Waldorf Pedagogy and Howard Gardner's Six Entry Points to Teaching for Understanding

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Abstract

This article identifies synergies between the main lesson format of four Waldorf teachers and Howard Gardner's six entry points to teaching for understanding. Gardner identifies the entry points as narrative, esthetic, logical, experiential, foundational, and interpersonal and posits that using the entry points gives a variety of modalities for students to access a curriculum. This article examines how four Waldorf teachers were already using entry-point thinking in their lessons as part of an almost 100-year tradition in Steiner education and further explains why they thought using multiple modalities, or entry points, was important for student learning.

Based on an unpublished, small-scale qualitative study that tracked the main lessons of four Waldorf teachers in their classrooms in the Fall of 2012, it becomes clear there is a synergy between what the Waldorf teachers are doing and Gardner's recent theory. Mapping Gardner's six entry points to teaching for understanding onto the main lesson content reveals a striking alignment between what was happening in these classrooms and Gardner's theory. In interviews, the teachers describe how the ultimate goal of their teaching methods is to help children unfold their full range of talents in preparation for higher learning and as a means to becoming citizens who can contribute in thoughtful, meaningful ways to society. Gardner posits this approach to teaching could be "revitalizing of the educational process" (Gardner 2004).

Rationale

One of the concerns in the current education debate concerns the narrowing of the curriculum as an unintended consequence of the focus on high-stakes testing. The research presented here is intended to shed light on an approach to teaching that closely corresponds with the way Waldorf educators have been teaching for close to 100 years and to further link their approach to current theory. Howard Gardner, Professor of Cognition and Education at Harvard's Graduate School of Education, has developed a theory about approaching a topic from multiple modalities, which resonated with my own experience as a Waldorf teacher who had been trained to use a variety of disciplines in approaching a curriculum topic. Intrigued by the similarities between the two approaches, I took on the study presented here in order to examine more closely the parallels between the Waldorf approach to teaching for understanding and Gardner's six entry points to teaching for understanding. It underscores the importance of using a multi-layered approach to teaching that expands exploration of a topic rather than narrowing the exploration.

Improving education in the United States has been the burning question for educators since the 1983 Reagan Administration report titled *A Nation at Risk.* Since the release of this report, there have been many attempts to reform the American education system. One increasingly popular focus has been on high-stakes standardized testing (NCLB 2001; RTTT 2009). However, many educators in public, private, and charter schools are concerned about an approach that puts the learning focus on student performance using high-stakes standardized

tests (Amrein-Beardsley 2014; Ravitch 2014). Many educators also have questions about the effects of "teaching to the test," especially at the elementary level, and the narrowing of the curriculum that can occur with such an emphasis. Waldorf schools do not use high-stakes testing and, as will be demonstrated in the following pages, their teaching methods align with Gardner's theory of using multiple entry points so that students can more fully understand a topic.

The underlying question driving this study concerns the purpose of an education. Are we educating so that our students have creative, synthetic, disciplined, respectful, and ethical minds so that all may be able to participate thoughtfully in a democracy (Gardner 2008; Labaree 2010; Steiner 1976)? Alternatively, are we singularly focused on preparing students for a job market to compete in a global economy that may not exist when this year's first graders graduate from college in 2033?

The real question is, "What are the capacities that the young need to develop in order to meet a future that is unknown?" This study posits a shift in focus from the dominant narrative on testing for education reform to teaching for understanding. While it is beyond the scope of this paper to provide evidence that students do reach a better understanding of a topic using this approach to teaching, it adds to the body of knowledge that already exists about effective teaching and for optimal student learning (Brooks and Brooks 1993/1999; Csikzentmihalyi 1996; Darling-Hammond 1995; Dewey 1934, 1938; Eisner 2002, Efland 2002; Gardner 2004, 2008; Harris 2000; Kolb 1975; Kress 1997, 2000; Marzano 2010; McIntosh 1992; New London Group 1996; Perkins 1986; Piaget 1969; Steiner 1919; Westwater & Wolf 2000; Wiggins and McTighe 2005; Vygotsky 1978).

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Natural History of the Project

In January 2012, Howard Gardner delivered the Askwith Lectures at the Harvard Graduate School of Education, in which he revisited his learning theory about the entry points to teaching for understanding. In these lectures, he expanded the theory from five entry points to include a sixth. The six entry points are narrative, esthetic, logical, experiential, foundational, and interpersonal; Gardner (2004) asserts they can be used in teaching for a "revitalizing of the educational process."

"Teaching for understanding" refocuses the educational conversation in the U.S. away from a test-based emphasis. When analyzing the definition of the word *understanding,* we find multiple meanings. As defined by Webster, *understanding* has several nuances: a mental grasp or comprehension; the ability to apprehend general relations; the power to make experience intelligible by applying concepts and categories; adjustment of differences; and a friendly or harmonious relationship. In other words, the term *understanding* has both cognitive and social applications. One may conclude that in order to address the multiple layers of understanding, there can and should be multiple access points to engage with curriculum content, offering a comprehensive and expansive way of teaching and learning. Just as there are multiple meanings to the word *understanding* in different contexts, so are there multiple understandings of a given topic from different vantage points—artistic, logical, social, kinesthetic, narrative, and existential (Gardner 2008).

Gardner states that any curriculum content can be approached from five or six vantage points to ensure that different students can find their way to engage the topic. "Awareness of these entry points can help the teacher introduce new materials in ways in which they can be grasped

by a wide range of students; then, as students explore the other entry points, they have the chance to develop those multiple perspectives that are the best antidote to stereotypical thinking" (Gardner 2004, p. 245). In the Waldorf classrooms observed in this study, it was clear that the teachers were already using the entry points with students of all ages and integrating these points into each subject even though they were unaware of Gardner's theory at the outset of the study.

Methods

The study took place in the Fall of 2012. Classroom observations, interviews, and artifacts were collected during main lesson blocks from four teachers in grades one, three, five, and seven over the course of approximately eight weeks. Main lesson in a Waldorf classroom, which is taught during the first two hours of the day, explores a single subject through many modalities over the course of three to four weeks. It is an immersion in a subject that further connects it to other disciplines.

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Field notes were coded and analyzed using grounded theory as described by Strauss and Corbin (2008) and Charmaz (2005). Through writing thick description and coding the teachers' words, categories emerged that identified the goals that teachers were aiming at when using their entry points (Geertz 1973). The coding categories in the study were named differently from Gardner's six entry points, yet in the analysis there was a striking alignment between the categories in the study and Gardner's entry points. Interestingly, the teachers had no knowledge of Gardner's theory prior to this study. It is the standard teaching approach that has been used in Waldorf classrooms for over ninety years, based on the indications of Rudolf Steiner (1919).

For full disclosure of my relationship to the study participants, I should mention that I am a former Waldorf class teacher and therefore have an internal or emic viewpoint in this study. Being a semi-insider helped me understand the fundamentals of the Waldorf system, especially the construct of the main lesson, which is designed to incorporate multiple modalities in a daily two-hour lesson. I also knew two of the participants from attending teacher conferences prior to the mini-study. These relationships helped me gain access to their classes.

Findings

The Waldorf teachers exhibited what could be called "entry point thinking" as they planned their lessons. They wanted their students to explore the topics from a variety of vantage points, not only to address the different learners in the group but also to expose all children to a variety of ways of studying a single topic. The teachers wanted to keep their students' minds open to possibility, to support flexibility in their thinking for the purpose of grasping the complexity of the content, and to provide a tapestry of experience leading to a deep and broad understanding of the content being presented. They wanted the children to use their senses, to be able to move their bodies, to use their imaginations, to think logically, to interact with each other and with the teacher, and to be creative. The teachers wanted to present a complex and comprehensive study of the curriculum topics. One example of this was the third grade teacher's explanation for creating an esthetic, imaginative experience when studying the science of the sun. It drew on human sensory experience of the sun in addition to scientific facts.

> … For some to say that the sun is just a ball of burning gas kills that picture and kills the sense of what the sun can be. On the other hand, yes, there are certain things we can measure

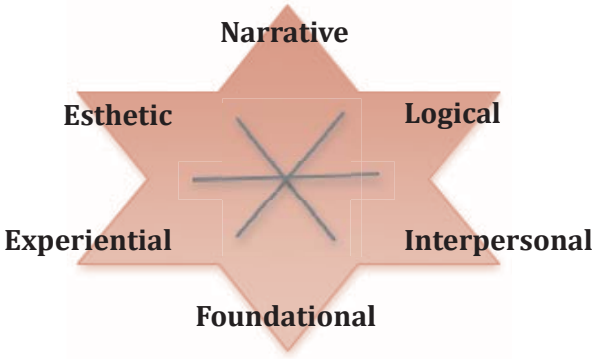
about the sun and we know that there are gasses in there that when they get hot enough they can burn. The sun is also something else. Think about yourself on a really cold, miserable day when all of a sudden the sun breaks through the clouds and you see this sunbeam shining through or you see a rainbow and it makes you think, "Oh that is so beautiful." Your feelings change. Or you're feeling really cold and miserable and you wish somehow that winter was over and then you get a warm sunny day. You find a corner protected from the wind and feel the warm sun on your face. That is part of the experience of the sun, too. (Third grade teacher interview, 2012)

What was so striking about this study was the relationship between what Gardner has identified as the six entry points to teaching for understanding and what the teachers were doing in their classrooms. The teachers felt that concentrating on a topic allowed them to develop an in-depth exploration of the subject and integrate other disciplines related to the subject. For example, in studying astronomy, one of the teachers introduced poetry about the moon and stars, geometry of the circle by looking at the horizon and the zenith, and the biographies of relevant scientists (Copernicus, Galileo, and Tycho Brahe). Though the topic was astronomy—a science—the teacher incorporated poetry for an esthetic experience, body movements for sensing the geometry component, and biographies for a narrative component.

During analysis, categories identified through micro-coding emerged that complemented, linked, and described reasons for the six entry points. Their collective story was one of engagement—how the children engaged in their learning through imagining, interacting, thinking, sensing, moving, and creating. The coding connected in most respects to Gardner's six entry points. There were esthetic, narrative, logical, kinesthetic, foundational, and interpersonal aspects in each main lesson observed for the purpose of stimulating the imagination, providing possibilities for interacting, sensing the unknowable, experiencing through physical and mental movement, and using individual creativity for reflection and developing esthetics.

Gardner's Six Entry Points to Teaching for Understanding

Esthetic: Esthetic is the first point identified in the study. As Gardner (1995/2004) describes this, "the emphasis falls on the sensory or surface features" of the teaching approach (Gardner, p. 246). He gives several examples of possible entry points, including visual and musical ones. In the study, a connection could be made to the category called *creating*. The teachers were expecting the children to create in a variety of ways. *Creating* in this sense means to "bring into existence; to design or produce through imaginative skill" (Webster 2016). In this category, the children were involved in creating esthetic experiences throughout the morning. All grades created music together by singing and playing recorders, reciting poetry, drawing illustrations of fairy tales (first grade), human shelters (third grade), the map of India (fifth grade), and the phases of the moon (seventh grade). All classes were engaged in writing and creating their own main lesson books as a record of the lessons in the block. By planning to have music, poetry, and drawing relate to the curriculum content or season, the teachers were providing esthetic



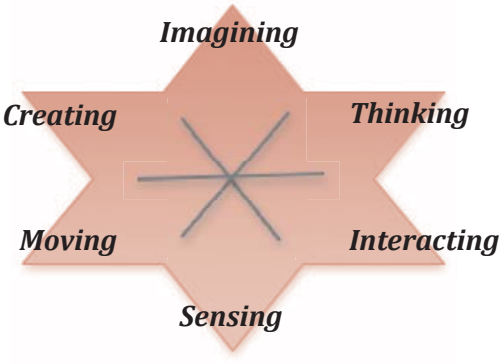
Gardner 2004, 2012, with visual by Ireland 2016

experiences related to the curriculum topics. One teacher related the esthetic experience to the creation of beauty.

> The idea that the world is beautiful is important. We don't really talk about this, but over the years we build that up so they have this experience that when I stand with a group of people I can create something beautiful with my voice in singing or I can create artistically something in the visual realm with drawing or painting… (Fifth grade teacher)

Through the esthetic entry point as defined by Gardner—addressing students who prefer an artistic approach to a topic—the teachers were involving the students in creative activities that were esthetic in nature. Each of the grades observed recited poetry, sang, drew, and wrote in their main lesson books. These were features of the morning lessons in each grade. The students could create beauty through esthetic experiences.

Narrative: The next approach Gardner identifies is the narrative—stories or content delivered orally. In the study, this relates to the category *imagining*, because the teachers were engaging the students' imaginations through their storytelling—the narrative approach used to explore the curriculum content in Waldorf classrooms. To imagine means "to create mental pictures or to think of or create in your mind" (Webster 2016). Storytelling is one of the ways



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these teachers provided the opportunity for students to use their own imagination to create mental pictures while they told the story in the form of fairytale, myth, or biography.

In the first grade the teacher told the story of the "Fisherman and His Wife." In the third grade the teacher had just finished telling the story of Cain and Abel and their need for shelter as an introduction to the Shelters Block (a study of human shelters from the primitive to the modern and from a variety of cultures). The fifth grade teacher was telling the saga of the "Ramayana" from Indian mythology, and the seventh grade teacher was telling the biography of Tycho Brahe to link history with astronomy. In all cases the children sat and listened quietly as the teacher narrated the stories. As an observer, I realized that I was making mental pictures as I was listening along with the children. It occurred to me that they were probably doing the same thing.

In their interviews, the teachers stressed the importance of letting the children use their own imaginations as a pathway to creative thinking. The teachers explained that they used the narrative as one way to foster the ability to *imagine*, which means to create inner pictures:

> If you can't imagine it, you can't play with the ideas. If you don't have the imagination, how can we expect to take it a step further in your mind's eye? Theoretical physics is in line with the first grade fairytales and reviews. It calls upon the same kind of imagination—being able to move some thought around in your mind…. Atoms behave this way, but can they behave another way? Do you see the correlation between cultivating imagination in first grade and being able to imagine atomic particles in high school? (First grade teacher)

By narrating curriculum content, the children create mental images that allow them to see the story unfold in their imagination. "We use the narrative as a way to interact…. [W]e use

the narrative to bring experience through the experience of other people, but the students make it their own. They can feel what the other person may have been experiencing" (Seventh grade teacher).

All teachers in this study used the narrative approach as defined by Gardner to inspire the imagination of the children. They each told stories from the curriculum designated by Steiner (1919) as appropriate for the developmental age of the children. The stories, ranging from fairytales to Old Testament, from Ramayana to biographies of astronomers, were used as springboards for the esthetic experience along with poetry, songs, movement, drawing, and writing connected to the narrative themes of the grade.

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Logical-Quantitative: Teachers had a logical or mathematical component in their lesson, regardless of the curriculum topic. As Gardner describes it, "One approaches the concept by invoking numerical considerations or deductive reasoning processes" (p. 245). For the teachers, this category was about *thinking* through a numerical situation. *Thinking* in these terms means to have the process of logical thought (Webster 2016). Logical (mathematical and scientific) thought was woven into each lesson as an integral part of the morning, even if it was not the primary focus of the block. The teachers wanted the students to be able to follow a line of mathematical or geometrical thought and either calculate, record, or recite patterns in and out of order while, for example, reciting the times tables.

The first graders were asked to use their periwinkle shells and, working with a partner, were given a series of addition and subtraction problems to solve using their number facts from one to ten. The third graders were given a set of simple division problems for their morning warm-up work, with increasingly more challenging problems as bonuses. They were also working with number patterns via the times tables and reciting them in unison from memory. The fifth graders were asked to use their knowledge of fractions to mentally triple a recipe that they would be using for baking apple crisp. Later they were given some other numerical problems to solve using paper and pencil. The seventh graders had just finished a block in geometry and were asked to show 90, 180, and 360 degrees with their arms. Later in the lesson, they were asked what was wrong with a statement the teacher had made about the Big Dipper moving in the night sky? The students had to use their knowledge of astronomy to decipher the error. After several minutes, hands went up in the air: "The stars are not actually moving; the earth is" (Classroom observation, 2012).

Experiential: Gardner explains that this entry point allows students to work directly with materials that embody or convey a concept. Gardner's experiential entry point corresponds to the *moving* category in the study. The teachers in these classrooms provided authentic experiences and to get the children moving their minds and bodies to experience certain mathematical and scientific concepts. The teachers had the children involved in every type of experience: hands-on (working directly with materials, including drawing), kinesthetic, mental math, and whole-body movement in math and science.

Hands-on and practical, real-life experiences were part of the lessons. Math in first grade involved periwinkle shells as counters to provide tactile engagement and hands-on manipulation of materials while working with number stories. The third graders collected newly-laid eggs and kept a tally of how many eggs the hens were laying.

The fifth grade teacher used the experience of baking apple crisp for the school as a basis for a math lesson. Her students were also counting in Hindi, doing yoga poses, and learning an Indian marching technique (*kalari pyattu*) to have an authentic experience of what it might be like to live in India. The seventh graders were asked to move their arms in 90, 180, and 360 degrees to feel the arc of the horizon compared to the zenith.

Experiential learning also included movement activities ranging from the artistic (class play, doing yoga, and *kalari pyattu* marching) to the mathematical and the scientific. The teachers stated that in addition to providing materials with which to interact, learning in some subjects could be enhanced by movement; they used this technique regularly when teaching the times tables, for example. Using clapping patterns and rhythmic movement helps the children integrate knowledge through a kinesthetic experience. "Waldorf teachers want the children to feel the variety of their own movement; that they can control it; that they can move fast or slowly, jump up or crouch down with the imaginations of the words [recited in poems]" (Third grade teacher).

Learning through experience was observed in every classroom. This included students moving in various ways to experience number patterns, a different culture, or body geometry related to the cosmos. Drawing offered another kind of experience. All students created a main lesson book in a portfolio-style compilation of their work from the main lesson content. The teachers said that the drawing assignments were used as a way for students to have a hands-on or experiential entry point to the subject studied. "Learning is a dynamic process… everything needs to be felt and experienced" (First grade teacher).

Interpersonal: In this section, the interpersonal entry point is interpreted broadly to include cognitive, esthetic, social, and collaborative activities. In the study, the category that corresponds to Gardner's interpersonal entry point was *interacting.* The lessons involved interpersonal and collaborative work, except when the students were drawing, writing, or doing individual mathematical calculations with paper and pencil in fifth grade, for example. All of the recitation, singing, recorder playing, morning circle movement activities, and games involved interaction and collaboration.

Cooperation rather than competition was stressed in the classrooms of these Waldorf teachers.

In first grade, the math was done in pairs so students could help each other work out the problems. In third grade, the review of the lesson on house building required active listening to participate in the dialogue. In fifth grade, the teacher had the students lead the class in the sun salutations and the Indian marching technique while they counted in Hindi.

Group work was paramount to the learning experience in these classrooms. "A lot of our day is social in the sense that we do so much together" (Fifth grade teacher). The seventh grade teacher had this to say about the interpersonal, which the teacher described as "the social": "The social to me is what makes this alive… [E]ducation is stepping into the human experience. It is not a hermit experience. Real learning comes between people. It comes from the 'give and take' and the exchange" (Seventh grade teacher). The first grade teacher added, "There is a social component to everything we do… the social is huge" (First grade teacher).

Several teachers said that school provides consistency and predictability, while teachers facilitate collaboration and interpersonal relationships that foster teamwork and learning. Cooperation rather than competition was stressed in the classrooms of these Waldorf teachers. The third grade teacher explained working with the interpersonal in the classroom this way: "It's sort of like conducting an orchestra. You need the sense when you are teaching to the individual, when you have the soloist, and when

you are dealing with the whole orchestra—the whole class moving together and such. When you are dealing with sections of the orchestra—the violins—and working back and forth between the individuals, small groups, and the whole group" (Third grade teacher).

One of the clearest examples of interpersonal collaboration happened in the fifth grade. The class was preparing to put on a play based on a section of the *Ramayana*. The teacher had been telling the story for weeks, and the children were learning their lines for their upcoming play and rehearsing sections during the main lesson. Some students were "on stage" (desks had been moved to the side of the room), while others were waiting patiently for their turn and became the audience for their classmates. At one point the whole class practiced the vigorous marching they would be doing. They formed lines and began moving across the "stage." Coordination of leg and foot movements and staying together in a line were all elements the students worked with as they practiced this kind of marching for their play.

The teachers described this as one of the hallmarks of their teaching—that the curriculum helped the children wrestle with the great moral and ethical questions that face human beings.

Foundational and Philosophical: The foundational as described by Gardner encompasses the philosophical questions that naturally arise in childhood throughout their growing years. In the study, the category correlating to this entry point was *sensing*. In this case the word *sensing* is used to denote "clear and sound mental faculties; faculty of the mind analogous to sensation or moral sense" (Webster 2016). The teachers encouraged the students to have a feeling sense for existential questions. In every classroom, philosophical questions were addressed directly or indirectly in the lessons observed. In the interviews, it was clear that the teachers welcomed these questions and interactions with their students and, in fact, made philosophical questioning part of the daily review of the lessons. The teachers described this as one of the hallmarks of their teaching—that the curriculum helped the children wrestle with the great moral and ethical questions that face human beings. They said these issues could be raised through the grand narratives—using the traditional stories from many cultures to probe these questions.

Beginning in first grade, when reviewing the story "The Fisherman and His Wife," the teacher fielded the moral question about never being satisfied with what you have. The children were able to discuss this simplistic yet profound issue of greed and what happens to people who think only about themselves. In third grade, the story of Cain and Abel has its own moral lessons that the teacher discussed with the children—for instance, how one's hatred and jealousy can drive one to commit horrible acts. In fifth grade, the story of Sita and Ravenna had the children wrestling with the mighty issues of faithfulness and betrayal, courage and cowardice. In seventh grade, the story of Galileo and his struggle with the Roman Catholic Church brought to the students' awareness the idea of standing by one's convictions. Where would we be today if Galileo had not pressed on with his studies of the heavens despite being called a heretic? All of these stories provide the fodder for rich discussion with the children as they begin to weigh the consequences of human action in the world.

The philosophical is also brought out through poetry and the sciences taught in conjunction with one another.

> I can speak about the unknowable in the context of science. I can use science to create a metaphor that there is something larger than us. I had an experience when I was watching

> the students watch the clouds one day. They could hardly grapple with the beauty. And poetry comes of the experience of being in relationship to something you are learning about but is so beyond what you can add up in a formula. The only way to express it is through art. (Seventh grade teacher)

The fifth graders were learning a passage from the *Rig Veda* that helps them ponder the great unknowns through the eyes of Indian mystics:

> *There was not non-existence nor existence. There was no air, no sky beyond it.*
>
> *What covered it and where? And what gave it shelter? Was water there, unfathomed depth of water?*
>
> *Death was not then, nor was there aught immortal. No sign was there, day's and night's dividers.*
>
> *That one thing, breathless, breathed by its own nature.*
>
> *Darkness, there was; at first concealed in darkness.*
>
> *And ALL was indiscriminate chaos. All that existed then was void and formless.*
>
> *By the power of warmth was born the Sole One.*

With the help of the teacher, expressed thoughts like the ones above inspire the children to ponder the great unknowns, ask the existential questions, and contemplate the human experience. "The artistic, poetry and music, to me, reflect the other side of the scientific experience. It brings the other side of the science. It is the other way that human beings make sense of the world" (Seventh grade teacher).

Weaving Entry Points in the Waldorf Classrooms

An underlying theme woven through all the lessons was *integration*. Every lesson observed utilized all six of Gardner's entry points, and it was difficult to separate them as discrete points in the lessons. The teachers were integrating aspects of the entry points in combinations that they felt enhanced the level of the children's engagement. Every teacher began the morning by involving the whole class in movement activities, but they also integrated mathematical, poetical, musical, dramatic, and topical activities—topical meaning related to the main lesson topic, e.g., doing yoga when studying India. Activities were integrated and related to the curriculum topic so that each topic was approached from a variety of entry points.

The integration continued throughout the morning. During the review of the previous day's lesson, existential questions were asked and whole class discussions ensued with the teachers carefully guiding open-ended conversations on the topic. Later in the lesson, the students were asked to use drawing and writing as tools for deeper reflection on the topic, engaging the imagination and activating esthetic sensitivity.

The visual arts, music, poetry, movement, and storytelling were integral components of all the lessons across grade levels. Not only did the children experience several entry points on each topic studied, but the teachers also made it clear that this was planned to bring about a deep understanding of the curriculum content from many perspectives. The teachers described their work as being artists who create main lessons to address the cognitive, emotional, and physical development of the children at their stage of maturity.

Webster's dictionary defines *creativity* as the ability to bring into being, to produce through artistic or imaginative effort, and that an artist is a creator of artistic work (Webster 2013). These teachers were asking the children to become artists, too. They expected their children

to become poets, musicians, visual artists, dramatists, and writers. These experiences were woven into every unit of study observed and into the daily rhythm or routine of the main lesson, so that they became a natural part of the day. All the children participated in every activity to the best of their ability.

One teacher described a moment when the children were showing their drawings of the previous day's narrative to one another. "The drawings of the stories were marvelous. They were so proud of them. Each one was different, and they came up with all sorts of things. They each displayed theirs for their classmates to see" (First grade teacher).

One teacher related the reason why teachers involve so many sensory and creative experiences in their lessons. "I think this tutoring of the different senses in order to make it possible for the children to be able to have qualities, or skills rather, that are not dependent on technology to make them work has become more of a critical piece. I think we are at a point where deficiencies are lax in that way and can be unnoticed. I think the auditory learning is such a strong facet of the way we teach" (Third grade teacher).

Discussion

Through the study, it became clear that the teachers at this Waldorf school were already using all of Gardner's entry points to bring understanding to a topic. The teachers were also utilizing the many dimensions of the children's abilities in the lessons; their cognitive, affective, and physical development were taken into consideration at every grade level. Reciting poetry, singing, playing recorders, and using rhythmical movement to recite times tables, for example, were active practices in every classroom observed. The teachers expressed the sentiment that they wished the children to be able to ponder the great unknowns, to use their thinking to solve problems, to be creative and use their imaginations in their work. The teachers in this study believed that using multiple entry points fosters creative, imaginative, moral thinking and leads to a deep and broad understanding of the curriculum content; it also helps the children make connections in and between disciplines. This supports Gardner's claim that "deep immersion is key to understanding" (Askwith lecture, January 2012), and that efforts to "develop those multiple perspectives… are the best antidote to stereotypical thinking" (Gardner 2004, p. 245). The teachers in this study concurred that they wished to develop flexibility and creativity in the child's thinking through utilizing multiple modalities.

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Significance and Future Directions

This small-scale study provides a model of teaching for understanding that is currently in use. It is an approach similar to constructivism and universal design that strives to engage students to learn in ways that use multiple entry points to address the depth and breadth of a topic and provide access for a variety of students. It would be interesting to take the next step and see if this approach to teaching makes a difference in understanding a topic. Intuitively this makes sense. This method of teaching is common practice in Waldorf classrooms and could be used for further study to begin to address what happens to children's thinking, creativity, and imagination when the curriculum gets narrowed, for example, in some public school classrooms faced with the emphasis on high-stakes standardized testing. The study also raises several questions about depth of

understanding and fostering moral thinking as ways to prepare students to become citizens in a complex world.

This study raises questions about the integral use of the arts—in particular the visual arts—to augment understanding. To date there have been some studies conducted on the effects of drawing on the brain—for instance, by the Dana Consortium (Gazzaniga 2008). We also know from the work of Eisner, Efland, and others how the visual arts affect learning by helping to create habits of mind (Efland 2002; Eisner 2002; Hetland, Winner, Veneema & Sheriden 2007). A question that requires further study is how does daily, curriculum-embedded drawing as used by these Waldorf teachers affect student understanding?

More could be done to study each of the entry points alone or in combination to pursue deep understanding. We could ask of movement activities, drama, speech, music, and poetry: Does each of these esthetic and experiential approaches contribute to deeper understanding and help make interdisciplinary connections, as the seventh grade teacher suggested in reference to her science teaching?

Does a multi-model approach to teaching produce the kinds of thinking that is creative, flexible, analytic, and synthetic? According to Gardner (2008) and others, this is the kind of thinking that will be needed in the future. We will need adults who can think from 30,000 feet, synthesize large concepts, and bring practical, scalable solutions down to ground level. Does this approach to teaching facilitate that ability to see the grand view and then find local solutions?

In addition to creative thinkers with intact imaginations, Gardner posits, we need citizens who have a moral compass—that is, the ability to think of the greater good. Can we continue to develop curricula that allow children to probe and discuss the great philosophical questions of humanity in order to find empathic and compassionate responses to world situations?

Predicating this article is the underlying assumption that we want our nation's children to be deep thinkers capable of making connections and creating new thought patterns for the future. Gardner has presented a theory to address these issues, and this article posits that Waldorf education is a method of teaching that long ago embraced Gardner's theory of teaching for understanding. Confirming the view that using the entry points theorized by Gardner and practiced by Waldorf educators leads to a deeper, more connected way of understanding a topic will bolster an argument for applying the findings to public school classrooms where most of the nation's children are being educated. This would directly challenge the narrowing of the curriculum that is currently occurring in American public schools as an unintended consequence of the focus on high-stakes standardized testing (Ravitch 2010).

[W]e need citizens who have a moral compass—that is, the ability to think of the greater good.

REFERENCES

Armand, F., Lefrançois, P., Baron, A., Gomez, M. & Nuckle, S. (2004). Improving reading and writing learning in underprivileged pluri-ethnic settings. *British journal of educational psychology*, 74(3), 437–459. doi:10.1348/0007099041552350

Association for Waldorf Schools of North America. www.whywaldorfworks.org/04_AWSNA/

Brooks, J.G. & Brooks, M.G. (1993/1999). *In search of understanding: The case for constructivist classrooms;* Alexandria, VA: ASCD.

Charmaz, K. (2005). The logic of grounded theory. In R.M. Emerson (Ed.) *Contemporary field research: Perspectives and formulations*, 2nd edition. Prospect Heights, IL: Waveland Press, pp. 335–352.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention.* New York: Harper.

Darling-Hammond, L. (1995). *A license to teach: Building a profession for 21st century schools*. Boulder, San Francisco, Oxford: Westview Press.

Dewey, J. (1934). *Art as experience*. New York: The Berkeley Publishing Group.

_____. (1938/1997). *Experience and education.* New York: Touchstone.

Eisner, E. (2002). *The arts and the creation of mind*. Yale University Press, New Haven and London.

Efland, A. (2002). *Art and cognition: Integrating the visual arts in the curriculum.* New York: Teachers College Press, Columbia University.

Erickson, F. (1986). Qualitative methods in research in teaching. In Witrock, M.C. (Ed.) *Handbook of research on Teaching*, 3rd edition. New York: Macmillan, pp. 119–137.

Emerson, R., Fretz, R. & Shaw, L. (1995/2011). *Writing ethnographic field notes*. Chicago: University of Chicago Press.

Figueroa-Sanchez, M. (2008). Building emotional literacy: Groundwork to early learning. *Childhood education*, 84(5), 301.

Fontana, A. & Frey, J.H. (1994). Interviewing: The art of science. In Denzin, N.K. & Lincoln, Y.S. *Handbook of qualitative research.* Thousand Oaks: Sage, pp. 361–376.

Freeman, D. (2000). "To take them at their word": Language data in the study of teacher knowledge. *Acts of inquiry,* pp. 293–320.

Freire, P. (1970). *Pedagogy of the oppressed*. New York: Continuum.

_____. (1997). *Pedagogy of the heart*. New York: Continuum.

Gardner, H. (2008). *Five minds for the future*. Boston: Harvard Business Press.

_____. (2004). *The unschooled mind: How children think and how schools should teach.* New York: Basic Books.

_____. (1993). *Multiple intelligences: The theory in practice.* New York: Basic Books.

_____. (1990). *Art education and human development: An essay*. Los Angeles: Getty Publications.

Geertz, C. (1973). Thick description: Toward an interpretive theory of culture. *The interpretation of cultures: Selected essays.* New York: Basic Books.

Harris, P. (2000). *Understanding children's worlds: The work of the imagination.* Malden, MA: Blackwell Publishing.

Heshusius, L. (1994). Freeing ourselves from objectivity: managing subjectivity or turning toward a participatory mode of consciousness? *Educational researcher*, Vol. 23, No. 3, pp. 15–22.

Hetland, L., Winner, E., Veneema, S. & Sheriden, K. (2007). *Studio thinking: The real benefits of visual arts education*. New York: Teachers College Press.

Ivinson, G. (2012). The body and pedagogy: Beyond absent moving bodies in pedagogic practice. *British journal of sociology of education;* 33:4; 489–506.

Kolb, D. (1975). http://infed.org/mobi/david-a-kolb-on-experiential-learning/

Kress, G. (1997/2000). *Before writing: Rethinking the paths to literacies*. New York: Routledge

_____. www.youtube.com/watch?v=8-yO04u8MHc

https://www.youtube.com/watch?v=rZ4rMVCWkQs

Labaree, D. (2010). *Someone has to lose: The zero sum game of public schooling*. Cambridge: Harvard University Press.

Luhrman, T. (2010). What counts as data? J. Davies & D. Spencer, Eds., *Emotions in the field: The psychology and anthropology of fieldwork*. Stanford, CA: Stanford University Press, pp. 212–238.

Mallan, K. (1996). The road less travelled: Storytelling and imaginative play. *Storytelling world,* Winter-Spring 1996, n.9, 22–23.

Marzano, R. (2010). *Formative assessment and standards-based grading*. Bloomington, IN: Marzano Research Laboratory.

Maslow, A. (1954). *Motivation and personality*. New York: Harper.

McCormick, C.B., Dimmitt, C. & Sullivan, F.R. (2012). Metacognition, learning, and instruction. W.M. Reynolds & G.E. Miller (Eds.), *Handbook of educational psychology, second edition, Volume 7 of the Comprehensive handbook of psychology,* I.B. Weiner (Ed). New York: Wiley, *pp. 69–98.*

McIntosh, A., Reys, B.J., & Reys, R.E. (1992). A proposed framework for examining basic number sense. *For the learning of mathematics;* Vol.12, No.3.

New London Group (1996). A pedagogy of multi-literacies: Designing social futures. *Harvard educational review*, Vol. 66, No.1, pp. 2–8, 44.

Nigam, S. (2012). The storytelling brain: Commentary on social attribution: Implications of recent cognitive neuroscience research for race, law, and politics. *Science engineering ethics* 18:567–571.

Perkins, D. (1986). *Knowledge as design.* Hillsdale, NJ: Erlbaum Associates.

Piaget, J. (1969/2000). *The psychology of the child*. New York: Basic Books.

Pink, D. (2006). *A whole new mind: Why right-brainers will rule the future*. New York: Riverhead Books.

Porter, K. http://departments.weber.edu/teachall/reading/prereading.html#SchemaTheory

Ravitch, D. (2010). *The death and life of the great American school system: How testing and choice are undermining education*. New York: Basic Books.

Rossman, G.B. & Rallis, S.F. (2010). Caring reflexivity. In *Qualitative studies in education: Research ethics in the everyday.* 23 (4).

_____. (2003). *Learning in the field: An introduction to qualitative research*, 2nd edition. Thousand Oaks, CA: Sage.

Sahlberg, P. (2011). *Finnish lessons: What can the world learn from the educational change in Finland*. New York: Teacher's College Press.

Steiner, R. (1969/1919). *Education as a social problem*. New York: Anthroposophic Press.

_____. (1976). *Practical advice to teachers*. London: Rudolf Steiner Press.

Strauss, J. & Corbin, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory.* Thousand Oaks, CA: Sage.

Subramaniam, M., Ahn, J., Waugh, A., & Druin, A. (2012). Sci-fi, storytelling, and new-media literacy. *Knowledge quest, 41*(1), 22–27.

Tsethlikai, M., & Rogoff, B. (2013). Involvement in traditional cultural practices and American Indian children's incidental recall of a folktale. *Developmental psychology,* 49(3), 568–578. doi:10.1037/a0031308.

Westwater, A., & Wolfe, P. (2000). The brain-compatible curriculum. *Educational leadership*, 58(3), 49–52.

Wiggins, G. & McTighe, J. (2005). *Understanding by design.* Alexandria, VA: ASCD.

Witte-Townsend, D., & Hill, A.E. (2006). Light-ness of being in the primary classroom: Inviting conversations of depth across educational communities. *Educational philosophy and theory*, 38(3), 373–389.

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

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