view, learners construct knowledge in unique ways from influences around them, therefore the environment of the learner is very important. In the introduction to *Constructivist Learning Environments* (1996), editor Brent Wilson defines a meaningful learning environment as a situation that offers meaningful and authentic activities that help the learner construct understandings. The teacher/mentor's emphasis, through the perspective of constructivism, is on the preparation of the environment so that knowledge can be constructed in more effective and meaningful ways. Suggestions from Wilson are to give the learner room to explore, offer generous access to informational resources of all kinds, give tools for exploration, and not to control or dictate the learning. He mentions that a learning environment can look fuzzy and ill defined, which can look chaotic from the outside.

Later (Wilson, 1996) in the chapter called, *Rich Environments for Active Learning in the Higher Education Classroom,* authors Morrison and Collins discuss the power of relationship. Instead of approaching instruction in a teacher-centered versus child-centered way, teachers and students can construct knowledge and negotiate meanings together.

These constructivist ideas also seem to fit in well with many of the principles of the Suzuki approach, which is built on the idea of the teacher setting the environment in place to affect the learning. It also fits in with Suzuki principles of working with each child and family in a way that is tailored to that child and his or her pace of learning. The PLE research has pointed to constructivism as a perspective that can offer understanding of purposeful setting of conditions so that PLEs may be more likely in the future.

Complexity

The first four studies in the PLE series point to the value of examining PLEs in terms of complex adaptive systems. In the third study of the PLE series, Rowland and Lederhouse (2004) state that, "[PLEs] appear to involve a confluence of time, physical, and social environment, background, and so on that is unique and unpredictable.... [O]ur results could be taken as evidence that (such) simple cause-effect relations are not themselves responsible for powerful learning. In fact, powerful learning experiences might be better represented and understood as complex adaptive systems" (p. 56).

These complex adaptive systems have "highly interdependent parts, great sensitivity to initial conditions, non-linear outcomes (i.e. outcomes that are non-proportional to inputs), and, consequently, highly unpredictable behavior" (p. 56). In the fourth study in the PLE series, Rivera and Rowland (2008) state,

Results from the four studies suggest that powerful learning may be an emergent

phenomenon - a unique result of non-linear interactions among components (e.g. Gleick,

1987). A non-linear interaction is one in which effects are not proportional to causes and,

therefore, one whose effects cannot be predicted by the examination of simple causal

relationship among separate parts. Specifically, three related results include: (1) power

has not been described as the result of single causal factors or any consistent group of

factors, (2) the effect obtained appears significant beyond what one might expect from a

simple causal (i.e. linear) interaction of factors, and, (3) there appears to be little

consistency across experiences in the factors cited and how they interact. These

approximate the characteristics of emergent phenomenon described by Morowitz (2002)

and others. If powerful learning is emergent, then it is largely unpredictable and,

therefore, a search for typical prescriptive design principles would be futile. Rather the

designer seeking to facilitate powerful learning would likely find it more effective to

focus on creating conditions in which powerful learning would be more probable. (p. 8)

In a chapter called "The Death of the Expert," Richardson and Tait (2010) address the

difference between the traditional expert and the "neo-expert" in terms of their approaches to

complexity. They suggest that the traditional expert is not equipped to grapple with complexity.

If this complexity does exist with PLEs as it appears to, no one, not even an expert, can capture

all of the details required to make perfect predictions about how experiences will unfold or how

"interventions might effect that unfolding" (p. 35). The neo-expert is a custom mapmaker—a

process expert where "multiple perspectives are gathered, critiqued, and synthesized to inform

decision-making" (p. 35). The neo-expert attempts to create *new* successful patterns (or behaviors) rather than replicating old ones that were successful. She or he takes a facilitative role by allowing a group or person to emergently arrive at an understanding of their unique circumstance to "enable them to act in order to achieve certain preferred outcomes more often than not" (p. 35). The new and successful patterns that the neo-expert creates within existing situations of complexity relate well to principles of Design Thinking, which will be addressed next.

In these next sections, I examine Design Thinking in two ways. First, I look at general aspects of the theory that will be related to Preludio in the Results and Discussion chapter. Secondly, in the section called "Why Design Thinking?" I address the reasons that it appears that Design Thinking is a helpful way to look at PLEs.

Design Thinking

Design Thinking, in contrast to the "first and second" cultures of the sciences and humanities, can be thought of as a "third culture" (Cross, 1982, p. 221) of study. Design Thinking is an environment and attitude that "provides the space and freedom necessary to foster a process..." (Nelson & Stolterman, 2003, p. 3). Similarly to how the neo-expert attempts to create the new, designers, or those who practice Design Thinking, create what does not yet exist, whether it be an object, an idea, or a curriculum. "In designing... we leap free from the current context and consider the future that we believe should exist" (Rowland, 1999, p. 44). Design Thinking is an approach that makes this kind of thinking, action, and innovation a possibility. Most important for this study is the fact that the Design Thinking perspective "extends a learner's focus beyond what currently exists" (Rowland, 1999, p.116). I will now examine

Design Thinking through six categories: the container, a look to the desired, letting go of everyday assumptions, real and authentic, and the "ultimate particular." These categories are aspects of Design Thinking that help to allow the thinking, action, and innovation that move us to the future.

The container.

A design is always an intentional composition—things or people standing together as a unified whole (Nelson & Stolterman, 2003). An important aspect of Design Thinking is the boundary or limit that is placed on a design. These limits create a type of container for the design to exist. This container offers a structure so that transformation can take place, much like a cocoon, or the alchemy of metal to gold within an enclosed space (Senge et al., 2004).

A look to the desired.

Design Thinking looks to what could be, to what is wished for. This is a different approach from problem solving or disseminating information. It takes all that *is* into consideration, and comes up with something that can often dissolve or transform the former problems so that they are no longer the same as before the design (Rowland, 1999; Nelson & Stolterman, 2003).

Letting go of everyday assumptions.

An important aspect of Design Thinking is taking a step back and letting go of everyday assumptions in order to allow new ideas to emerge. There are a number of tools of Design Thinking that allow the ability to detach in this way. These include observation, empathy, reflection, and using imagination (Rowland, 1999; Nelson & Stolterman, 2003; Brown, 2009). Many of the writings about Design Thinking report the need for essential qualities of suspension

and openness that sound very much like attunement. For instance, Nelson and Stolterman (2003) write, "…[D]esign knowledge emerges from a conscious not-knowing" (p. 44). "…[I]t is important to be completely open to what is emergent in the moment, rather than being preoccupied with past experience, or anticipating a future event" (p. 44).

Real and authentic.

Design is about evoking or creating the real (Nelson & Stolterman, 2003), and is "the process of creating new things of practical utility" (Rowland, 1999, p. 4). These things can be physical objects, conceptual structures, patterns for human activity, or combinations of the three (Rowland, 1999). The real is manifested by the "ultimate particular" and is whole.

The "ultimate particular."

Nelson and Stolterman (2003) speak of the "ultimate particular" as the unique and personal side to design. What is made in a particular design is something that has never quite been made before in the singular way of this moment. The design emerges from the "uncommon understanding" that comes through conspiracy and dialogue (see next category/tool).

Consideration of complexity and emergence.

Designers look at the *whole*, reduce the whole to *parts* that can be studied, and then return to the *whole*—sometimes many times. Designers are essentially neo-experts who gather multiple ideas through many perspectives, and then facilitate with others, arriving emergently to the new. The designer works with clients in a special relationship of co-designer. Here they meet in "conspiracy" (meaning coming together), through dialogue come to an understanding, and then finally reach an "uncommon understanding" (Nelson & Stolterman, 2003, pp. 176-177)— one that is theirs alone.

Nelson and Stolterman (2003) state that the design approach consists of two major components as part of its overall designing strategy. One component is made up of aspects of imagination and intuition, and the other consists of reasoning. The difficulty with reasoning in the complex world we live and operate in, is that typical analysis often does not take this complexity into account. "When we view nature and human activity as interrelated and interrelating, we are taking a 'systems approach,' which is opposite to the reductionist approach [or analytical approach]..." (p. 74). Without going into an explanation of the systems approach here, it is important to note that *systems thinking* is an important approach to dealing with complexity. Nelson and Stolterman go on to say that, "systems thinking is a necessary part of design" (p.115).

Why Design Thinking?

Central to design, and to PLEs, is the leap to the new. Design Thinking offers us a way of viewing learning that allows a conscious opening for these leaps to happen. In this chapter I have shown that the theoretical perspectives of the Suzuki approach, constructivism, and complexity each have valuable components that contribute to an understanding of PLEs as well as possibilities of making PLEs more likely. I see Design Thinking as a theoretical perspective that overarches these approaches above and allows us to see PLEs through a wide lens.

The tools that are a part of Design Thinking are aspects of these approaches. For instance, setting up an authentic, positive environment to make learning more likely is a strong component of both the Suzuki and the constructivist perspectives (for different reasons). Design Thinking's purposeful "look to the desired" while engaging in "real and authentic" work lends itself to careful consideration of the environment. Another example of links between Design Thinking

and the other perspectives is in the relationship between teacher/mentor and student. As pointed out in the "Constructivism and the Learning Environment" section, the constructivist view encourages teachers and students to construct knowledge and negotiate meanings together, instead of approaching instruction from a teacher-centered perspective. The constructivist approach to this relationship is also very much like the neo-expert relationship, which springs from the view of complexity. The Design Thinking model of co-designer seems to bridge these two approaches very well.

A unique attribute of Design Thinking is that there is a conscious consideration of complexity through tools of systems thinking, as well as purposeful ways of stepping back and taking the unique or the "ultimate particular" into consideration. This ability to bring in aspects of complexity to thinking is important both for understanding PLEs that happen, as this research attempts, and also for purposefully setting conditions for PLEs to be more likely. I believe that Design Thinking takes the best aspects of the Suzuki approach, constructivism, and complexity, and pulls them together into a helpful perspective for PLEs.

Finally, Design Thinking offers a wide view of what is possible, away from traditional teacher/student, classroom approaches so that we may be better equipped to understand what makes PLEs more likely, without the pull of traditional thinking limiting our view. It is important to know that it is rare for a reported PLE to come from the traditional, formal classroom setting. Design Thinking may encourage us to stay away from a mindset that ties us to a common view of the traditional instructional model that may keep us from seeing ways of innovating education that allow for PLEs to commonly occur.

Chapter 6. Methodology

Qualitative Framework

Qualitative inquiry offers a chance of "penetrating the surface" (Eisner, 1998, p. 35) of

meaning. In *The Enlightened Eye,* Elliot Eisner lists six features of qualitative study, which I

have incorporated into the Preludio study (1998, pp. 32–40).

- *Field focused;* Studying situations and objects intact.

- *Self as an instrument;* The researcher engages in and makes sense of the situation; Sees

  what counts; What is interpreted will bear the researcher's signature.

- *Interpretive character;* The researcher tries to "account for what they have given an

  account of" (p. 35).

- *Use of expressive language;* Presence of researcher's voice; Use of empathy.

- *Attention to particulars.*

- *Criteria for judgment;* Seeing things in a way that satisfies or is useful; Persuasion by

  weight, by coherence of case, by cogency of interpretation; "In qualitative research there

  is no statistical test of significance to determine if results 'count'; in the end what counts

  is a matter of judgment" (p. 39).

The framework of qualitative research offers the best possibility for seeking insights for

the complex realm of powerful experience. Interviews give an opportunity to explore the

possible interconnections of factors as well as to examine the areas that the participant cannot

immediately put into words or cohesive thoughts. The extensive interviews provide an

opportunity for real exploration that a survey or less in-depth structured interview would not be

able to offer.

Underlying Assumptions

The underlying assumptions that influence my choice of a qualitative framework are based on my acceptance of the view of knowledge as socially constructed. As Creswell (2003) discusses, people look for an understanding of the world they live in and "develop subjective meanings of their experiences.... These meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a few categories or ideas" (p. 8).

Meaning is elusive, and one way to deal with this fact is to avoid it and concentrate on observation of behavior. However, if a phenomenon such as a powerful learning experience is to have any chance of being understood, meaning is exactly what does matter. To take a look at meaning, in-depth interviews were used for the Preludio research. Here are some assumptions I made about these interviews.

Human beings are not "wired" so that our thoughts are proprioceptive —containing a self-perception that understands our intentions and motivations, and how these relate to feelings, which then trigger more intentions (Bohm, 2004). If we did understand, we probably would not need to study PLEs. However, given a certain kind of attention, or space, or suspension—a person, two people, or group can create a *mirror,* so that one can become proprioceptive (Bohm, 2004).

Further assumptions going into the interviews were:

- There is a lot of information that the participants are unaware that they have about their PLEs. This is sometimes viewed as incoherent thought becoming coherent (Bohm, 2004).

- A "mirror" for this information is created by my intentions going in. I am open to truth and coherence (Bohm, 2004) and, to the best of my ability, uninfluenced by my own desires or fears.

During the interviews, the information gathered was unique to the two of us—interviewer and participant. I did my best to remain open and receptive, to probe for coherence but to avoid leading the interview questions. "Being open to any possibility can lead to serendipitous discoveries" (Merriam, 1998, p. 121).

Specific Methodology

The specific methodology that guided data collection, analysis, and report writing was a phenomenological case study. With a phenomenological approach, the researcher attempts to "build the essence of the experience" from the participants. The focus is on a "central phenomenon" (Creswell, 2003, p. 133), and a detailed description of this phenomenon is constructed by the researcher. Phenomenology is "intentional analysis of everyday experience from the standpoint of the person who is living it" (Griffin, 2009, p. 49).

The case study is a natural extension of this exploration because of the opportunity to use the methodology to explore an area in depth. "A qualitative case study is an intensive, holistic description and analysis of a bounded phenomenon" (Merriam, 1998, p. xiii). This case study was bounded by a specific place, activity and time frame.

Since there were seven teenagers and four adults interviewed for this study, it is appropriate to refer to it as a *collective* case study. "It is not the study of a collective but an instrumental study extended to several cases. Individual cases in the collection may or may not be known in advance to manifest the common characteristic.... [The individual cases] are chosen

because it is believed that understanding them will lead to better understanding, perhaps better theorizing, about a still larger collection of cases" (Stake, 1994, p. 237).

Research Process

Role of researcher.

Like the participants in the study, I experience the world in unique ways. As Eisner (1998) points out, "These unique ways of experiencing make possible new forms of knowledge that keep culture viable. These new forms then become candidates for shaping the experience of others, who in turn can use them to create even newer forms, which in turn... and so forth" (p. 48).

Since I was the sole collector of the data through interviews, it is important that I identify my personal values, assumptions, and biases. I have been a Suzuki violin teacher for over 35 years, and with this philosophy of teaching comes a deep respect and regard for everyone, including children. In the fifth study in the PLE series, I interviewed eleven Suzuki teachers, and enjoyed the experience of exploring their PLEs, both in their personal life and in their teaching. I believe that my respect for them and their work as well as my knowledge about what they do, led to a comfortable rapport. This, in turn, created an environment conducive to the exchange of rich information.

As a person whose career is in the same field as the teachers in the fifth study in the PLE series, as well as the teens and teachers in the Preludio study, I understand that I could very well have a bias towards seeing the most positive aspects of the Suzuki approach and could possibly ignore any negative information coming forth. I do think, however, that since I am not examining the Suzuki approach or music, and that these are simply vehicles for study of PLE, that I am not

prone to falling into this trap. In the fifth study in the PLE series, Dr. Rowland listened to more than 20 interviews that I engaged in, and did not mention a problem in this area.

In the case of Preludio, I did have an assumption going in that most of teens did have a PLE at the camp. This assumption came from my own observations of the camp and from what my son (who was one of the teens) reported to me. I would not have chosen this particular group if I did not think there was a good possibility that they did have such an experience, because the PLE is the phenomenon I want to study. My approach in the interviews, however, was to simply ask about experiences and learning, and leave it to the participants to talk about their experiences in ways unbounded by my mention of the word "powerful." If the learning and experiences described seemed to fit the definition of a PLE, I would ask about it later in the interview, and we would then go from there with questions about factors involved.

Data collection.

Before beginning the interviews, I received permission for the study from the Human Subjects Review Board at Ithaca College. Most of the data were then collected through in-depth interviews with each of the participants. In addition to this information, I reflected on my own observations that occurred as I taught at the concurrent camp on the same campus, and had the opportunity to see and hear some of the activity of the Preludio teens. I also observed video-recordings made of concerts as well as social activities during the camp. These are materials that have been made publicly available on YouTube, for instance:

http://www.youtube.com/watch?v=wo1fcc0pTKA.

The interviews were audio-recorded and then transcribed. They were semi-structured, which allowed consistency of questions along with an ability to flexibly engage in natural

conversation. This allowed the participant to explore any subject that came up in the depth that was appropriate for that moment (Lincoln & Guba, 1985; Neuman, 2000). In order to reach tacit information that each of the interviewees may have held (and not even know they held) about their experiences, I employed appropriate probing questions. In addition, I occasionally paraphrased responses back to interviewees to corroborate what was meant.

The focus of the interviews was on factors of the PLE at the music camp. I examined the factors that the students felt contributed to their experience, both internal and external. I also asked questions that allowed exploration of the interrelationships of these factors. The teachers as well as the piano collaborator and the teacher observer were asked about their own experiences (and the factors and interrelations of such) as well as those they might have seen with the students (see Appendix A and Appendix B for interview questions).

Data Analysis.

Raw data acquired during a qualitative case study make it imperative to organize and maintain the data consistently. The fifth study in the PLE series prepared me for this necessity and skill. Not only was there careful collection of data, there were multiple assessments of these data. Stake (1994) suggests that since qualitative research is inherently reflective, it is continuously interpreted—when first seen, and then again and again.

After conducting each interview, I listened to the audio-recordings and wrote a transcript for each one. I then gave the transcripts to a peer debriefer. She read each one and wrote notes about what she saw emerge as patterns and themes. While she did this I did the same thing, and did not read her summaries until I had come to my own conclusions. In the midst of this process

I showed a sample of the peer's notes to Dr. Rowland to check that he felt that they were valuable.

Throughout the process I took many reflective notes about what I was seeing. I moved slowly and deliberately to let richer findings unfold. After all the interviews and notes were completed, I read the notes of the peer debriefer and then met with her and discussed the emergent patterns and themes we had found. I then went through our reflective notes, writing down similarities and differences into a chart of two columns. I then rewrote any differences I found on a separate sheet and took these into consideration for the next step of the charting. The differences were negligible, however.

At that point I began to make up various charts of themes and ideas. The first charts showed questions that had been asked, and answers that followed for both teachers (including the pianist and observer) and students. As themes emerged, certain words were highlighted and then moved to a new chart. Horizontally, across the top of the chart were categories such as "Preceded (Preludio)", "During," "Factors," and so on. Vertically, along the left side, were initials of the students and teacher names. The highlighted words were placed in the cells. The chart illustrated the themes that we had found, and pointed out anything that was missed. Finally, I drew out a concepts map, which illustrated aspects of Preludio and how they related to each other, as a way of seeing the situation holistically. The peer debriefer then added to the map. We again shared what we had found and were in agreement about what we saw. At that point I again went back to the transcripts, and in a few cases back directly to the audio-recordings, to make sure that the findings and the responses matched well. Throughout the process, Dr. Rowland also looked at

transcripts and charts, talked through my insights and ideas, and asked many questions that allowed me to think more deeply about meaningful categories and results.

The next part of the process was to share the results with several teachers, including the director of the Suzuki Institute who is closely tied to Preludio, and who would have let me know if any of the insights were off-track. I then gave a draft of the thesis to the Preludio teachers and pianist, both to receive their permission to include their names and quotes as well as to receive their feedback about the results. All felt comfortable with the results.

Methods for Achieving Trustworthiness

In order to develop a sound rationale for methods chosen for the proposed research, it is essential to look at trustworthiness and to make sure that the research serves a useful purpose. To define this word (which is the qualitative paradigm response to the quantitative criterion, "validity"), I include four questions and matching terms by Lincoln and Guba (as cited in Marshall & Rossman, 1989, pp. 144-145) that establish trustworthiness of the study. Lincoln and Guba demonstrate that the usual quantitative terms of internal and external validity, reliability, and objectivity are inappropriate for qualitative study.

- How truthful are the particular findings of the study? By what criteria can we judge them? (Credibility, instead of internal validity)

- How applicable are these findings to another setting or group of people? (Transferability, instead of external validity)

- How can we be reasonably sure that the findings would be replicated if the study were conducted with the same participants in the same context? (Dependability, instead of reliability)

- How can we be sure that the findings are reflective of the subjects and the inquiry itself rather than the product of the researcher's biases or prejudices? (Confirmability, instead of objectivity)

Credibility.

Credibility depends on a study being conducted in such a way that accurate description is assured, through the eyes of the participant. To this end, I made no assumptions that anyone had a PLE, and made certain to keep the questions open. I came into the Preludio interviews after many hours of practice from the fifth study of the PLE series that were supervised by Dr. Rowland. The interview questions were carefully crafted in advance (see Appendix A and B), which helped to prevent leading questions from happening in the interviews.

In addition to consideration of data from hours of interviews, I also reflected upon both personal and video-taped observations. In-depth descriptions in the written report ensured accuracy of details. In particular, the use of the case study allowed for thick description, which shared details that the reader could be right in the midst of (Erlandson, Harris, Skipper, & Allen, 1993). I also occasionally paraphrased statements back to the participants during the interviews to clarify what the person actually meant, offering internal accuracy. And, as stated earlier, I have been clear about my own personal biases and beliefs.

Transferability.

Transferability leaves it to others to determine if the study is applicable to a new setting. This can be called the second decision span in generalizing (Marshall & Rossman, 1989). I compared the participants within the case studies to one another and to past research, but generalized only within my sample (first decision span). In Chapter ten I will speculate about ramifications for future research, but this is not the purpose of my research. The inclusion of the interviews with the teachers offered a type of triangulation, and served to "corroborate, elaborate, or illuminate" (Marshall & Rossman, 1989, p.146) the data gathered from the students, and vice versa. The interview with the teacher observer served to further triangulate the data, as did my own personal observations.

Dependability.

Dependability shows that findings are consistent and could be repeated. It is the outcome of a process that accounts for the fact that changing conditions are in place, either naturally or through interaction with the researcher and the study. The best way that I found to address these changes was to keep detailed notes available for audit. These include personal notes, transcriptions of the interviews, observations of the camp and the video-recordings made there, as well as all reflective notes kept throughout the process.

Confirmability.

Confirmability means that if someone else looked at the same set of data, the conclusions would be the same. This possibility is actually contradicted by assumptions of qualitative inquiry and is impossible to carry out. In order to strengthen aspects of

confirmability, however, I took the following steps. Each person was interviewed and audio-recorded, with the recording of the interview available for reference as necessary. I used peer debriefing throughout, with Dr. Rowland reviewing occasional transcripts, and the peer reviewing all material separately from me. The peer was asked to look for basic patterns of interpretation, such as categories of factors, while I independently did the same. After the data sources were reviewed, we then compared patterns and themes that emerged. The patterns and themes were confirmed and disconfirmed through this process, and also checked with Dr. Rowland throughout the process.

In addition, I used rich, thick description so that a solid framework for my work was provided. Since the research is taking the form of a case study, I reported findings in a depth common to the case study, using quotations liberally. This will allow anyone access to the details of the case.

I then mapped out patterns and made interconnections that came out of my reflective thinking about the interviews and data. Next, I compared these findings with those of my peer to make sure that they lined up with her findings. We consistently saw things the same way. I then took the findings to several other teachers (who are familiar with Preludio but detached from it), and also to the director of the Ithaca Suzuki Institute, which is the umbrella of Preludio. Finally, I shared the findings with Tom and Allegra, the two teachers who were interviewed from Preludio, as well as Melissa, the pianist. All were comfortable with the findings and insights offered.

Study Setting

Preludio is a three-week music camp for advanced teenaged violinists (usually 13–18 years old). The camp is held at Ithaca College in Ithaca, N.Y. in July. Eleven or twelve violinists are accepted to the camp each year. They stay in a dorm with three counselors, eat their meals together in the cafeteria, and have an intense schedule of music and socializing.

Preludio is an outgrowth of the Ithaca Suzuki Institute, which happens simultaneously on the Ithaca College campus during the last two weeks of Preludio. Most of the Preludio classes happen in the chapel, which is located on a different part of the campus from the Suzuki Institute. The Preludio violinists do perform for the attendees of the Institute, however, as well as attend other concerts that occur at the Institute. The dorm also includes a few other teens attending the Institute. Otherwise, there is little overlap.

There are two violin teachers at Preludio, as well as a piano coach/collaborator who rehearses the music with the students and performs with them.

Preludio begins even before the arrival of the musicians on the college campus. Once the students are accepted to the program after sending in an audition DVD, they receive a packet of music to prepare before their arrival. This music includes technical studies and a piece by Fritz Kreisler that is chosen for them, as well as two Paganini Caprices—some of the most challenging works written for the violin. Working with these Caprices stretches each student's abilities farther than most have ever experienced.

Once the schedule begins it is packed with daily private lessons, piano coachings, hours of individual practice, technique classes, and master classes. The private lessons, which involve one teacher and one student, provide ample opportunity for study of the violin; for talking as

needed, perhaps agreeing upon mutual goals; and for exploring any issues that come up, whether physical, intellectual, or emotional. In addition, these same themes are often carried over into the master class settings, where the students observe each other's lessons with the violin teachers who team teach, and the pianist who accompanies. The students also have multiple experiences with performing in solo and ensemble recitals.

Even though Preludio is a very intense violin experience, there is social time that consists of off-campus trips for shopping downtown, attendance at a play, as well as trips to parks and the Ithaca Farmer's Market. There is also time at night to talk and play cards, etc. There is usually a dance or a talent show as well as opportunities for swimming.

Study Participants

Seven Preludio students were interviewed for this study. For reasons of confidentiality they will not be named. Five attended in 2009, with two of these attending again in 2010. Two others who were interviewed attended in 2010 only. There were four males and three females interviewed. At the time of Preludio, one was thirteen years old, one was fourteen and then fifteen, one was fifteen and then sixteen, one was sixteen, and the remaining three were seventeen years old. They came from Chicago, IL; Hartford, CT; the Cleveland, OH area; Boulder, CO; and Ithaca, NY. Most of the students who attend Preludio have Suzuki backgrounds. In this case, one did not. One of the students studied with Allegra (one of the Preludio teachers) at home and two studied with Tom (the other Preludio teacher). In these cases, the students studied with their non-home teacher in the private lessons at Preludio.

The interviews varied in timing. In one case, the interview happened on the last day of the camp, making it the closest in time to the actual event. In another case, the interview

happened on the last day of the camp, but this was the second year that the participant attended Preludio, making it one year since the previous attendance. One other person was interviewed a year after Preludio, and the other four were interviewed several months after the camp. Three of the teens were interviewed in person and the other four were interviewed by telephone. All of the interviews were audio-recorded. The interviews ranged from 30 minutes to over an hour, with most taking about 50 minutes.

The two teachers at Preludio, Tom and Allegra (real names), are father and daughter. Tom is a Suzuki teacher in the Chicago area and Allegra performs with the Colorado Symphony and teaches privately. She is a former Suzuki student. Assisting is piano coach and collaborator, Melissa (real name), who also lives in the Chicago area. They were all interviewed in person, in the midst of the 2010 Preludio. These interviews averaged about 50 minutes in length. Also interviewed was a Suzuki teacher who has observed much of Preludio for a number of years. This interview occurred by telephone several months after the camp and lasted about an hour. All of the teacher/observer interviews were audio-recorded.

Chapter 7. Results and Discussion

In this chapter I begin by reporting what the students and teachers said within the interviews, providing rich data to illustrate themes. I then take a brief look at data that supports two of the factors examined in the Literature Review chapter, liminal thinking and attunement. In the next section, I compare the results of the Preludio interviews to the results of the PLE series. I then examine the relationship of the Preludio results with the factors, learning experience constructs, and similar studies included in the Literature Review. From there I include the specific research questions and answers from this study, and then move on to a discussion about Design Thinking and Preludio.

Interview Data

 Student responses.

The first question (see Appendix A) asked in the teen interview was, "Tell me a bit about yourself. What are your interests and hobbies?" The teens named a variety of interests such as playing soccer, horseback riding, listening to or playing music of all kinds, hiking, snowboarding, and reading. Most said that violin was their primary away-from-school activity.

I then asked each student to talk in general about his or her Preludio experience. This and the third question about what was learned at Preludio, was what led them to talk about their overall experiences. I did not ask about PLEs until after I heard about their experiences, and then asked if they felt they had a PLE. All felt that they had, and all but one were emphatic about this being true for them. I now share what each one talked about as far as their learning. The italics are their words, slightly and occasionally paraphrased for brevity.

Preludio was probably the best experience of my life—the cause of my decision to major in music in college. Music is not just a thing I do, but actually a passion. It is something I love to do and share with others. I form close relationships with others through music. It was the most intense experience. It drove me to take violin much more seriously, to realize my potential. I learned lots technically and lots personally. I found out that I have the discipline that music requires. I learned that I can be more hopeful that more experiences like this can be "hiding around corners." I also found it important to know Tom as a human being and a friend.

It was very life changing for my music career. Everyone looked at what was holding them back. The lesson I learned was getting over the fear of solo performance on the violin. I know that even years later I will have more confidence in my playing. I am losing my self-consciousness— worrying about what people think. I am seeing that there is no reason for this. My ability to work hard and accomplish is even higher than before Preludio. I was never that driven before Preludio or aware that I can really, really accomplish a lot if I set my mind to it. Music has taught me a lot about the importance of life-long learning. I plan on having my kids study music in this way someday.

As far as all the camps I've ever been to, it's the best experience I've ever had. My confidence in my playing grew, which was Tom's biggest goal. This confidence has transferred to my personality quite a bit. I was outgoing before, am more so now. I now see the world and the violin from a positive *vein. I notice the positives in other people's playing. I now realize that there are more people to* help *you, rather than be out to get you.*

It was a unique experience in that I not only improved as a player, but it was a very personal experience. The whole way I approached my instrument changed. I saw improvement in my playing a few weeks after leaving Preludio. I had a better practice mentality. I received confidence, yet I was brought down to earth by Tom. I now know that my goal of getting into Julliard is possible. I am learning how to pay attention to details, especially listening to and fixing my intonation. I am a better performer. I know how to teach myself and to let the literature (i.e. the Paganini Caprices) teach me. My attitude changed, so therefore so does my playing, including technique and intonation. This is definitely a lasting change for me.

I learned about my own anger. I realized that I was expecting to reach perfection and then would lash out in anger. Now I know to just work harder. My main theme at Preludio was denial. I have wasted time going to anger rather than thinking things through. Just being accepted to Preludio opened my eyes to seeing that I am actually pretty good. This denial, this ability to manage my anger has carried over to sports, my other passion. I now know to stay late after my sports practice and to work harder rather than getting angry.

It was a real wake-up call. I focused on self-improvement and I learned about taking ownership of what I am doing—hearing and accepting what is wrong. Now I am improving on the violin because of this—both technically and musically.

This next student was the youngest, at thirteen, and seemed less sure about whether the experience would be lasting or not. It is interesting to speculate whether this was because of the

younger age, or because the student was quite introverted, or both. This was also the only interview that happened on the last day of the camp, giving little time for reflection. This is an important distinction and will be addressed in the Results and Discussion chapter as well as in Limitations.

I think I have changed a little, I am not sure how I have changed, but I think I have. I learned more with bowing and lots of different things about the pieces. I think I am more outgoing now, with my playing, too. It was helpful having a supportive atmosphere and also realizing that I can enjoy a moment, and not just always focus but I can have fun. I also discovered that I am not as quiet as I thought I was. I have a feeling these discoveries will last over time.

The second interview question examined how they each felt coming into the camp. Of the seven teens, five had attended the Ithaca Suzuki Institute in the past, so had experienced the campus and aspects of the atmosphere. These same five had also witnessed the high playing level of the Preludio students when at the Institute, which contributed to their internal questions about how they would stack up. Of the seven students, two had expectations of having a PLE, but were surprised about the degree to which each of them had one. Four spoke about being excited about coming. Six of them spoke about having doubts about how they would "stack up" with the others. Three spoke about being sure they were going to be the worst ones, and being pleasantly surprised when they saw that the camp did not work that way—that there was no bottom. When asked if anything *preceded* the camp that contributed to the learning, several mentioned receiving the music in advance and preparing the music on their own, as important. As

mentioned, one student felt that just being *accepted* to Preludio was important. Many mentioned

what an honor it was to be accepted into the program and that they came to realize that they were

meant to be there.

Factors.

The next question addressed factors that contributed to the learning, and these factors

took up the bulk of the interview. I organized the answers into eight categories/themes that came

from charting the data. The categories were: teachers, personal, open mind, peers/counselors,

intensely doing one thing, handpicked, children to perform for, and reflection.

Teachers.

All seven students mentioned the teachers, Tom and Allegra, as being a factor in the learning

experiences being powerful.

They were fantastic, encouraging. They were both really good at reading people: Encouraging

when needed, shooting us down when we were too full of ourselves. Their job was for us to walk

away with something.

A warm environment was created by Tom, right from the start. Somehow Tom established his

warmth and his accepting of all the players' personalities and playing styles. Tom and Allegra

work in tandem—both extremely supportive. (At this point the student mentioned that Allegra is

included every time Tom is spoken about.) *Tom very carefully chooses who comes to Preludio and who comes again. Looks for an open mind.*

Having positive aspects of playing pointed out really helped, in contrast to past teacher who focused on the negatives.

Tom and Allegra have a special ability of seeing who you are as a person. The teacher must be special—as they are—and be able to affect you. This is the most essential part—to get right to the core. The contribution towards a PLE was 30% environment and 70% teacher.

Faced self and denial through the help of both teachers. They kept at me until I faced it.

I had not ever experienced this style of teaching—just different than I was used to. Tom talks a lot about energy, and I had never heard anything about that before. What I really liked was that they were honest about what needed improving. Tom had me choose two personal questions that led to me knowing myself better. The fact that it was so personal made it powerful for me.

    Personal.

All seven students mentioned the factor of the personal nature of Preludio, the personal approach of the teachers, and the importance of the small group to allow the personal approach to happen.

My own personal struggle probably contributed to the PLE. The small camp allowed me to watch and learn from the strengths and weaknesses of peers.

Important to have only 10 people to give me the support I needed. A great opportunity to get a lot of attention.

Tom and Allegra have this special ability of looking. They can see who you really are as a person. In that way it was a really personal experience. I get along with people when there are less of them. We had only 11 people and we were so close knit.

Tom and Allegra's personal approach gave me a wake up call for my improvement and maturity.

Having so few kids made it more personal.

Having so few kids made it easier to have close friendship

> *Open mind.*

Six of the students mentioned the importance of having an open mind.

A recipe for a PLE must include an open mind – on both parts, but mostly mine. The learner must come into the situation open.

Number One factor of importance: go in with an open mind.

A student also observed that those who did not seem to have open minds did not appear to have PLEs—that personal resistance could block the experience.

Peers/counselors.

Five of the students specifically mentioned the importance of peers and/or counselors as a factor of their PLE.

There was an important routine of us all living together. We were a close-knit group, it was not clique-y. There was no source of competition unless we created it ourselves. I got a lot of inspiration from seeing the other players and I learned a lot from their strengths and weaknesses that were the same as my own.

It was important for me to have positive feedback from really supportive peers. Working closely with the people was a big deal. You could not take that away and have the same experience. It was the people and all the support that helped me gain the confidence.

The friendliness of the people was important to me along with being surrounded by people who were very, very committed—some more than myself. I was inspired to do more by people who share my passion. I became very close to my friends, which added to the comfortable environment that contributed to my PLE.

Intensely doing one thing.

Four students mentioned this as being important to their PLE.

The only teachers we had were teaching us violin—their one expectation—so we had no other obligation for three weeks, other than studying music, which for me was the best part. I could really sink into it and not have to be preoccupied while I was practicing, worrying about finishing an English paper or something—because I was completely focused.

There were no distractions. I was barely on my phone. I didn't want to talk to anyone. I just wanted to practice and think.

I always enjoy camp because I am with people who enjoy music just as much as me, and share a passion. My entire world is about it. I don't have to worry about homework… just get dinner in the dining hall, go practice some more… just nice.

Handpicked.

Three people mentioned how important it was to them to be handpicked for the Preludio program.

We were handpicked to come together and play. That right off the bat was enough to assure everyone that we are supposed to be here. I was turned down the previous year (rightly so). I felt I deserved to go this time.

It is important to me that I got accepted with 10 other people to be in this camp. Opened my eyes to see that I am actually pretty good.

Children to perform for.

Two students mentioned this factor as being important to them.

This was important for me. *I felt like a lot of kids were looking up to me. I know some of them were because their parents approached me and said my performance was inspiring to their kids. That's more encouraging than any teacher could be who would maybe say, "You're great, you're great!" But when you hear it from a parent who says my kid wants to be just like you, I don't think there is anything more inspiring than that.*

Having the Institute there made us step up our game as leaders and role models to the others, which I felt particularly affected by. I was very proud, especially during the Kreisler concert. All these kids watching the older, more advanced kids. I don't know if they think this, but they may be thinking the same as when I idolized the Preludio kids when I was younger (which also was powerful). It made me realize I am not a little kid anymore. I am 16 and I'm playing hard music. All these kids are possibly looking up to me.

Reflection.

Two of the students mentioned having reflection time as part of the importance of their experience.

The Preludio schedule was important in the sense that it was all music. There was time to practice and time in the evening to socialize, recuperate, and reflect on what you had learned.

Isolation was important for me, and also reflection time. I just wanted to practice, and think, and make sure everything was right, and get better.

Lastly, there were a couple of questions asked that attempted to find an understanding of the possible interaction of factors. The students were asked if they felt that the factors related to each other, if all the factors were needed, or if any could be eliminated. They were also asked if there was a better way to talk about the experience other than in terms of factors.

The general consensus was that all the factors worked together, and this was where some other factors of the college campus, and in particular the chapel where they worked together were mentioned. On the other hand, one person said that the experience could probably be powerful with other, really good teachers and one person said that she could come to the camp another time with different people there and still have it be powerful. All agreed that talking about the experience in terms of factors was probably the best way. Only one person mentioned realizing that subtracting one thing could change the experience. This student had heard a rumor that the camp might be moved to a different setting and felt that the experience would be changed for the worse if this happened.

Teacher responses.

Since Preludio is a public event, the teachers and pianist are included by name. The teacher observer is not named. A draft of the thesis was given to the teachers and pianist for their approval of the findings, and to authorize inclusion of their comments here. Tom and Allegra are the two violin teachers at Preludio. As mentioned previously, they are father and daughter, and they work as a team for the three-week camp. They conceived of the Preludio camp and designed it to fit into their concept of an intensive, individual violin experience for a small number of committed teenagers on the Ithaca College campus in conjunction with the Ithaca Suzuki Institute. I also interviewed Melissa, the piano coach and collaborator for the camp, and a teacher observer.

The teacher interviews ended up taking a very different form from the student interviews. The teachers took a very free-form direction naturally within the interviews that seemed important to allow. The questions were answered naturally, imbedded in the conversation. Therefore instead of reporting on each of the questions that are seen in Appendix B, I will report what the teachers felt Preludio is setting out to do and how it is doing this.

Tom:

The goal is to make a difference in the kids' lives. The main theme for everyone is taking responsibility— moving from the Suzuki triangle where the parent is involved to seeing the student taking responsibility for his or her own life. By the last day in closing, many students have come to life changing revelations. One person, one year, burst into tears and said, "I just want to be seen!" (by the family at home). If someone leaves knowing something like that, who

60

cares if they play more in tune? This is something that will change a life, totally. If they can go

from feeling, "I can't do this," to that concept disappearing when they go home, then it is all

worth it.

Allegra:

It is about changing yourself, learning about yourself. The Preludio experience changes a

student's life. With the exception of a very few over the past six years, this is absolutely true.

From this change in self comes an opening of potential to be more musical and more

comfortable with the instrument.

Teacher Observer:

The reason my interest has been sustained, and I come early to observe at Preludio is because of

the change I see in the students. There is a transformation of not only their own playing, but also

in the recognition of that change, along with personal growth and self-confidence. With the

people who return to Preludio, something happens at a deep level where they come back very

changed. One girl who struggled the first year came back the next, and with the very first note

she played we were all blown away.

Tom, Allegra, Melissa, and the teacher observer all believe and expect that PLEs occur at

the camp, although they all said that you could not always tell at the time, and that certain

personalities made it more of a surprise when hearing about it later. On the last day of the camp

there is a time where everyone shares what they have learned about their playing and themselves. This is often a time of tears and great power.

Tom:

For me it is a simultaneous thing—we both have the "aha" moment at the exact same time, but it may be different for the student. Maybe they think, "Oh yes, I now understand that if I listen to the pianist, my intonation is changed," whereas I think, "They got something that made a difference for them."

Allegra:

Three weeks is a short time to get it. It is just as valuable whenever *it happens.*

All mention that a PLE sometimes happens after the camp, which was reported by two of the student participants.

Melissa, the piano coach, is less sure about knowing when she sees it or not, although she does feel that PLEs happen at the camp and happen more regularly than in a typical home studio setting. She mentions that the final sharing event gives clues as to how each are affected. She believes that everyone at the camp (including the teachers) does experience PLEs.

When asked why the camp is powerful, and why the life changes happen, the answers were all easily forthcoming.

Allegra:

The kids are meant to be here and they know this. It is small in number. We had 13 one year (instead of 11 or 12) and it felt too big. We don't want it to be big. I like the intimacy of it all. We have a week to ourselves on campus and then it is probably good that an audience arrives [in the form of the Suzuki Institute]. *My Dad and I work well together, thinking very much the same, changing roles as needed. The peaceful setting of the chapel helps—like an intense bubble, as does the immersion in the program. But it really boils down to the teacher/student connection. Students must be willing too.*

Allegra also mentioned that she and her Dad ran the camp for one year in another place, where it did not work nearly as well. She surmises that part of the problem was that there was not the same immersion, that the camp was part of a larger camp in which the teens participated. It was possibly significant that the two of them were not in charge of the design of the camp in that case. At Preludio they are.

Tom:

I see the kids fresh and ask myself where I can make the biggest impact. Purposefully, I don't know much about the kids going in. I am direct from an open, loving place. I look at how body, mental state, spirit, and emotions affect the violin playing. It is important that it is a safe environment. It is a feeling of: if I feel safe, I can do anything.

63

As Tom shared with me in the interview, he has worked hard to take this fresh approach to his own home teaching environment, and has found a huge positive change happening in his studio over the last few years (named a PLE by him) because of this approach.

Melissa:

I think that important factors that contribute to a PLE are the intensity of the experience, the motivation coming in, and the fact that this is all that they are doing. The chapel is such a nice place to work, and I think it is important to see how supportive the kids are of one another. Time seems to be a major component. A lot of time is given to these kids. Everyone should have this opportunity of time along with feedback. The addition of the piano and performance makes the experience real.

Teacher Observer:

Contributors are a safe environment, the calming physical environment of the chapel looking out to the pond and nature, the nurturing and positive Suzuki background they bring in with them. I think that there is a lot of effort on the part of the pianist and faculty to be encouraging. This is about you and we are here to support you—all in an effort to create a safe environment for learning. In the first lesson (with the teacher they do not yet know) it's about where you have come from, what you have studied, taking them from where they are. There is an acknowledgement that how you are right now is just fine. So there is already a kind of relief. It is OK to be safe. As the days and weeks go on there is more of an encouragement to change faster.

If the student is staying where they have been, then there is a "digging in deeper" to try to get

that change to happen. It definitely comes from first feeling safe.

Allegra, too, spoke about working hard for change. She says it is typical for the Preludio teachers to feel a sense of frustration at the beginning of week two each year. They see the potential and see how the change is not happening as it could. They have now added in an assessment meeting midway through Preludio with each student, individually, to reflect on how everything is going, both with personal work and violin work.

All the teachers mentioned the importance of having a positive approach (important with the Suzuki philosophy), and how key this is for the overall atmosphere of the camp.

Both Tom and Allegra spoke about how when they were growing up they did not have certain teachers who made them feel energetically safe or unconditionally accepted. Tom spoke about a life-changing experience in college where he received personal interest and unconditional acceptance from the well-known violin teacher, Dorothy Delay. This has shaped his teaching, which he was not even considering doing at the time.

Tom:

It became very clear to me that when my body, spirit, and emotions could relax, I could get the results I was looking for, that I had hoped for, that I had always wanted as a player. And it only made sense to me that to transmit that with my teaching was the only route to take. There is just no question.

Even though the teachers talked a lot about their own role in the process, there was acknowledgement that much was up to the students. Both Allegra and Tom speak about their hope that they can make a "dent" in these students' lives. Tom speaks of hoping that the child will "fly." When asked how much of a percentage he feels he has in the responsibility for a PLE happening, he says, *Well to be absolutely honest, I think it changes over time but if it had to be 100% me helping have a PLE, then... what else do I have to do? Why not?*

Allegra:

My job is to see if they are letting the door open, or seeing if they are not ready. I experiment and watch feedback. Sometimes I have to be more determined to get more out of them—to connect in that way. I cry on the last day. I am so proud of them. It's kind of like "Survivor"—you see each of them later and you have shared this secret bond.

Unspoken Factors.

Although many factors have been mentioned—in the Preludio interviews just seen, and in the Literature Review chapter of this thesis—the two that stand out as best to encompass some of the unspoken factors that cannot be pinpointed so easily are liminal thinking and attunement. For this reason I include them here.

Liminal thinking.

Just as in the fifth study in the PLE series (Reuning-Hummel & Rowland, 2011), there was often mention of types of liminal thinking in the Preludio reports about PLEs. The students and teachers reported that there was a dual support and acceptance, plus a push to be better and

to dig deeper within at the camp. This was mentioned often enough to be a theme of Preludio. Other comments were: *strict with an open heart; blunt with a smile on my face; open and sensitive* plus *discipline provided; expertise yet open to not knowing; structure provided, but in-the-moment.*

Attunement.

Many qualities that fit into the description of attunement were also mentioned, just as in the fifth study of the PLE series (Reuning-Hummel & Rowland, 2011). There was much talk from the teachers about having an open heart as well as really listening and picking up cues from the students in a very deep way. One Preludio teacher talked about coming into a new teaching situation without knowing at all what to do, listening, going with an idea, letting it "morph" into everything else, letting it turn into therapy in some way, being very child-centered. Another spoke about the deepest kind of listening that is without internal chatter. The teens reported that they felt seen and known by the teachers. These comments sound like the relationships are taken beyond empathy to a mutual resonating response, just as in attunement.

Comparison of Results to PLE Series

Just as in the previous PLE series, the results of this study showed that people (in this case, teens as well as adults) had no difficulty in reporting their PLEs. They spoke with a deep knowing and surety about their experience. The only difference in the case of Preludio was that non-adults reported the PLEs (see answers to research question #4 below).

As in prior studies, the students also seemed to experience a change in perception through the PLEs, and came to know themselves and their path more fully. They reported various types

of PLEs (e.g. aha moments vs. realization over time). In addition, a few common factors of PLE emerged (namely the relationship with the teacher and the personal nature of the camp).

With the more cohesive group of Preludio, at first glance there appeared to be more similarity of experiences and factors than in the previous studies. Taking a closer look, however, the experiences and factors were still unique to each participant. For instance, although they were all at a camp to presumably improve their violin playing, they came out of the camp with different reports about what they had gained. One person decided to go into music because of Preludio, one found out how to understand and manage anger, and another saw that the world was a more positive place than previously understood. There was understanding of discipline and hard work reported in various ways, an understanding of how one wanted to parent in the future, and on and on. Certainly, these all stemmed from a violin-oriented camp, but they were multi-layered, and the actual PLEs reported stood on their own for each participant.

The reported factors looked even more similar than did the experiences. Only eight major themes emerged from the data, much less numerous than in previous studies. The differences were subtle here—with varying relationships and priorities given to the factors. For instance, one student mentioned individual hard work being more important than the teachers in influencing the PLE, whereas others right away named the teachers at Preludio as crucial. Several people mentioned the ebb and flow of the factors—where in some moments the teacher was the prime factor, and at other times the student took the lead.

There are three ways to look at the fact that only eight factors emerged as being important with this cohesive group. First of all, it could be that these factors are an important eight that may be a starting point for instructors/designers who are setting conditions for a PLE to be in place.

Secondly, however, no one student mentioned all of these factors being important or vital. Must all of these factors have been in place for each one of the Preludio teens to have a PLE? This brings to mind one of the students who never mentioned friendships or peers, in the explanation of Preludio being powerful—and in fact did not socialize very much at all during the time. This was in contrast to at least three of the students who mentioned the social component as extremely important to them, and another who found the observations of the violin playing of the other students to be vital. It seems that the personality of the student must play a role in the importance of the factors.

In fact, if the eight themes were taken as a whole, no one of the students appears to have needed all of them for the experience to be powerful. Perhaps looking at the word "vital" takes us further towards an understanding in future research. The interaction of the factors cannot be underestimated or simplified here.

For these reasons, it is difficult to say that a more cohesive group leads to more similar factors that have contributed. If the eight themes are not of key importance for everyone, if they have different levels of importance from moment to moment, if they have different meanings and reactions depending on who is reporting them—it seems we can not diminish the uniqueness of these factors. On the other hand, as mentioned before, they could be a starting point for conditions set.

Comparison of Results to Factors, and Learning Experience Constructs

This next section will compare the factors found to be significant in the Preludio study with the factors that were discussed in the Literature Review chapter. As in previous studies, while it appeared that there was interaction of factors and an emergent quality to the PLEs, this

characteristic was difficult for the Preludio participants to describe. It could be useful to pay attention to the intangible and inferred factors that were discussed previously. These types of factors could be valuable in understanding the complexity of PLEs. All were mentioned or inferred in some way by the participants during the interviews. For instance, openness was mentioned as being important by six of the seven students interviewed. Several mentioned that it was important to go into the situation with an open mind in order to experience a PLE. This raises the question of whether one needs to go into the experience with an open mind, or whether factors can converge to bring on the open mind as the person experiences. One of the students spoke about an excellent history class at school where not everyone came in open minded, but all became engaged as the class went on because of the excellent teaching. This is perhaps where an investigation of attunement could be helpful. If an open mind is necessary for a PLE, what route can a teacher take to make it more likely for the open mind to be present?

Two of the student participants mentioned reflection time as being a factor of their PLEs. Perhaps significantly, there were a number of opportunities at Preludio for students and teachers to discuss the progress and change that was going on. Private lessons gave opportunities for teacher and student to make personal goals together, there was a mid-way assessment with the teachers and pianist meeting with one student at a time, and there was also a full sharing session with everyone on the last day. These moments could contribute to the fact that the students left Preludio with such a strong self-knowledge or recognition of PLEs. Perhaps these moments were markers that offered a chance for reflection time or that simply aided the recognition.

It is also important to note that the interviews varied in their timing in relationship to the camp. In the case of the youngest participant, the interview happened on the last day of Preludio. Two of the participants clearly said that it was in the weeks *after* the camp that the big change in their perceptions happened. As has been pointed out in prior research, powerful learning experiences can happen over time. Perhaps reflection time is a necessary factor in at least some of the cases. There may be a "sliding scale" of power for some, depending on the time lapse. All of the students felt that they had a PLE, but it is possible that the power could get greater or lesser over time.

As was already discussed in the Findings chapter, factors of liminal thinking and attunement were referred to in the interviews. Although these qualities are difficult to measure, and even to talk about, I felt that they were strongly inferred and referred to, as I did in the fifth study in the PLE series. Many times I felt that the participants were attempting to put them into words without having the terminology to do so. Perhaps in a future study it would be a worthwhile idea to describe or define these qualities and ask questions of learners and teachers based on their new knowledge of the terms.

There are also relationships between PLEs and the learning experience constructs of peak experience, flow, peak performance, and empowerment. The Preludio interviews showed the closest similarities between PLEs and empowerment. The students came into the Preludio environment bringing their own "behavioral potential" (Putnam, 1991, p. 8). The factors that they reported as contributing to their PLEs could be thought of as catalysts for "here-and-now available behaviors, which need only an appropriate occasion to turn into observed performance" (p. 8). It seems that further examination of

empowerment could be fruitful for PLE study. Perhaps the PLE is similar to a super-saturated solution that becomes crystallized in an instant by a catalyst (Rowland, 1999; Senge, 2004). This is a concept (as a container) that is also referred to in the Design Thinking literature.

While none of the participants in the Preludio interviews reported individual PLEs with as much in-the-moment impact as peak experience, flow, or peak performance, this does not mean that a) these moments did not happen or b) that the PLE learning over the long run did not have similar or greater impact than these moments. What we can learn from these experiences is that the factors that contribute to them—such as a "narrowing of attention" in flow (Csikszentmihalyi, 1993, xiv)—seem to have much relationship to PLEs. And, even though these experiences may not have been reported in the Preludio findings, they could certainly be part of the PLE experiences themselves.

Comparison of Results to Similar Studies

Three studies were included in the "Literature Review" chapter of this thesis. The first one (Perry, 2002) gathered and organized stories told by people who spoke about memories of "pivotal" learning that occurred through experiences with museums. The results were many stories that were grouped into four main types of learning: sparking an interest, delayed learning, visceral learning, and wrap-around learning. Through this study it was found that "pivotal" learning can happen in settings that are not formal instruction. This had been reported in past PLE studies—in fact, it is rare that formal instruction is reported as part of a PLE. Preludio instruction does not fit easily into a formal/informal category. There are many elements of choice within the camp, with

much individual practicing as well as joint decisions between teacher and student about goals. On the other hand, there is a set schedule that is followed by everyone each day, and the master classes are fairly formal. Perhaps the best definition of the description is "nonformal," which the Perry study defines as, learning that tends to take place in classroom-like settings, but is generally intrinsically motivated.

Two types of learning categories in the museum stories, delayed learning and visceral learning, are observed in the Preludio reports. The teens and teachers talk about these as learning that happened later—after they got home—and learning that happened in an "aha" moment. It is useful to see this comparison.

There were two main differences with the Perry study and Preludio study. First, the definition of "pivotal" learning did not specify learning that "transferred to a wide range of contexts and circumstances." Secondly, the Perry interviews did not consist of probing questions, as did the Preludio interviews. The museum stories were recollections, and not exploration of what caused the learning. In contrast, the Preludio interviews found factors and design principles that could be used "on purpose" at a future time to create conditions that might make PLEs more likely.

The other study that focused upon stories was that of Visser and Visser (2000). The stories collected here were of memorable learning experiences, again having a definition that was different from that of a PLE. In this case, the learning experience was not necessarily impacting over time or transferring. Children were interviewed in this study and it appeared that they could report on meaningful learning, as could the teens in the Preludio study. An important impact of both this study and the Perry study is that

stories are hugely important if we are to glean information that is rich enough to begin to understand the complexity of learning—of any type. Telling stories is an "essential resource in the struggle to bring experiences into conscious awareness" (Ochs & Capps, 1996, p. 21). While Preludio interviews were not in the same kind of form of stories, they were full of rich detail that was similar.

The Wilson study (Wilson et al., 2008) also has similarities to the Preludio study. Even though again the purpose of the Preludio study was not quite the same (the Wilson study focused more on particulars of instruction than did the Preludio study), Wilson's definition of transformative learning was the closest to PLE of any found. In addition, Wilson and colleagues viewed learning through the lens of complexity, where there is much to be gained. Both the Preludio study and the Wilson study found that the learning is not controlled by the designer, but involves a combination of a number of conditions, including learners who are ready and willing to engage.

Answers to Research Questions

1. What is the nature of a powerful learning experience?

Just as in previous PLE studies, I found that the participants' experiences were powerful to them, and that they had a surety to their responses about these PLEs. Deep expression of these PLEs has happened in each study that has been undertaken. I, as researcher, have wrestled with finding a way to answer the question above—looking at the nature of a powerful learning experience. The printed words of the interviews do not convey the passion and seriousness of the accounts of the students' PLEs or of the joy the teachers showed to be able to be a part of them.

PLEs seem to be universal, part of a life path that is so unique and personal to each, that the stories are freely shared.

Just as in previous PLE studies, the participants reported PLEs that came from both positive and negative sources, but ended up being positive. One example that stemmed from a more negative experience was a student who struggled through the weeks of Preludio to be brave enough to perform. The student stated that the struggle contributed to the PLE. Another student dealt with anger issues throughout the time and felt afterwards that it was a positive learning that was transferring to other parts of life outside violin playing.

All the students seemed to leave the Preludio experience changed, and yet more strong in their identity, just as other PLE studies have shown.

2. What factors do participants perceive to be involved in making their experiences powerful? How do these factors interact with each other? Do these factors interact as complex adaptive systems? If so, how?

Contributing factors that the teens felt influenced their powerful learning experiences were: teachers, personal attention, open mind, peers and counselors, intensely doing one thing (immersion), being handpicked, having children to perform for, and having reflection time. All seven students brought up teachers and personal attention/small number of students as key factors. Even in the cases where everyone pointed out the same factors, however, the level of importance of the factors varied in relationship to other factors. For instance, while all the students mentioned the teachers, two put them in the same category as *all* the people at Preludio (including peers and counselors). The reasons for mentioning personal varied from person to

person. For instance, for some it was important that there was general support from everyone because of the small numbers, for others it was the friendships that were made, and for others it was specifically important to receive personal attention from the teachers. Another example of the difficulty in looking at factors is that even though only two of the students mentioned the importance of being a role model for the younger students, this seemed to be a factor that had great meaning to them both. It could be that these two participants just thought to bring this up, or were triggered by something I, as the researcher, said. It could be that if brought up in other interviews, more of the participants may have found this or another factor very important to them. For this reason, it seems that numbers of mentions of a factor is less important than all the data as a whole.

The teens were also asked if they could tell if there were interrelationships of factors that contributed to their PLEs or if any of the factors mentioned could be subtracted, in an attempt to answer the second part of this research question. Just as in the fifth study in the PLE series, the participants had difficulty with this type of question that examined complexity. It appears that answers to questions that attempt to address complexity are difficult to obtain through interviews, or perhaps there are new questions and methods to be found. What do we as human beings need to consider, in order to better understand the complexity of our situations?

3. To what extent are reports of powerful learning experiences and contributing factors consistent within a coherent learner group (as opposed to less coherent groups in previous studies)?

Although on the surface, the experiences and factors mentioned were more consistent with this group (which was the most coherent group of the studies to date), a deeper look still shows uniqueness. Each PLE was described in a very individual way. Even if the same factors were mentioned, they carried a different weight, were described in different ways, and were given different qualities. It appears that the unique and personal nature of a PLE holds true, no matter how cohesive the group. Through the perspective of Design Thinking, which will be discussed in the next section, a greater picture began to emerge about how the factors together formed the environment of Preludio, an environment likely to produce PLEs.

4. How does a teen's ability to talk about and offer insight into his or her PLE compare to that of adults in other studies?

It was clear from these interviews that people from age fourteen to seventeen could certainly recognize their own PLEs and offer insight about them just as the adults in previous studies had done. It was not yet clear from these studies whether a thirteen year old (or younger) could do so.

5. Are the teachers able to talk about the PLEs of others? If so, are factors and experiences reported by the teachers (about the students) consistent with the student reports?

The teachers and teacher observer felt that sometimes they could readily see a PLE in another person, and sometimes not. The pianist was the least sure about it, and it

was perhaps significant that she had a different relationship with the students— preparing for performances. In preparing music, she perhaps did not have the same opportunity to delve deeply into more personal issues as the violin teachers did. All of the adult participants indicated that they could not always tell if a PLE happened. One interesting situation came up in the interviews where a teacher felt that one student had not had a PLE, and the student described the PLE in direct contrast to the teacher's belief.

The teachers spoke about many of the same factors as the teens, again placing more and less emphasis on certain factors. The biggest difference was that where the teens spelled out the intangibles of their environment with words and phrases like "comfortable" or "he saw each person," the teachers used words like "open heart," "safe environment," or "deep listening." It appeared that the teachers went a step deeper in seeing what they were trying to do, but it also seemed that everyone was attempting to describe much the same thing about the feeling of the camp experience. All of the teachers spoke about having a safe environment created by an open heart and mind. As with the students, it was important to them that the group they were teaching was small, to allow for individual attention and a close knit friendship and support with each other. The observations of the teacher observer were extremely valuable because of the detached view offered, often corroborating what the teachers "in the trenches" were noticing.

Design Thinking

In the midst of collecting and reflecting upon the interview data from Preludio, I found myself making a shift from seeing the PLEs as collections of factors, and started seeing the

whole of Preludio as the key. I can pinpoint this shift to hearing Allegra say that they had tried

running the same camp during a year that preceded Preludio in Ithaca, in another place, and it

had not worked. I began to see that part of what made Preludio a place where PLEs were likely

to happen was because of the design of the whole. I also began to see that Preludio was really a

design within a design.

Preludio as a camp was and is designed by the two teachers. Within this camp there is co-

designing happening, with teachers and students working together to create something new.

Examples of this came from many things said in the interviews, such as reports of deciding

together—teacher and student—what the personal themes of the time at camp would be. Many

talked about the give and take between student and teacher, with each taking more and less of a

leading role from time to time. As I looked at the data, I came to believe that Design Thinking is

the lens to look through to observe what is going on at Preludio, and I believe this lens gets us

closer to an understanding of the complexity of what is happening with PLEs. I did not plan

this—did not include these ideas in my thesis proposal—but I think this is an example of how

new ways of looking at things emerge if we use the Design Thinking approach. I now look at

PLEs and Preludio through this perspective.

Preludio and Design Thinking

Preludio, which was intentionally designed through the judgment and expertise of Tom

and Allegra, has many aspects to it that form the whole. In this next section I look at the

categories of Design Thinking that were introduced in the Theoretical Framework chapter, and I

show aspects of the Preludio design that fit into each category.

The Preludio Design.

> *A container.*

- A three-week, finite experience of complete immersion.

- Protected on a small and isolated college campus with musical activities happening in a beautiful chapel overlooking a pond and nature.

- A small group (11–12) of hand picked teenagers who are honored to be chosen and feel they are meant to be there and together.

> *A look to the desired.*

- Exceptional teachers who see the kids as real individuals.

- A positive and personal approach.

- A shared vision for the future.

> *Letting go of everyday assumptions.*

- Students are chosen for their open mind as well as their playing, and an open mind is expected at the camp.

- The atmosphere is very demanding. This is evident from even before they arrive at the camp, when challenging music is mailed to them to learn. Consequently,

- most arrive a little shaky about how they will "stack up" and whether they have the music learned well enough.

- The teachers push and nurture as the moments demand, always with an open heart. Attunement skills are evident.

- There is a rapport with peers, not a competitive environment.

- Reflection time built in through unscheduled time in the evenings and various assessment times. This also gives the teacher/designers the ability to monitor and evaluate circumstances.

Real, authentic.

- Intense schedule.

- Lots of playing for each other.

- Constant feedback from peers and teachers.

- Lots of authentic performances with piano.

- Role models for younger kids at concurrent camp.

Many of these aspects also fit into the three theories or approaches that were included in the Theoretical Foundation chapter (Suzuki approach, constructivism, and complexity). For instance, the Suzuki approach includes a positive approach and vision for the future. In addition, both the Suzuki and constructivist approaches include an emphasis on setting up the environment and the collaborative teacher/student relationship. Consideration of complexity and emergence is illustrated below as a Design Thinking category. Design Thinking encompasses much that these three approaches bring.

Design within the Design.

The "ultimate particular."

Whereas the container of Preludio sets up the possibility of PLEs commonly occurring through a designed environment, the design within the design happens with each individual student. Here, it is helpful to think of teacher and students being co-designers (or a neo-expert), although in each case and through time, the two may take lesser and greater roles in the design.

Consideration of complexity and emergence.

As both Tom and Allegra spoke about in their interviews, they come into the first meeting with the student not knowing where any of it will go, having no lesson plan and very little knowledge about the person. Then, it is a type of dance to see how to come together and figure out where they are headed, rather than concentrating on what needs to be fixed. In the private lessons there is conspiracy, dialogue where common understanding is found, and then a forming of uncommon understanding. Tom and Allegra take it upon themselves to move from empathy and a meeting of minds (or attunement), to offering an imaginative new way of seeing things. This is what they do so well, and this is Design. They, as teachers, also fully accept the fact that it is not all up to them. As neo-experts or designers, they experiment, assess, experiment again, listen deeply, assess again, share with the student, and then just hope that the child will fly with it, that they as teachers will make a "dent" in the student's life.

Chapter 8. Limitations

This case study has a number of limitations. First of all, the interviews were conducted in relatively close time proximity to the Preludio experiences. Part of the definition of a PLE is that there is impact on one's thoughts and actions over time. It is impossible to say whether all of the reported learning experiences will remain as powerful memories that affect action over time, although insights can still be found from participants who did feel a PLE happened. As mentioned earlier, there is probably a sliding scale of power that could grow or weaken over time.

This leads to a second limitation of the study, that the interviews were conducted at varying time intervals after the event. These intervals ranged from virtually no time at all (the interview occurring on the last day of Preludio) to a year after, with most of the interviews happening several months after Preludio. These variations make it difficult to evaluate the importance of reflection time as a factor of PLEs.

In addition, this varying reflection time made it impossible to determine if the youngest Preludio student (age 13) had difficulty reporting a PLE because of age or the lack of reflection time, or even an introverted personality.

Another limitation of the study was that factors were not prioritized, but were only informally reported in the interviews. This lack of prioritizing made it difficult to assess the importance of the factors mentioned, in relationship to measuring how many times the factor was brought up. Asking more directly about priority of factors in future studies could be useful. In addition, the small number of interviewees gave an opportunity for rich information to be gained, but it would not be appropriate to make large generalizations from this study. This was not the

goal. On the other hand, the interviewees gave insights that matched with previous studies and the non-adults spoke eloquently about their PLEs, giving strength to the idea that it is not just adults who recognize PLEs.

Another important factor that is difficult to assess is the students' readiness for a PLE as they come into the experience. This was an unusually disciplined and motivated group of teenagers (typical of Preludio) who were already high achievers in their area of music, and were selected partially on the basis of having open minds. It is difficult to judge how much of an influence Preludio and the associated factors had on PLEs so consistently happening, or if the students were so ready to have a PLE, that the design of Preludio was much less relevant. It is perhaps important to understand that the incoming students, just as they are, are part of the *whole* of Preludio.

This study shows, as have others in the PLE series, that it is difficult to understand the interrelationships between the factors through the interview process. It is a challenge to study aspects of complexity this way because the nature of complexity makes it difficult to break things (PLEs, in this case) down into understandable parts. Perhaps in the future, the perspective of Design Thinking will aid this exploration.

Another limitation of the study was my interpretations as the researcher. As Van Maanen (1988) explains, "the images of others inscribed in writing are most assuredly not neutral" (p.1). I represented the study data as neutrally as possible using triangulation, peer debriefing, clarity about my own personal biases and beliefs, and my choice of case study that allowed rich, thick description. Nevertheless, it is certain that my background and perspectives impacted what was found to be important in the study.

These limitations can be minimized by keeping in mind that the purpose of the Preludio case study was to simply view a situation where it was felt that PLEs were happening, and to gain from it. The learning possibilities come from the deep look into the world of PLEs, as well as from the reports, perspectives, and tools that were offered. In the coming chapter I speculate about possible avenues for future research.

Chapter 9. Conclusions and Suggestions for Future Study

The Preludio study was conducted to answer questions about powerful learning experiences. Through the study of seven teenaged violinists, their teachers, and a teacher observer—answers to research questions were found. It was apparent that non-adults could speak about their PLEs with depth and surety. As in prior PLE studies, these experiences and factors that the respondents felt contributed to PLEs were found to be unique, even though this was the most coherent group examined so far, and many of the experiences and factors reported appeared quite similar on the surface. Complexities were revealed with a closer look.

Even though it appeared that the reported factors interrelated with each other, the respondents had difficulty expressing this relationship during interviews, leading to a need for more ways of studying these interrelationships.

Teachers in the study had mixed reports about observations of PLEs in other people. When they felt they did see a PLE, the reports of factors involved were similar to that of the students, but the emphasis placed on certain factors was not consistent. There was nothing in the findings that challenged the results of any of the prior PLE studies. It appears that uniqueness is a pattern of PLEs as the previous studies have found.

It was found that examining the Preludio experience from the theoretical perspectives of the Suzuki approach, constructivist approach, and complexity were helpful, but offering much potential for a new approach was the overarching perspective of Design Thinking.

In Preludio, it appears that a "hotbed" for powerful learning experiences has been found. Is this THE design that needs to be duplicated? No, but the design is worthy of study. Although this study was not intended to be a prescription for instruction, some possible approaches may be

valuable to explore. It would be interesting to investigate if immersion programs may be conducive to PLEs, for instance, or to see if principles of attunement and liminal thinking could be taught to teachers. The Suzuki approach could be studied. Perhaps principles of Design Thinking and therefore information about complexity thinking could also be taught, or at the very least seen as important for further study in the fields of learning and instruction. It is also worth noting that it could be important that teachers are given the ability to be the designers of what they are teaching. One Preludio teacher reported quite different (and negative) results at the first camp taught (prior to Preludio), where the teachers had less control of the design. This was in contrast to Preludio, where they have been able to make the decisions themselves.

This study provides only a starting point, and there is much that we do not know. Ideas for future research and questions to ask could include:

- A longitudinal study with Preludio students to see how the experiences they had might gain or lose power over the long-term.

- Study of younger children and their ability to reflect upon PLEs.

- Expansion of the study of Design Thinking which would be geared towards PLEs in general, rather than Preludio in particular.

- Since PLEs are unique, should the teaching approach for each learner be unique as well? Examination of the contributing factors of Preludio in other situations.

- Should teachers be aiming for PLEs with their students? Is this a goal that should be more of a norm rather than an unusual or lucky event? What would it mean for teachers to expect to have PLEs? Would that make them more likely? How would an expectation like that affect educational decisions?

Instead of looking at a PLE as an extreme type of learning, it may be helpful to view it as learning that is valuable and should be encouraged. Perhaps these kinds of leaps of learning and understanding that PLEs bring are exactly what is needed in the complexity of our times. Expecting and desiring PLEs may fuel the need for and suggest possible directions for future research.

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Appendix A

Sample Interview Questions for Students

Tell me a bit about yourself. What are your interests and hobbies?

As you know, we are going to be talking today about the Preludio camp last summer. Tell me about your experience, generally.

How did you come into the camp? How did you feel? What was your attitude about it? Any worries or concerns? Had you been to the camp before? How about to the Ithaca College campus or the Ithaca Suzuki Institute?

Can you tell me about what you learned at the camp?

Do you feel that anything that preceded this learning contributed to it? If so, describe this in as much detail as you can. Do you feel there were factors of setting, or other conditions, internal or external (e.g., your own mental state or preparation) that contributed? Did you think or know the experience would be meaningful before it happened?

What about during the learning? Tell me as many details as you can. Can you think of anything that contributed to it ?

And what about afterwards? What kind of impression has this made on you over time? Do you think that years later that you will remember this learning? If so, what do you expect will stick with you? Any changes in your ideas about things because of it? If so, describe.

If you think about some of these details as factors that contributed, how do you think these factors related to one another, if at all? Do you think they were all needed or could any of them be eliminated?

Is there a better way to talk about your experience than in terms of factors?

Do you think you learned anything about yourself? Anything about the world in general?

Anything else you can think of to share?

Appendix B

Sample Interview Questions for Teachers

I am interested in talking to you about powerful learning experiences from the vantage point of you as the teacher. We are going to look at three aspects of PLEs.

1. What happens in a lesson or situation when a PLE occurs and how is it different from a normal/typical lesson or situation?

2. Why did it happen?

and

3. Our ultimate goal is to look at how we can influence learning in the future.

First of all, could you tell me a little about the Preludio experience, generally?

Do you feel that PLEs occur at the camp?

Is this similar to your teaching in your home studio? Tell me about it.

Now let's look at Preludio in the summer of 2009.

Can you think of a time when you were involved as a teacher, where a PLE occurred in your presence? Can you recognize it in another person? Tell me about it.

Why do you think it was powerful? (You can think broadly and specifically about what made it so, possibly taking into consideration the people, the preparation of the student, the atmosphere, ways that the Suzuki method itself may have influenced the experience etc.)

Was the experience solely that of the student, or did others in the room experience something different from usual as well? What do you think happened? Describe everyone in the room and describe their roles. How would you describe your role? How did this compare with a normal lesson? What about you? Did you have a PLE?

When did you get a sense that it was powerful?

Were there moments where there may have been different paths to take? What led you to make the decision(s) that you made?

So, in general, what do you feel is responsible for PLEs taking place?

Can you tell me a bit about something powerful you saw with the individual students at the camp?

Anything else you would like to add? Feel free to send me an email or call if you think about something more in the next few days.