RACEY BEAR'S LEGACY: METAPHOR AS A BRIDGE TO CHILDREN'S UNDERSTANDING AND EXPRESSION OF ABSTRACT CONCEPTS

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CHAPTER ONE: INTRODUCTION

Before beginning this study, I asked my then ten-year old nephew, "What is joy?" After some consideration, he said that it was "you know, being happy." I told him that he had basically just rephrased the question, and pressed him to elaborate. He thought for awhile, started to say something, cut himself off, started to say something else, and cut himself off again, seeming nonplussed. I prompted him with questions such as, "What are some qualities of being happy" and "What does being happy feel like?" But still, he could not provide much more than, "You know." He was quite frustrated; finally he said, "I know what it is, I just can't explain it!" I asked him what he thought freedom was and what he thought beauty was, with similar responses. How well-formed his conceptions of joy, freedom, and beauty were, I could not determine; the only thing I knew for sure was that whatever his conceptions were, he could not express them.

I would guess, also, based upon my own experience as a child that his understanding was more elaborate and sophisticated than many adults would credit him with, but I could not be sure, since he could not articulate his thoughts. Pondering his answers, several things occurred to me. First, I thought that if his understanding did indeed exceed his ability to express his understanding, it would be gratifying to him to him to learn to express himself. After all, he was frustrated by his lack of ability to do so. Second, if he were to learn to express his understanding of the concepts, he might be more likely to incorporate them into his behavior. Though he might already unconsciously have formed notions of the concepts and though he might to some extent already act in accordance with these unconsciously formed notions, a conscious and deliberate understanding of what they mean and how they exhibit in his behavior might

enable him to more easily decide how they could guide his actions. Third, if he actually did *not* have any understanding of the concepts, then learning about them would be valuable, as well. So, whether or not he understood the concepts, or understood them but could not express them, learning about them would be a valuable experience.

Yet, the possibility of teaching him about them seemed a daunting proposition. If a child asked me "What is joy?" or asked me to define freedom, beauty, or any number of similarly complex abstract concepts, I, like most of us, could not provide a particularly more elaborate answer than he had given me, certainly not one that was satisfactory to the child or to myself. A dictionary definition would seem flat and incomplete; telling him what it was to me, philosophically or as expressed in my actions, might be informative, but would also be quite presumptuously didactic of me. I might be inspired to write a story that would *metaphorically* be a representation of the particular concept I was asked to define—many works of literature are, on one level, attempts to give substance to powerful ideas that defy words and explanations—but were I to try to come up with an actual definition, I would find it very difficult, perhaps impossible. Like most of us, I would be reduced either to providing examples, suggesting possible books to read, or giving nebulous explanations which essentially said, "You just *know*, sort of, it's just a feeling," or the standby of many adults, "You're too young to understand, now; when you're older, you'll get it." Even if I were able to convey in simple explanations my understanding of these extraordinarily complex and abstract concepts, I might still be leading the child away from his own understanding. I might be imposing my own value system upon his. How could I teach a child to put into words something I could not put

into words myself, and which in any case, may be impossible to express, and do it without imposing my beliefs upon him? The answer may begin with Racey Bear.

To explain: When I was a child, my life was a metaphor. Whatever my older brother and I did, we pretended to be characters other than ourselves, and to be doing things much different—much grander—than what we were actually doing. If we were playing by the little creek down the road from our house, we were great heroes traveling along a mighty river; if we were visiting our grandparents, we were part of a royal train, visiting an ancient king and queen; even at school, we were not students, we were spies or prisoners in an enemy camp, or perhaps cadets on a starship, something different every day. We had thousands of characters we pretended to be; every morning, he would ask me "Who are you?" and I would decide which one of my array of characters I would pretend to be that day. By my brother's account, my first character was Racey Bear. I can only guess that this was because I liked to run and I liked bears.

In the midst of our play, something strange happened: We developed values and aspects of personality the development of which could not be predicted except by the details of our pretend-play. For example, even though we were taught to be completely obedient to our parents, our teachers, and other authority figures, and even though the T.V. and movie heroes of the time were completely law-abiding, we developed more of an affinity for our characters who did what they thought was right regardless of laws or rules or what was expected of them; and sure enough, as we grew, we quickly became quite unimpressed with position, status, and social and career achievement. Moreover, we gained a conscious realization that the personality traits we valued were not necessarily the same traits valued by our teachers, friends, or even our parents. Even

accepting that reading books could have influenced our attitudes to some extent, there is definite circumstantial evidence that our pretend-play affected our behavior significantly.

As a child, I was not taught the meanings of concepts such as joy, freedom, or beauty, or honor or love. I was taught rules such as "Be nice to people," "Don't hit your sister," "Say please and thank you," or "Obey your parents [or teachers]," that could be construed as expressions of some of these qualities; and I was taught, for example, to always tell the truth, to wait my turn, and to be grateful that I had been born in the U.S., where people were free, as opposed to the Soviet Union, where they were not. And of course, I was told that my parents loved me—but what integrity, freedom, and love truly were was never discussed, or even addressed. This is not surprising: The adults around me could no more explain them then, than I can now.

This does not mean that I had no conception of what these qualities were, or how they might be expressed in action by individuals—I had examples of decent human beings to draw upon unconsciously. However, I cannot help but wonder whether, had I been forced to examine my own and others' ideas about these qualities, if I might not have integrated my conclusions into my personality and my engagement with the world earlier in my life than I did—as a teenager, perhaps, instead of as a man in his thirties. Similarly, I wonder if children, given a way to effectively examine their own thoughts and the thoughts of others about these concepts, could and would form sophisticated opinions about them at a young age, and thus *have the opportunity* at least, to integrate them purposefully and consciously into their personal value systems.

Using the cognitive linguistic definition of metaphor initiated by Lakoff and Johnson (1980), and elaborated and refined by others since then, we gain insight into the

metaphorical nature of pretending. The cognitive linguistic definition of metaphoric thought is usually stated something like this: the ability to understand one conceptual domain in terms of another. This is more or less the same thing as saying that metaphor is using one thing to explain another, which is generally the layman's definition; but I think it is more explicit. A conceptual domain is, essentially, an organization of an area of information, within the brain. The metaphor, "Love is a flower," consists of two domains. The domain "love" consists of everything one knows or thinks about love, including, perhaps, affection, sacrifice, etc.; the domain "flower" consists of everything one knows about flowers, perhaps including smell, appearance, etc. Now, love could also be a component of a larger domain, "emotion," and flower a component of a larger domain, "plants," but both are domains in themselves, also; and by linking the domains of flower and love, one could also be linking emotion and plant-life within an even broader values context—beauty, perhaps. In any event, the pretend-play my brother and I engaged in was essentially understanding or experiencing the domain of the real world in terms of the domain of a pretend world, or a pretend situation; and was therefore metaphoric.

After questioning my nephew, and recalling my metaphorical existence as a child, it occurred to me that if play that was not designed for the purpose of learning—such as our pretending—could lead us to a greater understanding of the world, along with a conscious knowledge of our understanding, then a studied engagement with metaphor could do much more. Perhaps studying metaphor in association with concepts such as joy, freedom, and beauty, could aid my nephew (and other children) in understanding and expressing those and other abstract concepts.

Believing that others probably had followed this same line of reasoning, I searched for previous research about the issue, and found that although significant research has been done that supports the proposition that studying metaphor might aid in the understanding of ideas and in learning to express concrete ideas, there has been very little that addresses the question of whether metaphors could aid precisely in the understanding and expression of complex, abstract concepts. I decided, thus, that I would begin filling in this research and knowledge gap. It could be argued that one can get along without being able to understand or express concepts such as joy, freedom, honor, and love, and that there are many much more practical and immediate concerns to worry about; but I believe that in research and in educational focus, this is an important road to follow. I believe that if children, indeed if people in general, thought more about these concepts, gained an understanding of what they thought about them, and gained an ability to express their understanding, they would have a greater ability to integrate them into their behaviors, if they should wish to do so—and personal growth, I believe, is as important as educational growth.

With this in mind, I engaged three children in an assortment of metaphorical exercises, including structural metaphors, orientational[1] metaphors, pretend-play, storytelling, and literary metaphor, and tested whether this engagement enhanced their understanding of abstract ideas—specifically, joy, freedom, beauty, honor, and love—or their consciousness of, and ability to express, this understanding. This paper addresses this engagement in detail. In Chapter Two, I provide a review of research and literature

[1] Orientational metaphors, as defined by Lakoff and Johnson (1980), are those metaphors, all-pervasive in language, that give a concept a spatial orientation. (I.e., "*in* a bad mood; *fell* ill; wake *up*; and so on.) Most people use them consistently without even noticing they are doing so, but they are not *literally* true, and an analysis of them by children as they use them could produce thoughtful observations.

that bears on how children understand metaphor and how a study of metaphor affects the understanding of abstract concepts. In Chapter Three, I describe in detail the methodology used in the study and the reasons for it, along with specific research questions. In Chapter Four, I give an in-depth analysis of the children's brief but intense engagement with metaphor, applying the ideas of various other researchers to my results. Additionally, I report the results of the study, providing a comparison between the children's understanding and expression of abstract concepts before and after their engagement with metaphor. In Chapter Five, I discuss the implications and limitations of the study, and suggest ideas for further study.

CHAPTER TWO: LITERATURE REVIEW

Definition of Terms

Aristotle, who is often credited with being the first person to examine metaphor in-depth, admits that metaphors do much more than ornament language, providing, in fact, a means for comparing things (see Cameron, pp. 13-14), yet the examination of the conceptual role of metaphor has been slow to become a major avenue of study. The Romantics, particularly Rousseau and Coleridge, hold that metaphor has a profound effect on the shaping of thought: Coleridge argues that metaphor is the representation in language of the way the mind interlaces all diverse thoughts into a cognitive whole; Rousseau argues that we perceive the world metaphorically and that literal language is an ordering and simplification of this perception (see Kittay, pp. 5-6). But, other than by these Romantics, the study of metaphor in language has not historically focused on metaphor's cognitive power, and in fact many philosophers have dismissed the possibility that it even has a cognitive element. Scholars as diverse as Cicero, Locke, and Vico view metaphor as valuable artistically, for ornamenting language or for physically comparing things, but not as suitable for analytic thought. It could be the influence of such thinkers that for many years steered scholars away from metaphor as a subject of study; for after the Romantics, it is not until very recently, beginning with the work of Max Black in the 1960s and 1970s and with Lakoff and Johnson's landmark book, *Metaphors We Live By*, in 1980, that scholars begin delving very deeply into the conceptual nature of metaphor. It is beyond the scope of this thesis to trace a history of the study of metaphor, but it is important to note that this study has as a foundation the view that metaphor is conceptual

in nature, and therefore is underpinned primarily by the aforementioned work of Lakoff and Johnson, and other scholars from the 1970s and thereafter.

Additionally, because the study of the conceptual role of metaphor is relatively new historically, many of the terms cognitive linguists use when discussing metaphor are not woven into the consciousness of society and may not be intuitively easy to decipher. I will, therefore, go over a few of the terms I may use in the discussions to follow. Black (1962, 1979) accepts that new or changed understandings of things can be arrived at by the use of metaphor. In fact, he develops the Interaction theory of metaphor to explain these new understandings. This theory states that cognitive *domains* interact via metaphor, sometimes changing one's understanding of one or both of the domains. If a child, for example, were to hear the metaphor discussed earlier, "Love is a flower," enough times, the child might come to understand love as something that is easily destroyed—a viewpoint he might not come to without hearing the metaphor. The *Topic* of a metaphor is the item that is being explained or clarified, in this case, "love." The *Topic domain,* therefore, is the area of knowledge in one's mind of which that item is a part. The *vehicle* of a metaphor is the thing that is being used to explain or clarify the *Topic*, in this case, "flower." The *Vehicle* domain, therefore, is the area of knowledge in one's mind of which that item is a part. The *Topic domain* is often referred to, also, as the *Target domain*; and the *Vehicle domain* is often referred to as the *Source domain*.

Reddy (1979) argues that we attempt to understand one another from within our own frames of references, our own views of reality—that communication is essentially metaphorical—and that metaphors therefore are a natural and valuable tool of communication. For both Black and Reddy, however, metaphor remains primarily a

language phenomenon, which acts upon conceptual processes. For Lakoff and Johnson (1980) and others (Keesing, 1987; Lakoff & Turner, 1989; Quinn, 1991; Gibbs, 1994, 1999; Kövecses, 2002, 2005) who build upon and modify their work, metaphors exist conceptually, and language is merely an attempt to describe them. Lakoff and Johnson suggest that "human thought processes are largely metaphorical" (6). Much of our understanding of the world arises from *mapping* between domains.

For them, *structural metaphors*—any metaphor that describes a concept by relating it to the structure of another concept (e.g. love to the structure of a flower)—are the primary tools the mind uses to shape concepts. It is not because one hears that love is like a flower that one comes to think of love as being fragile (an effect of language upon a concept), but because the mind can only understand love by reaching into other conceptual domains, such as the domain of flowers, or plant life. The phrase "love is a flower" is an approximation of a conceptual mapping the mind makes. *Orientational metaphors*, as explained above, are those such as "in a bad mood" or "fell ill"[2] that give a concept a spatial or directional component. *Ontological metaphors*, as defined by Kövecses (2002), are those that allow us "to conceive of experiences in terms of objects, substances, and containers, in general, without specifying further the kind of object, substance, or container" (251). They allow the mind to conceive of the abstract in terms of the concrete, so that we can delineate, categorize, and dissect abstraction. For example, in saying "I'm grinding out this paper," a student creates a beginning of a

[2] Many such phrases are idioms, unique to a language or even a region, and used by speakers of the language without any effort of their minds to construct a comparison or to clarify a concept. This does not mean that they are not metaphors, and in fact it could be argued that they were originally used to succinctly state abstract concepts that were hard to express in the language proper.

description of how frustration, fatigue, grit, and perhaps other things are components of the abstract concept *difficulty*.

Describing the participant children's use of metaphor in this thesis, I will often use the terms I have introduced above. Discussing how well the children understand certain metaphors, I will also use the term *entailment. Metaphorical entailments* are mappings that can be drawn about a *Topic* based upon the knowledge one has of a *Vehicle.* To use an example Kövecses presents, for the metaphor, "Anger is a hot fluid in a container," it is entailed that the physical container is the angry person's body, the degree of heat is the intensity of the anger, and so on.

Metaphor as a Tool for Understanding and Expressing Abstract Thought

The idea that a study of metaphor could be used as a tool for learning (or teaching), either to increase one's understanding of concepts, or to enhance one's ability to express concepts, is not particularly novel. Cameron (2002, 2003) analyzes how metaphors are used by teachers and students in science classes, how students understand metaphors, and how metaphors contribute to learning. She finds (2002) that if teachers effectively choose Vehicles (the metaphors used to explain the concept) in drawing comparisons to the Topic (the item being explained), that is, if they choose Vehicles that the children are familiar with, learning is greatly facilitated. Studying teacher use of metaphor in classrooms (2003), she finds that teachers are often more likely to use metaphors when introducing material and when answering student questions than when actually explaining the material in detail. She finds, however, that when a teacher does use a metaphor in these explication sequences, as she terms them, the students are likely to hold on to this metaphor for awhile, applying it to different points within the

explanation. In her data, students seldom initiate metaphors, but when a teacher does, the students tend to use them, as well. She concludes that because people, including teachers, naturally use metaphors to explain difficult concepts, teachers, could, with conscious and deliberate effort, use them even more effectively.

Other researchers (Roschelle, 1992; Carey, 1985) agree that metaphor can play a strong role in cognitive change. Carey (1985), for one, postulates that metaphors are important in the process of "restructuring" what has been arrived at by simple observation of the world. When they are challenged with new information, they are likely to be confused if they are not given a bridge to the new, more sophisticated information. For example, if a child has observed that when he mixes paints of many different colors together, he gets black, but learns in class that white light is made up of all the colors of the spectrum, he may be baffled unless his teacher can create an effective metaphor for him—if, for example, his teacher tells him that for light, all objects are like mirrors.

Fraser (2003) examines metaphor use among "gifted" students between the ages of seven and eleven. These children are exposed to great metaphorical works of poetry, such as Eliot's *The Love Song of J. Alfred Prufrock,* that are usually not studied until high school at the earliest. They are then encouraged to produce metaphorical poems of their own. The study shows that far from blind mimicry, the children's efforts often produce amazingly sophisticated works that demonstrated a rich understanding of metaphor. Fraser concludes that metaphor, paradoxically[3], uses words in a way that allows the mind to move beyond the constraints of words, and that using metaphor creatively, and being

[3] Fraser perhaps comes, via research, to the same conclusion that poets and writers have often come to over the years, that poems and stories say in words what cannot be said in words. See, for instance, LeGuin, Ursula K., *The Left Hand of Darkness*, "Introduction," Ace Books, New York, 1976.

encouraged to do so expands children's minds and enables them to express emotion and to convey an understanding of the human condition.

In another study, Berglund and Pakaluk (2000) undertake a series of metaphorical exercises with their third, fifth, and seventh grade students that are revealing. Third graders are asked to find a rock, and then respond to the question, "What does your rock remind you of?"—that is, to come up with a list of metaphors to describe the rock. The next day, they are asked to compose a poem based upon the metaphors they created the previous day. Similarly, the fifth graders are asked to come up with metaphors to describe a number of different objects, and to compose poems arising from the metaphors. In both cases, initial descriptions of the objects are generic and general (i.e., "gray," or "regular" for the rocks), while final descriptions demonstrate "creative and thoughtful observation of the world." Seventh graders are given sentence stems such as "The class is a___" and asked to justify whatever metaphor they come up with. The teachers conclude that use of metaphor forces the students to "think deeply and creatively, and to communicate their perceptions...thoughtfully in multi-layered abstract thinking."

Tapia (2006), working with college students, finds that analyses of literary works are greatly enriched by a conscious and deliberate study of metaphor. During the first weeks of class, students study the work of Lakoff and Johnson, Turner, Gibbs, and other leading researchers of conceptual metaphor; and in the weeks that follow, they begin to look for different types of metaphors in literary passages, as well as to extend metaphors beyond simple comparisons, to a study of source domains and sophisticated and elaborate ontological, orientational, and combined ontological and orientational metaphors.

Finally, the students apply their learning to a study of literary works, becoming, in the opinion of the researcher, distinctly aware of what is going on in the works, and producing greatly enriched analyses of literature. Tapia also reports that some of the students begin applying the methodology they learn to their awareness of world events, analyzing the effect the particular cards in the "Iraqi 55 Most Wanted" playing card deck might have on the perception of the wanted men (e.g., Ace of Hearts, for Qusay Hussein, noted for his philanthropic work, vs. Ace of Clubs for his brother, known to be a sadistic torturer).

Stanley-Muchow (1985), a student of psychology concerned with finding ways of integrating art and creativity with education and counseling, suggests that "the evolution of mind can be seen in the ongoing synthesis of past and present experience," (198) and that metaphors, by providing a conduit between things one does not understand (i.e., the present) and things one does understand (i.e., the past), are a primary instrument of this process. She agrees with Ortony, Reynolds, and Arter (1978), that in producing new metaphors, "individuals are active in their own development." In one study, she examines how the metaphor use of a thirteen-year old child having difficulty expressing himself affects his intellectual and emotional development. This boy is able to demonstrate an understanding of the difficulty he has expressing himself by drawing a face on a carrot and cutting off the "head," thus initiating a discussion with his classmates and teacher about his frustrations. The connection between his metaphor use and his understanding of the world, in addition to being analogical, is linear, in that by creating an effective metaphor, he accurately expresses his thoughts to others, who can thereafter help him build upon his understanding.

Masterson (1994), a music teacher, asserts that metaphor can be helpful in expressing one's understanding or appreciation of music. In one exercise he directs his students in listening to a piece of music—anything from present-day popular songs, to Bach and Beethoven. While they are listening, they first jot down any musical components or instruments they recognize, then move on to feelings, associations, and images that come to mind. Masterson reports that he almost always finds that while the students—especially non-musicians and those unaccustomed to musical discussion—have difficulty recognizing components and instruments, they quickly begin to respond to the pieces deeply in terms of feelings and images. After a brief discussion of their reactions to the piece, he asks such questions as "What shape does the melody have?" and "What color is the trumpet?" before finally revealing what the piece is. He believes that this process not only jumpstarts the students into an understanding of and an ability to discuss music, but also (by introducing students to music that arises from different cultures) can help people of different cultural backgrounds begin to understand and appreciate one another's attitudes. Music, like beauty, honor, or joy, cannot really be defined, and yet, as Masterson notes in his students, the use of metaphor increases one's ability to express what one thinks about it, which in turn helps one to begin to build upon one's understanding of it.

Other researchers examine the effect of storytelling and/or pretend-play on cognitive processes and learning. Cox (1999) has several nine- to thirteen-year olds draft cartoon stories, and then write stories based upon these cartoon narratives. Although the results of the study are open to interpretation, Cox's view is that this process of moving from visual imagery to language generally improves not only the imagery of the

children's writing, but the characterizations and the depth of ideas they present. She believes that this is because (1) metaphor is not wholly verbal, but very imagistic, (2) imagistic metaphor is conducive to expansion of the mind, and (3) metaphor encourages both "syncretistic and analytic thinking." She concludes that visual metaphors can and should be used to encourage creative thinking.

Carlson (2001) suggests that metaphor represented by play and storytelling can aid children with behavioral problems, children recovering from traumatic events, and even healthy children confronted with the difficulties of normal life, in dealing with emotional troubles. According to her, by engaging in these therapies—by, for example, discussing the problems of characters instead of their own, or by telling or hearing a story that parallels their own experience in some way—children can disentangle themselves from their own troubles and look at themselves with some objectivism. Pardeck (1990) suggests that by projecting their own feelings onto story characters, children find, first release, and eventually understanding, of their own situation. Others (Marvasti, 1997; Torrance, 1995; Lenkowsky, 1987) posit that play and storytelling can be therapeutical devices that allow children to gain distance from issues at the same time as gaining understanding of them.

Singer (1995) proposes that "early make-believe play, when suitably nurtured by a family, may serve as a beginning for the emergence of a major dimension, of 'possible,' the ability of the emerging child to engage in the subjective thought process" (187). He postulates that by engaging in pretend-play, children make sense of the world by "cutting down the large things to manageable proportions, as can be done through the use of dolls, blocks, soft toys, and other manipulable objects that can be assigned meanings roughly

matching real objects of the environment" (192). In the course of this "cutting down," he believes, children are (1) beginning to delineate and categorize their experience and their surroundings, and (2) growing emotionally, as they vicariously experience the fear, sadness, anger, and joy of the miniaturized objects or characters on a scale not possible in real life. In other words, they are developing mentally and emotionally *more* by pretending than they are in living, because the pretend situations are much more far-ranging and challenging than anything they are likely to face in their lives. Aligning himself with Markus and Nurius (1986), he suggests that in playing, children are "identifying possible future selves" (194). He even goes so far as to say language use can be enriched by pretend-play.

In another study, anthropologist R. L. Goldman (1998) studies the complex play patterns of Huli children in New Guinea, and reaches the conclusion that pretend-play is integral for them in the development of abstract thought. Storytelling is a central component of Huli social interaction, and because storytelling and pretending are common to children everywhere, it is expected and encouraged, and especially prolific among Huli children. Goldman finds that often in the process of acting out pretend situations, the children's speech patterns change, mimicking *bi te*, a storytelling form used by adults in tales told at night to audiences. In effect they are telling a story about their pretending even as they are pretending—"double-playing," as Goldman puts it. Though the children use other speech forms during play, including "normal" talk, the primary way of communicating while playing is *bi te*. In most instances, "normal" talk is used only to question each other, if for example a participant perceives an incongruity in the fantasy acted out by another participant. A form of metadiscourse is thus overlaid

upon the double-play. Goldman concludes that there is such an interweaving of fantasy and reality in this process that the mind is forced to understand simultaneously what is really going on, what is going on in the pretend situation, how it relates to the myths and folktales of the culture, and how all of this is inter-related. This process, he believes, is very helpful in the development of abstract thought, indeed that it forces abstract thought.

Children's Understanding of Metaphor

Some would argue that whatever a study of metaphor might reveal about the cognition of adults, it means very little when applied to children because children do not understand metaphor. Prior to the 1970s, the consensus view was that children under the age of eleven or so could neither understand metaphor nor use it effectively. Helmer (1972) writes, "Any use of metaphor by children under the age of eleven is either arbitrary or a realization by the child the two things are literally similar" (1). Noted Swiss psychologist Jean Piaget (1962) claims that any advanced metaphorical ability is unlikely to manifest before the age of ten or eleven. Working with children of different ages, he hypothesizes four stages in the development of children's thinking, during the third stage of which, from ages seven to twelve, children first begin to figure out the relationships between concrete things, and finally, near the end of that stage, begin connecting abstract ideas. Since metaphors in which the things being compared are not literally similar require abstract connections, children will not understand them, he postulates, until near the end of the stage.

Billow (1975), after having children between the ages of five and thirteen paraphrase and classify types of metaphors, reaches the conclusion that children under the age of ten or eleven are usually capable of understanding only metaphors in which the

things being compared are literally similar, and not those based on any kind of relational similarity. He concludes that the ability to make abstract connections is necessary for the understanding of non-literally similar metaphors. Similarly, Cometa and Eson (1978) find that children of seven can usually understand the description of leaves in the wind as "dancing," but can seldom say why, whereas children of eleven can almost always explain that leaves can be described as "dancing" because people shake around sort of like leaves when they dance.

Winner (1988) admits that the understanding of complex metaphors becomes more pronounced as children develop, but she says that the understanding of relationally-based metaphors begins much earlier than ten or eleven. She claims that children's understanding of relational metaphors tends to be underrated because children often lack the life experience needed to contextualize the comparisons. For example, a boy of seven will probably not understand the statement an adult might make, that a corporation is a vampire,[4] because he does not understand the domain of economics. He has never been employed, and so does not know that big corporations usually get eighty or ninety percent of the fruits of the employees' labor. If he did have knowledge of the domain of business, he would understand the metaphor. According to Winner, children are advanced enough as early as six or seven or even earlier, to make the connection.

Other researchers agree. Vosniadou (1989) and Brown (1989) both argue that the fact that children of five or six more often fail to make connections between Topics and Vehicles than do children of eleven or twelve, is not due to a lack of mental capacity to do so but rather, to a lack of domain knowledge of either or both the Topic and Vehicle—basically, a lack of life experience. Power, Taylor, and Nippold (2001) compare

[4] This is my example, not Winner's. It is based on Winner's explanation.

children's comprehension of literally true and literally false proverbs. In this study, children are tested to determine whether they understand the non-literal meaning of literally true proverbs such as "Little birds may pick at a dead lion," any differently than they understand the non-literal meaning of literally false proverbs such as "Children are a man's crown." They find that there is little difference, even among children as young as three or four, and deduce among other things, that sophisticated metaphorical ability begins quite young. Castillo (1998) finds that given some analogy instruction, and time to practice, children's metaphoric comprehension skyrockets.

Seitz (1997) posits that logical thought pre-dates the ability to express logical thought, and that thus, metaphor can in early childhood be a way of expressing abstract knowledge. In one of his studies, children of four and six are challenged with several different tasks to test their comprehension of various types of metaphor. For "Metaphor comprehension tasks," the children are, in step 1, shown a target picture and several test pictures, and asked to decide which test pictures are "like" the target picture, and in step 2, shown a target word and several test pictures, and asked to decide which pictures are "like" the word. For "Symbolic play tasks," children and adults play and pretend together, and the children are eventually asked to explain how the play-objects can be themselves and also a make-believe thing—for example, how play dough can be a hamburger. For "Constructive-object play tasks," the children can make whatever thing they want to make out of colored pegs, and for "Semantic features tasks," the children are asked to figure out the parallel components of sets of three words. Among the findings are (1) that while the six-year olds demonstrate superiority in linguistic oriented tasks, the four-year olds actually do better on the picture oriented tasks; (2) playing does not seem

to increase the understanding of how one thing is like another; and (3) metaphorical activity is definitely apparent in all the mediums—linguistic, play, and pictorial. He concludes (1) that between the ages of four and six, an increased attention to words seems to impinge slightly upon visual cognition (creating the need for a purposeful study of metaphor), and (2) again, that logical thought pre-dates the ability to express logical thought, and that thus, metaphor can in early childhood be a way of expressing abstract understanding of things.

In another study, Dent (1987) investigates that the ability of children of various ages to comprehend visual metaphors, and to translate these metaphors into language. She finds, among other things, that though children of eight or nine are more likely than children of four or five to connect one metaphor to another, that is, to see, for example, that a deer dressed up as a dancer is parallel to a dancer dressed up as a deer, the younger children are almost as likely to answer, correctly, "The dancer is a deer," or "The deer is a dancer," separately. Additionally, some children as young as two or three make the connection between the images. Winner would not be surprised by this finding; she concludes her book, *The Point of Words* (1988), by stating how prevalent metaphorical ability is in children, "…and the seeming inevitability of its emergence in the first few years of life" (189).

In sum, some these studies indicate that it is quite possible that the potential both for abstract thought and metaphorical creativity begins early in life; others demonstrate that it is possible to teach and explain complex concepts with metaphor. None of them, nor any other that I know of, combines these two areas of investigation. The present study seeks to do that.

CHAPTER THREE: THE STUDY

Participants

Three children participated in the study: "Ron," a male, age 11 years, six months, a sixth-grader at a public school; "Lola," a female, age 11 years, six months, also a sixth-grader at a public school; and "Henry," a boy, aged eight years, ten months, a third-grader at a public school. It was decided that such a small number of participants would be suitable for the study because it would allow for an in-depth examination of how and why various metaphorical exercises affected the participants' understanding of abstract concepts. It was thought that though a less in-depth study of a larger number of participants might reveal a pattern of whether the particular exercises did or did not enhance the understanding of abstract concepts, the lack of focus on individuals such a study would entail would limit the researchers' ability to analyze what exactly was going on in the children's minds as they studied metaphor. The two eleven-year-olds were chosen because they were at an age at which it is agreed that both logical abstract thought and metaphorical ability are present. Some researchers, as noted earlier, believe that eleven is approximately the age that logical abstract thought and metaphorical ability begin, while many others believe such abilities manifest much earlier. All agree, though, that these abilities are present at eleven; so to ensure that at least some of the participants in the study would *definitely* be capable of engaging with metaphor, some of them had to be eleven or older. The eight-year-old was chosen for two reasons: to provide a measure of comparison with the eleven-year-olds, and to provide an initial test as to whether the exercises, if they proved valuable to the eleven-year olds, might also be valuable to younger children.

Procedure

Over the course of approximately one month, the three children performed five metaphoric exercises, detailed below, before and after which they were asked the same set of questions about five abstract concepts: freedom, joy, beauty, honor, and love. These questions were designed (1) to test how developed the children's understanding of each of the abstract concepts was, and (2) to determine how well they could express their understanding, however developed or undeveloped it was. The answers they gave after the exercises were compared to the answers they gave before the exercises, to determine what effect the exercises had on their comprehension of the concepts, as well as on their ability to give expression to their comprehension. Additionally, their performances on each separate exercise were analyzed, to further separate out what effect their various types of engagement with metaphor were having on their perceptions of the abstract concepts.

The Questions

Each child was asked, separately, "What is freedom?"; "What is joy?"; "What is honor?"; "What is beauty?"; and "What is love?" If they were unable to provide an answer, or if their answer was a re-statement of the question (e.g., "Freedom is being free"), they were instructed to think about it a little longer. If after thinking about it, they still were unable to provide an answer, they were asked, "Do you feel like you know what it is a little bit or a lot, but you just can't put it into words?" These questions were designed not to test whether they had an understanding of the concepts, but to determine how well they could express whatever understanding they had.

Additionally, for each of the five concepts, the children were asked seven questions designed to provide delineation of their understanding of the concepts. For example, for the concept of freedom, they were asked questions that would reveal whether they saw freedom primarily as a lack of physical restraint, or whether (and if so, to what degree) things such as responsibility, imagination, rules, governmental type, and bonds of family and friendship played a part in freedom. Likewise, for the concept of beauty, they were asked questions that would reveal to what degree they saw sound, color, and motion as part of physical beauty, as well as whether they thought that the inner qualities of individuals could constitute beauty. Their understanding of the other abstract concepts was similarly delineated. For a full list of the questions and the children's answers before and after the metaphorical exercises, see Appendix A.

Exercise 1: Metaphor Familiarization

During Exercise 1, the children were introduced to metaphor. The researcher explained the layman's definition of metaphor—using one thing to stand for another—as well as the cognitive linguistic definition—the ability to understand one conceptual domain in terms of another—and then had one twenty-minute discussion with each child. This discussion was about a topic of the child's choosing, and during it, the researcher demonstrated the preponderance of metaphor in language by pointing out to them whenever they used a metaphor. Each time he interrupted them, he would ask whether they understood why the expression they had just used was a metaphor. The purpose of this exercise was simply to familiarize the children with metaphor, to "prime" them for the more complex ensuing exercises. During the discussions, particular attention was

paid to whether they became more able, as the conversation progressed, to say why phrases they used could be described as metaphors.

Exercise 2: Metaphor Comprehension and Creation

Exercise 2 was comprised of two parts. For the first part, the children were provided five sentence stems and asked to come up with as many metaphors as they could think of for each stem, and to justify each metaphor. The sentence stems were:

1) Joy is____
2) Freedom is____
3) Honor is____
4) Beauty is____
5) Love is____

For the second part, the researcher provided the children with sets of five metaphors for each stem, and the children were asked which one was the best metaphor for the stem, and why. For a list of the children's preferred metaphors, see Appendix B. This exercise was designed to move the children from the awareness and rudimentary understanding of metaphor activated by Exercise 1, to an actual conscious creation of possible metaphors, with no demand on them to produce metaphors that map consistently or accurately. The purpose of the exercise was to get the children accustomed to finding a concrete image within their minds to substitute for an inexpressible abstract idea. During the exercise, particular attention was paid to whether the children did indeed begin to show proficiency at creating and understanding metaphors.

Exercise 3: Comprehension of Metaphor in Literature

For Exercise 3, the researcher had discussions with each child, separately, about three metaphor-rich pieces of literature: (1) “The Giving Tree,” a children’s story by Shel Silverstein, in which a tree gives its leaves, apples, branches, and even its trunk to a boy, gradually across the boy’s life; (2) Keats’ “On First Looking into Chapman’s Homer;” and a small section of Ursula K. LeGuin’s *Always Coming Home*, in which she provides a chart of “generative metaphors,” in which she postulates entailments (e.g., the role of people; the role of medicine) for “Existence is war,” “Existence is an animal,” “Existence is a dance,” “Existence is a house,” “Existence is a machine,” and “Existence is the Way.” The researcher began the discussions with suggestions about what the topic and vehicle metaphors were in the works, and asked the children to extend the metaphors. He began the discussion of Keats’ poem, for example, by asking them whether they agreed that “realms of gold” could refer to places the poet has read about, not actually been, and when they accepted his explanation, asked them what they thought the other images in the poem might refer to. This exercise was designed to expose the children to a conscious and effective use of metaphors, as well as to introduce them to metaphorical entailment. Particular attention was paid to whether they begin to grasp entailment. Whereas in Exercise 2, they were simply asked to produce metaphors based on a feeling or an idea, here they were asked to follow the metaphors as they were extended into analogy.

Exercise 4: Storytelling

For Exercise 4, the children were asked to make up simple stories built metaphorically around each of the five abstract concepts, a separate story for each

concept. Each child was instructed, for example, that in their "freedom" story, a character or an object had to exemplify or embody freedom. Each child, thus, made up five stories. This exercise was designed to move the children from seeing and discussing metaphors, to actually creating or extending them. By having characters or objects serve as personifications of the concepts in question, it was predicted that the children would be forced to extend metaphors beyond one image or sentence, to the entire story, inevitably having to create entailments as well as complex mappings across domains—which would also demand a thorough, though perhaps unconscious, exploration of the abstract concepts in question. During the exercise, attention was paid to whether the children were creating logical entailments, as well as to how elaborate their mappings across domains became. For summaries of the children's stories, see Appendix C.

Exercise 5: Pretend-Play

For Exercise 5, the children were asked to pretend to be characters that embodied each of the abstract concepts in question, one character and one pretend situation for per concept. The researcher interacted with them in such a way as to challenge them to maintain embodiment of the concept. This exercise was designed to serve a similar purpose as Exercise 5, as well as to begin challenging the children to embody the concepts, themselves.

As the children performed the exercises, the following research questions were kept in mind:

1. Do these metaphorical exercises increase the children's understanding of these abstract concepts?

2. How do these metaphorical exercises change the children's understanding of these concepts?

3. Do these metaphorical exercises enable the children to better express their understanding of these concepts?

4. Can the effect of each different exercise be delineated?

In summary, then, this study was designed first, to detect how capable each of the children were of understanding abstract concepts, and how capable they were of expressing their understanding, however significant it was; second, to expose them to different sorts of metaphor; and third, to determine how their capability of understanding and expressing abstract concepts was affected by this exposure. In the following chapter, I examine each concept for each child separately, comparing the answers they provided before the metaphorical exercises to the answers they provided after them. Where change or development appears to have taken place in their understanding of the concepts of freedom, joy, honor, beauty, and love, I examine how the exercises might have facilitated this change or development. I identify which exercises seemed to help the children understand which concepts, and discuss why this may have been so. Next, I provide a trend analysis of the separate exercises, discussing which exercises seemed consistently to effect what changes, and why.

CHAPTER FOUR: RESULTS AND DISCUSSION

Before engaging in the five metaphorical exercises detailed in Chapter 3, the children, combined, are able to provide answers to 4 of 15 (27 %) of the questions designed to determine whether they could express their understanding of the complex abstract concepts in question, namely “What is freedom?”, “What is joy?”, “What is beauty?”, “What is honor?”, and “What is love?” For 11 of 15 (73 %) of the questions, they either (1) say they do not know; (2) simply can provide no response at all; or (3) are unable to go beyond a description of the concept in question that is inherent in the word itself (e.g., “freedom is being free”). Five weeks later, after engaging in the exercises, they are able to provide answers (to varying degrees of elaboration) to 10 of 15 (67 %) of the questions.

Before engaging in the metaphorical exercises, the children combined give a definite answer *and* provide a reason for their answer for 48 (45.7 %) of the 105 total questions (35 per child) designed to elicit elaboration and delineation of their understanding of the 5 concepts. For 22 (20.0%) of the questions, they give a definite answer but cannot provide a reason for their answer. For 35 (33.3 %) of the questions, they cannot provide an answer, that is, they either say they do not know, or they do not answer the question at all. Five weeks later, after engaging in the metaphorical exercises, they give a definite answer *and* provide a reason for their answer for 71 (67.6 %) of the questions. They give a definite answer but cannot provide a reason for 22 (20 %) of the questions; and they do not provide an answer for 12 (11.4 %) of the questions.

Going by the numbers, then, these metaphorical exercises would seem by the end to have had a very significant effect upon the children’s understanding and expression of

the abstract concepts. However, while the numbers may show an extremely broad picture of the effect of the exercises, it is also a very shallow one. The numbers do not show the many subtle variations in the changes of participants' responses, nor can they take into consideration the researcher observations of the participants' sureness or unsureness about their answers, or their frustration or satisfaction with their answers, or the many times they seem to know what they want to say but cannot find the words to say it. Consider the following two examples:

(1) *Question*: Can you love somebody you've never met, or a character in a book? Explain.

Lola, response before exercises: No, because you don't know who they are.

Lola, response after exercises: Yes, sort of. In a book, maybe, if you really like the character.

(2) *Question*: Who loves each other more, usually, a parent and child, or husband and wife? Explain.

Ron, response before exercises: I have no idea.

Ron, response after exercises: [Thinks about it, but finally shrugs]

In Example 1, by the numbers, Lola's responses before and after the exercises are the same; in both cases, she provides an answer and a reason for it. However, the two responses are completely different and demonstrate a very different understanding of the concept of love. After the exercises, love is no longer limited to another actual physical person who she knows, personally. In Example 2, by the numbers, Ron's responses before and after the exercises are the same; in both cases, he is unable to provide an answer at all. As with Lola, however, his answers are completely different. Before the exercises, he cannot make any inroads towards solving the question at all. After the

exercises, he still cannot solve the problem, but he is working on it. There is something going on in his head, he understands something, he simply cannot quite put it into language.

Conversely, In Example 3, below, by the numbers Ron's expression of his understanding of honor in regard to the actions of Kay has progressed; but in actuality it has regressed. Before the exercises, he thinks he knows something, and though it is difficult to express it, he tries. After the exercises, he avoids wrestling with concepts that lie outside of his ability to give adequate expression to, and gives a simplistic answer.

(3) *Question*: Jay gets into trouble for something that Kay did. If Kay is honorable, what will she do? Why?

Ron, response before exercises: She will say she did it, but I don't know why. I mean, I do, but I don't know how to say it, it's hard.

Ron, response after exercises: She will tell that she did it, because it would be evil not to.

These examples are a few of several. For many of these questions, what by the numbers seems to be or not to be progress, upon examination proves to be otherwise, or proves to be open to interpretation. For this study, therefore, while a quantitative synopsis of each child's progress provides an important overview of the general effect of metaphor study upon the children's abilities, the primary means of analysis has to be qualitative. In the following pages, I look at each concept separately, focusing on Ron, but also covering Lola and Henry. (I focus on Ron because of the three, he was by far the most engaged. Whereas the other two participated willingly and enjoyed themselves at times, they were also bored or disengaged occasionally, whereas Ron was fully committed at all times to trying to do what I asked him to do.) First, I give a brief summary of what happened during the exercises. Then, I compare the answers they

provided to the questions about freedom, joy, honor, beauty, and love before the exercises to the answers they provided after the exercises. Where change or development appears to have taken place, I examine how the exercises might have facilitated this change. I identify which exercises seemed to help the children understand which concepts, and discuss why this may have been so. After looking at each child separately, I provide an analysis of the separate exercises, discussing which exercises seemed consistently to effect what changes, and why.

Summary of Exercises

For Exercise 1, the freeform discussion, I gave each of the children their choice of what topic to discuss. Ron chose to talk about *Runescape*, a role-playing game popular on the Internet that he had spent a lot of time playing. For the thirty minutes or so of our discussion, I pushed him continually to find parallels between the experience of his "character" in the game and his own experience in life. How, I asked, did his character being awarded "experience points" and additional skill levels in various activities such as swordsmanship, leatherworking, woodworking, hunting, fishing, and so on, correspond to he, himself, improving his ability to do something in his life. I asked him how many "experience points" he had had at the skill of reading when he was in the first grade, and how many reading experience points he had when he was in the fifth grade; I also asked him how many experience points he had at the skill of playing his bassoon, and how many experience points it would take to be able to play a complicated tune. For much of the discussion, he struggled to draw any parallels between the game and his life, but towards the end he noted that just as at first in the game, it took fewer experience points to move up in skill level, that is, it was easy to improve, and as you gained skill, it was

harder and harder, so in his real life, he improved really quickly at first when doing a new thing, but then seemed to level off, and had to work harder and harder to make noticeable improvements.

Lola chose to talk about her mother's various cats, and how they interacted with each other, with humans, and with their environment. It was an entertaining discussion, and she was eager to impart to me many details of the personalities of these cats; however, she was less willing to address my questions about metaphor. I listened to her intently and whenever she used a metaphor, I would interrupt her and ask her to explain herself. For example, when she talked about a cat named Bear being in bed, I asked her if he would not suffocate in such a situation; and when she talked about one cat beating up another, I asked, "You mean, he socked him one and he went up to the ceiling, or what?" And when she said that one cat did something, "all the time," I said, "That can't be true!" I interrupted her when she used the phrases, "in love," "broken heart," and "on his back," as well. At first she seemed to think I was being silly, and would respond by putting the metaphor or figurative speech into more literal terms, such as "on top of the bed," but I pressed her to address why she had said these things (and why almost everybody says them) that when taken literally could not possibly be true. Neither she nor I could pinpoint exactly why or how such phrases had become so common. She theorized that maybe "in bed" had become a phrase because people were lying under covers, so that it seemed like they were "in" instead of "on" bed. I theorized that maybe "in bed" was just a more connotatively appropriate phrase for reaching the state of consciousness, of being ready to sleep. That may have been too esoteric for her, but I think she did gain a realization that metaphors are pervasive in language and that there

are probably reasons for that pervasiveness. Henry chose not to participate in this exercise.

For Exercise 2, the stem completions, all three of them were at first generally unable or unwilling to create metaphors. Ron and Henry were simply somewhat tongue-tied, while Lola filled in the blanks with synonyms. When pressed, Ron and Henry both grew, if anything, more tongue-tied. However, when I presented them with various examples, they seemed to understand how or why the words I chose completed the metaphors and were able to come up with a few of their own (several of which are discussed later in this chapter) and even to provide reasons for their choices. When pressed Lola was a little annoyed, being a much better student than the other two and believing she had fulfilled her obligation with her synonyms; but she, too, after much wrangling from me, was eventually able to come up with a few legitimate ones of her own.

For Exercise 3, the discussions about literary works, we spent most of our time going over *The Giving Tree*, a children's book by Shel Silverstein in which a tree befriends a child and gradually gives the child its leaves, its apples, its branches, and its trunk, as the child grows up and in turn needs food, shelter, a boat, and eventually companionship, which the tree, now a stump, provides as well by letting the child, now an old man, sit upon it. As I had challenged them in Exercise 1, I pressed them to translate the events of the story into a real person's life. If, I said, the tree is a caretaker of the child, then what, I asked, are the fruits? When they were unable to provide an answer, I said, well what if the fruits are love, and what if the branches are knowledge or spirit, or something like that; and finally, they began making some connections. In my

discussion with Ron, for example, he said that maybe the leaves were money. I said that that seemed reasonable but asked if the leaves, the money, might not stand for something more general, perhaps a way to make money, to take care of oneself, and at last he began to fathom that the things did not have to stand for other things, but could stand for ideas. He suggested that the tree providing its trunk as a boat could be akin to a parent teaching a child to drive. His mind was, in other words, still searching for concrete activities to bond together (i.e. giving a boat and teaching to drive); but was making metaphorical entailments. When we then discussed Keats' *On First Looking into Chapman's Homer*, he quickly made the leap that "realms of gold" were not actual kingdoms constructed entirely of gold, but figurative places of wonder, within books. Lola and Henry, though not seeming to make the leaps that Ron did, and indeed never reaching the point of being able to produce entailments—for example, to come up with what leaves would be if the tree were a caretaker—were nevertheless engaged by *trying* to figure out what each thing would be, and seemed to follow my reasoning when I produced possible entailments for them. They just were not able to do it themselves.

For Exercise 4, storytelling, Ron made up five stories, one for each abstract concept in question, and within which a person or object had to stand for said concept; and in each case, except for the one about beauty, the stories were almost unbelievably rich, considering the halting understanding of both metaphor and abstract concepts he had exhibited in Exercises 1 through 3. The stories were often moving, and demonstrated, arguably, a very deep and abstract understanding of the concepts in question. Lola was not particularly interested in making up stories, but she was able to get through the exercise by creating a template. For the concept of freedom, she made up a story about a

man getting out of prison after ten years in; and for each of the ensuing studies, a man spends time in prison (a different length of sentence in each story) and later gets out. Though the stories were not as rich or varied as Ron's, she addressed each concept in turn, and I believe, made some interesting discoveries along the way. Henry's stories were somewhat meandering. Whereas being instructed to build the stories around a certain concept focused Ron and Lola on the task, allowing them to reach a quick conclusion, Henry often could not quite connect an initial character or image to the concept in question. Still, he tried, and in his answers to the post-exercise questions, we can see the beginnings of an ability to map domains upon one another. Many of these stories are discussed in detail later in this chapter; for synopses of all of them, see Appendix C.

For Exercise 5, the pretend-play, the participants were together, and it was largely unsuccessful. Ron attempted to act out variations of his stories, but was often frustrated by his perceived lack of cooperation from the others, and for all three, there simply was not enough time allotted for the exercise for them to pretend to be, in turn, characters who embodied freedom, honor, joy, beauty, and love. I believe that the effect of pretend-play upon comprehension of abstract concepts might have to be a study unto itself, during which participants would engage in several sessions of pretending with characters developed over time.

Honor

Before the exercises, in response to the question "What is honor?" Ron answers, "When you honor someone? I don't know…I don't know." After the exercises, he says, "I know what it is, but I can't explain it." Before the exercises, he gives a definite answer

and provides a reason for his answer for 6 of the 7 questions designed to elicit elaboration and delineation of his understanding of honor. For 1 of the questions, he provides an answer but does not provide a reason for it. After the exercises, he gives a definite answer and provides a reason for his answer for 6 of the 7 questions, and for 1 of the questions, he cannot provide an answer.

Comparing Ron's responses before the exercises to his answers five weeks later, at the conclusion of the exercises, we see that his ability to express his understanding of honor changes very little. In fact, in some cases, he seems less able to express himself. Consider the question, "Camilla promises Sue that she will never wear a blue shirt. Sue releases her from this promise, yet Camilla still never wears a blue shirt, because, she says, she promised. Is Camilla more honorable, or stubborn? Why?" Before the exercises, Ron responds, "She's stubborn, because Sue released her from it, so she can wear blue now, but…" before becoming confused and unable to finish his explanation. After the exercises, he simply says, "I'm not sure," as if remembering the difficulty he had trying to express his thoughts about the question before the exercises, and not wanting to face that difficulty again. Similarly, in response to the question, "Leon always obeys his parents and teachers; is he honorable? Why or why not?" before the exercises he responds, "No, because you shouldn't do what people tell you to do, because sometimes they'll tell you to do things you don't want to do, or…" and then trails off, unable to continue articulating his thoughts. After the exercises, he simply says, "No, because if they told him to do something that was weird, that wasn't nice, or good, then he shouldn't do it," and makes no attempt to continue the thought. Before the exercises,

there is something more he wants to say, but he is unable to say it; after the exercises, he makes no attempt to say anything more.

That he makes no attempt is telling, however. If one is faced with organizing three or four straight sticks by length, one is likely to do it quickly. However, if one is faced with organizing a hundred curved sticks by length, one might quail at the task. Similarly, if Ron, over the course of the exercises, reaches a deep enough level of understanding of honor that he now knows it is an extremely difficult concept to explain, then it is not surprising that he might not want to try to explain it. The task might be too daunting.

This hypothesis is supported by his utter (and rare for him, about anything, he is so hesitant to answer questions when he believes he might be "wrong") sureness he demonstrates after the exercises about his responses to some of the other questions about honor.

> (4) *Question*: You find a suitcase filled with a million dollars. You take it to the police. Is this an act of honor? Why or why not?
>
> *Response before exercises*: Yes, because you're trying to give it back to the person who had it, but I wouldn't do it, I'd keep it, because if they dropped a million dollars, they'd have to be really stupid. I don't know, that's weird.
>
> *Response after exercises*: Yes, because it's not yours, and the person whose it is might need it.

In this case, before the exercises, he basically makes something up as he goes along before finally, realizing that he is babbling, says, "I don't know," which is not untypical of Ron. After the exercises, he answers the question concisely, with none of his typical unsureness. He is absolutely certain that returning the money is an act of honor.

Similarly, his response after the exercises to the question shown in Exercise 5, below, is quick, sure, and to the point.

(5) *Question*: Tara is extremely angry at William, but she doesn't yell at him because she knows she will hurt his feelings. Is she honorable? Why or why not?

Response before exercises: Yes, because she's trying to be nice to him.

Response after exercises: No, because if you're mad, you should yell. It's not being truthful, you know.

In fact, his response of "I don't know," to the question of whether Camilla is more honorable or stubborn to refuse to wear the blue shirt is decisive, in that he is certain he does not know. He is even confident about his response to "What is honor?"—"I know what it is, but I can't explain it." He is confident that he now knows what honor is. For another question, "Jay gets into trouble for something that Kay did. If Kay is honorable, what will she do? Why?" after the exercises, Ron responds, "She will tell that she did it, because it would be evil not to." The term "evil" suggests that he is sure enough in himself to make a strong value judgment about the actions of Kay.

In all of these examples, we see that over the course of the exercises, he develops a definite opinion about what honor is, and what some of the qualities that comprise honor are. He becomes sure that the honesty exhibited in such actions as returning found money and telling the truth about one's feelings is part of honor; and that the sense of responsibility exhibited in admitting a wrong you have committed that has been blamed on someone else, is a component of honor as well. He cannot, or does not, express what honor is, but his understanding of it has metamorphosized.

So, does anything happen during the exercises that can account for this change? The story he tells about honor, summarized below, in Example 6, offers the most direct link to the change in his understanding of honor.

> (6) Joey is a colt, whose father is the leader of a tribe of horses. Eventually, he succeeds his father as the leader of the tribe. One day, the tribe is drinking at a pond, when men with guns riding other horses approach. They recognize these men as ones who are known to capture horses and put saddles on them and ride them, like the ones they are riding now. Joey leads his tribe away, but seeing that there is no escape, he leads the men one direction by himself, allowing himself to be captured so that the rest of his tribe can get away. Thereafter, he is a steed for the men, but his tribe remains free.

At first glance, the connection between this story and the change in his responses may not be apparent. Yes, it is a moving story about self-sacrifice, but it is not overtly an illustration of honesty, truth, or responsibility, the qualities Ron ascribes to honor after going through the exercises. Similarly, in Exercise 2, Ron's stem completion for "Honor is a_____" is "Lion," with his reason given being that in *The Lion King*, the father dies because he is honorable. Ron does not remember, or simply does not know whether the character is honest or responsible, only that he sacrifices himself.

There is, however, a distinct link between these exercises and his development of an opinion about honor. In the story, self-sacrifice or otherwise doing something that is right, that is beneficial to others, at cost to oneself, is a prime component of honor. In Ron's responses to the questions about honor before the metaphor exercises, no thought of self-sacrifice is in evidence. After the questions, it is. When asked whether it is honorable to return the million dollars, before the exercises, he does not commit, and his consideration of whether he should or not is quite unfocused, and he seems to want to find pretenses to keep the money, such as by deciding that the person who lost it is so

careless that he really does not deserve it. After the exercises, he is completely willing to let the money go, to deny himself the money—to sacrifice the money, and whatever it could bring to him.

In response to the question of whether it is honorable always to obey one's parents and teachers, he says no both before and after the exercises. Before the exercises, he says, "No, because sometimes they tell you to do things you don't want to do." After the exercises, he says, "No, because they might tell you to do something that was not nice, or good." In other words, before the exercises, he is making no connection between the enactment of honor and goodness, "niceness," rightness. After the exercises, he is. Children know that if they disobey their superiors, there will be trouble for them, so inherent in this disobedience in the service of goodness, is the knowledge that there will be a cost for doing what is right. That Tara *should* yell at William because it's the honest thing to do also holds in it an element of sacrifice. The relationship between the two of them could be jeopardized by holding fast to honesty, to honor. So, the qualities that comprise Ron's conception of honor actually arise out of the quality of self-sacrifice that surfaces in his story of Joey the colt.

Before the exercises, neither Lola nor Henry is able to provide an answer to the question "What is honor?" After the exercises, both remain unable to provide an answer. Before the questions, Lola gives a definite answer and provides a reason for her answer for 5 of the 7 questions designed to elicit elaboration and delineation of her understanding of honor. For 1 of the questions, she provides an answer but can provide no reason for her answer, and for 1 of the questions, she cannot provide an answer at all. After the exercises, she gives a definite answer and provides a reason for her answer for 6 of the 7

questions. For 1 of the questions, she provides an answer but cannot provide a reason. Before the exercises, Henry gives a definite answer and provides a reason for his answer for 3 of the 7 questions designed to elicit elaboration and delineation of his understanding of honor. For 2 of the questions, he provides an answer but does not provide a reason, and for 2, he either does not provide an answer, or says he does not know. After the exercises, he gives a definite answer and provides a reason for his answer for 5 of the 7 questions. For 2 of the questions, he provides an answer but does not provide a reason.

Like Ron, Lola moves away from believing that obedience is an expression of honor, and towards believing that honesty and doing what is generally beneficial to others are. (See Examples 7 and 8.)

(7) *Question*: Leon always obeys his parents and teachers. Is he honorable? Why or why not?

Response before exercises: Yes, because he does what he's supposed to do.

Response after exercises: Sort of. Parents and teachers usually know what is right, but not always.

(8) *Question*: Was Anakin honorable? Why or why not?

Response before exercises: No, because he's a bad guy. He kills good guys.

Response after exercises: No, he's Darth Vader. He chopped up those kids.

Both Ron's and Lola's experiences are similar to my experience as a child, pretending to go on adventures with my brother. The more we pretended and the more we adventured, the more we perceived an inconsistency between obedience and doing what was honorable, what was "right." Thinking about it logically, this is not surprising. Parents or guardians often are going to be more concerned with their children's

obedience than with their honor, at least early in their lives. Obedience in matters such as staying away from dangerous places, avoiding strangers, and so on, is important for the safety of children, after all, while being honorable is not so important in the early years. Moreover, the government, the police, and most authority figures are more likely to teach obedience over honor—if everyone does what they are told, then there will be peace and safety, after all, at least theoretically. So, logically, obedience is likely to be treasured by children over doing what is right until they either decide or are taught otherwise. (This is not to say that children are going to be obedient until they are taught that obedience is not necessarily such a good thing. A disobedient child can still think that obedience is good but just be seduced by the fun of doing something he's been told not to do. In such a case, he is likely to feel some guilt, whereas later in life when he has perhaps decided for himself that what he has been told to do is not necessarily right, he may engage in disobedience with a clear conscience.)

Lola's experience with metaphor—going through a few exercises over a five-week period—is certainly played out on a much less grand scale for this study than my brother's and my experience of spending entire days for years pretending to be heroes; but it is more focused on specific concepts such as honor, and in this case, she reaches the same conclusions that we did. In Example 8, before the exercises she says that Anakin is not honorable because he is a bad guy, but gives no reasons why he is a bad guy. The storyteller portrays him as a bad guy, and therefore he is a bad guy.[5] After the exercises, she gives a reason why he is a bad guy, namely that in one scene, he chops up children.

[5] How many times, watching kid's shows or movies, have you wondered, "Why is that guy the bad guy, and why is that guy the good guy?" Often, it comes down to physical appearance or something of that sort.

After the exercises, thus, she is reaching her own conclusions about why he is a bad guy and not just taking the storyteller's word for it.

On the other hand, even after the exercises, Henry is still somewhat confused about honor. Whereas Lola and Ron have decided that obedience is not necessarily honorable, Henry sticks to his view that it is. Additionally, his answers to the other questions about honor change very little if at all from before the exercises to after them. He does insist that even after Camilla releases Sue from her vow never to wear a blue shirt, Sue is honorable, rather than stubborn, for still never wearing a blue shirt. Whereas Lola and Ron are baffled by Camilla's actions, Henry is impressed. On the surface, it would appear that he is perceiving an extremely subtle enactment of honor that the others do not; but this does not correspond with the understanding demonstrated in his other answers, all of which show less development than that shown by Lola and Ron. I think it is more likely that by this point in his questioning, he is simply weary of saying "I don't know."

Freedom

Compared to Ron's responses to questions about freedom before the metaphorical exercises, Ron's responses at the conclusion of the exercises five weeks later reflect a significant change in his ability to express his understanding of freedom. Before the exercises, in response to the question, "What is freedom?" Ron answers, "When you're free. You can do stuff." After the exercises, he says, "When you're free. You can do more stuff, do what you want to do, not whatever someone tells you." Before the exercises, Ron gives a definite answer and provides a reason for his answer for 4 of the 7 questions designed to elicit elaboration and delineation of his understanding of freedom.

For 2 of the questions, he provides an answer but does not provide a reason, and for 1, he cannot provide an answer at all. After the exercises, he gives a definite answer and provides a reason for his answer for all 7 of the questions.

Specifically, before the exercises, his responses reflect an effort to figure out whether the hypothetical situation provided in the questions conforms to the definition he provides for freedom. After the exercises, some of his responses reflect an earnest effort to know and express what freedom is. Consider Example 9, below:

> (9) *Question*: Jason is in prison. He daydreams of being at home and doing what he wants to do. Is he free while he daydreams? Why or why not?
>
> *Response before exercises*: No, not really, because when you're daydreaming, you're just thinking about it. It would be like he's still there.
>
> *Response after exercises*: Yes, because it might feel like he's really free.

After the exercises, his understanding of freedom transcends his given definition of freedom, namely, "You can do more stuff." In the hypothetical scenario, Jason cannot, literally, do more stuff, and before the exercises, Ron believes that because Jason cannot physically leave the jail—he cannot, in other words, "do stuff"—he is not free. After the exercises, however, despite Jason's not being able to do stuff, he is in Ron's opinion, nevertheless free. Ron's idea of what might constitute freedom has expanded to include non-literal possibilities. His response after the exercises to the question of whether Jason is free if he dreams (as opposed to if he daydreams) is very similar: "Yes, because sometimes when you're asleep, it feels like it's real, so he might feel like he's really free."

In Examples 10 and 11, before the exercises, Ron attempts to fit the hypothetical scenario to his definition of freedom, but in both cases he becomes confused. In Example

10, before the exercises, he immediately says that Craig is free because he can, literally, do what he wants to do, whether it be move to Oregon or stay in Indiana; but even as he says this, he begins to see that whether or not he stays, it is not clear whether he is completely free. After the exercises, he is more decisive, less confused; he is sure Craig is free. One could argue that he is now oversimplifying the situation, just making a quick decision, putting little thought into his answer, whereas before the exercises, he is thinking deeply about it, examining all angles of the problem. But more likely, based on his statement, "There's other things…" he has incorporated the complexities of freedom into his definition. He understands that there is more to freedom than simply being able to do what you want to do, but he has worked through his confusion and made a decision about whether Craig is free or not. Similarly, in response to the question transcribed in Example 11, before the exercises, he tries to decide whether Katie can "do what she wants to do," and becomes confused, since in a way, she can, and in a way, she cannot. Then after the exercises, he makes a decision. Again, one could argue that he becomes confused before the exercises because he is thinking more deeply about the problem than he is after the exercises, but it is more likely, based on the development in his thinking illustrated by his answers about Jason in prison, that his understanding of freedom, though still not well articulated verbally, is more developed, less hazy, and that is why he is more able to apply it to situations.

(10) *Question*: Craig wants to move to Oregon, where he has gotten a wonderful job offer. His wife and children want to stay in Indiana. Is he free? Why or why not?

Response before exercises: Yes, because he gets to choose if he goes or not. But they might get mad, so he is, but [thinking] I don't know.

Response after exercises: Yes, because he can choose, but there's other things, but ultimately he can choose.

(11) *Question*: Katie is paralyzed; she is confined to a wheelchair. Is she free? Why or why not?

Response before exercises: Yes, because she can still do what she wants. Well, I don't know, it depends on what she wants to do.

Response after exercises: No, because she can't do some things, like walk or run or other stuff.

Does anything happen during the exercises that can explain his development? Well, it is hard to tell. Unlike with honor, where looking at what happened during the metaphorical exercises often provides clear and direct links between his answers before and after the exercises, here, with freedom, the connections are hazy. Yet, there has been significant change in his development, undeniably; and it pushes the boundaries of belief to think those changes have just spontaneously occurred over a five-week period.

In Exercise 2, the stem completions, I push him continuously to come up with metaphors. I tell him just to try, and not to make up something just to get to the next question, but to come up with something that feels right; and eventually he does. He struggles, he ponders, he says he cannot, but finally he comes up with a few of his own: "Freedom is blue," "Freedom is a road," and "Freedom is a lake, or river," and provides reasonable explanations as well (e.g., "You could swim when you wanted, and not be contained like in a pool; you could do backflips and not be told to stop). In Exercises 1 and 3, I push him to link the unreal things—the game, *Runescape*, and the story, *The Giving Tree*—to real life, and again, he struggles and ponders but eventually makes some connections (detailed earlier in the summary of his exercises).

Before the exercises, in response to the question, "What is freedom?" Lola says, "It's when you can do whatever you want to do." After the exercises, she gives the same response. Before the exercises, Lola gives a definite answer and provides a reason for her answer for 3 of the 7 questions designed to elicit elaboration and delineation of her understanding of freedom. For 4 of the questions, she cannot provide an answer. After the exercises, she gives a definite answer and provides a reason for her answer for 4 of the 7 questions, and for 3 of the questions, she says she does not know. Before the exercises, in response to the question, "What is freedom?" Henry says, "When you're free. You can do stuff you want." After the exercises, his response is, "The sky." Before the exercises, Henry gives a definite answer and provides a reason for his answer for 2 of the 7 questions designed to elicit elaboration and delineation of his understanding of freedom. For 3 of the questions, he provides an answer but no reason, and for 2, he either does not provide an answer, or says he does not know. After the exercises, he gives a definite answer and provides a reason for his answer for 6 of the 7 questions. For 1 of the questions, he provides an answer but cannot provide a reason for his answer.

These numbers suggest that, unlike his understanding of the more esoteric concepts of honor and love, Henry's development in his understanding of freedom outstrips Lola's The details of his answers support this perception to some extent. Throughout all the questions and exercises, Ron is always engaged, always interested. Henry's interest waxes and wanes, and Lola's needs to build. Although as most of the sessions wear on, Lola becomes interested, early on she is often bored by the questions, bored by the exercises, and seems only to continue onward because I have asked her to. Both before and after the exercises, the questions about freedom were the first I asked,

and her answers to questions about freedom reflect this disengagement. Henry, on the other hand, as stated, progresses more in his expression of understanding of freedom than he does in expression of understanding of any of the other concepts, perhaps because though certainly complex and abstract, freedom is less ambiguous than, for example, beauty or honor. That is, there are many concrete realizations of freedom. If one is bound, whether physically or by laws, one is obviously not free; if a child has to go to school and has no say in when or where, he is obviously not free. Such examples are not as easy to come to for beauty or honor.

Henry's development in his understanding of freedom is illustrated subtly in Example 12.

(12) *Question*: Marta lives in a democratic country such as the United States. Is she free? Why or why not?

Response before exercises: Yes. [Unable to provide explanation for his response]

Response after exercises: Yes, she can do what she wants –pretty much.

The change in his answer is indeed subtle, but it is also unquestionable. Before the exercises, he cannot express himself at all. After the exercises, not only does he express himself, but he illustrates a sophisticated understanding of the possible layers of the meaning of freedom. He understands freedom in the sense of a democratic government (in response to the next question of whether Joe, who lives in a country run by a militia, is free, he responds, "No, people will always boss him around); but by adding "pretty much," he demonstrates that he is aware that there is more to freedom than what is presented in the question). He realizes that, yes, whether you live in a democratic

country or not is a consideration as to whether or not you are free, but it is not the only consideration. There are more layers to freedom than that.

Additionally, after the exercises, he answers, “The sky,” when asked what freedom is, and then quickly adds, “You can do stuff, in the sky, maybe.” It is possible that he is simply mimicking one of the possible stem completions I provided him with during Exercise 2 to get him started coming up with completions of his own, but it is also quite possible that he is actually mapping a domain that includes physical components of the earth (such as the sky) upon a domain that includes states of being (such as freedom). Were I to quiz him further, he might well come up with some other states of being for the ground, the trees, the sun, and so on. Again, I cannot point to any specific moments during the exercises that might have given rise to his development; I think, rather, that the cumulative effect of working with metaphors, of listening to me produce them in Exercise 2, the stem completions, listening to me elucidate them while discussing *The Giving* Tree and *On First Looking into Chapman’s Homer* in Exercise 3, and in struggling to come up with ones of his own, gradually enables him to make a halting beginning to mapping domains upon one another. Attempting mightily to affix the images of his stories in Exercise 4 to the concepts they are supposed to represent might also have the same effect.

Joy

Before the exercises, in response to the question, “What is joy?” Ron answers, “When you’re happy—when something good happens or something.” After the exercises, he says, “When you feel good; sometimes freedom—if you’re free, you’re happy.” Ron’s answers to the questions designed to elicit elaboration and delineation of

his understanding demonstrate a subtle but notable change in his understanding of joy, probably the most dramatic being that after the exercises, he demonstrates an awareness of a difference between the joy of accomplishment (which becomes to him, simply, excitement), and an inner joy.

> (13) Q*uestion*: Henry is a player on the team that just won the championship. How joyful is he—extremely, very, somewhat, or not at all? Why?
>
> *Response before exercises*: Extremely, because he'd be happy that his team won.
>
> *Response after exercises*: Somewhat. It would be exciting but maybe not that joyful. [Seems to want to say more, but cannot articulate what he wants to say.]

After the exercises, the championship has become unimportant, relatively speaking. Before the exercises, he expresses no such awareness; indeed, before the exercises, winning the championship is not just *very* joyful, but *extremely*, and drops all the way to *somewhat* after.

Another notable change in his conceptualization of joy is that after the exercises, he thinks of it visually at times, that is, his understanding of it can be intertwined with images, as in Example 14, below.

> (14) *Question*: Terry and Jean, sisters, have been separated for many months, and Jean thinks that Terry is dead. Then they are reunited. How joyful is Jean—extremely, very, somewhat, or not at all? Why?
>
> *Response before exercises*: Extremely, if they like each other, because if they hadn't seen each other in a long time, then they'd be really happy.
>
> *Response after exercises*: Extremely, because they're excited and they're hugging and stuff.

His conceptualization of joy is partially the image of an expression of joy, hugging. One could even argue that in this case he understands joy through a metaphor.

A third notable development in his understanding of the concept of joy is that he links it with another concept that he and I discuss chronologically before discussing joy, namely freedom, pointing out in his answer to “What is joy?” that when you are free, you are joyful.

Here, as with honor, the connections between the exercises and the changes in his understanding are clear. The act of hugging is not actually a metaphor for joy, it is an expression of joy, or at least it can be. Yet, in this case the image of the act acts like a metaphor. It represents the concept of joy, in the absence of actually being able to voice a definition for joy, or in this case being able to say why something is joyful. So, Ron, after working with metaphors, is now using metaphors to explain things.

The seed of Ron’s decision that winning the championship is not so joyful after all can also be seen in his metaphorical exercises. Consider the story he tells about joy:

> (15) There’s a tribe of monkeys, and this one monkey named Norbert is sort of strange, and none of the other young monkeys like him, and they don’t let him play with them. It’s a rule in this monkey clan thingamajig that you can leave when you grow up, and two years later, when he’s grown up, he leaves. He travels for many miles before finally coming to a farm, where he scrounges for food, and hides in the trucks. It gets cold, though, and one day when one of the trucks is leaving, he gets in the back. When the truck stops, he gets out, and hungry, goes into a restaurant, where he meets up with a family—a mother, a father, a three-year old, and a five-year old. These children teach him to talk, and he makes many human friends.

Ron is thinking of joy when he tells this story, and even though the story is about a monkey, in the end the friends who bring him joy are, notably, humans, not monkeys. Ron’s stories are generally about animals; but here it is revealed that he believes one needs other humans to be joyful. No, he does not say, after telling the story, “Well, I see now that winning a championship is sort of meaningless, and that I obviously feel, based on this story that I unconsciously came up with, that friendship and love and warmth, and

freedom are the real basis of joy," but it is hard to avoid the fact that after the exercises, he considers winning the championship much less important than before, and much less joyful than the hugging—the love and warmth—displayed in Example 15.

Why he consciously incorporates freedom into joy can be seen in other exercises as well. In Exercise 5, the pretend-play, when asked to enact joy, he jumps around, waving his arms and looking at the sky, and says, excitably, "I can do whatever I want!" I can think of no clearer connection than this; in this fantasy play, having no rules constricting him—that is, being free—is joyful; and thereafter his definition of joy includes freedom.

Lola does not exhibit much progress in her understanding of joy or in her ability to express what she thinks of joy (see Appendix A). However, Henry's understanding undergoes quite a metamorphosis. Before the exercises, in response to the question, "What is joy?" Henry says, "When you have fun. Playing." After the exercises, he responds, "Smiling, laughing." Before the exercises, Henry gives a definite answer and provides a reason for his answer for 3 of the 7 questions designed to elicit elaboration and delineation of his understanding of joy. For 4 of the questions, he provides an answer but does not provide a reason. After the exercises, he gives a definite answer and provides a reason for his answer for 6 of the 7 questions. For 1 of the questions, he provides an answer but no reason for his answer. As Appendix A reveals, not only does he support his answers with explanations, but these explanations reveal a markedly increased understanding of joy. Consider Examples 16 and 17, below.

(16) *Question*: A mother just gave birth to a new baby. How joyful is she—extremely, very, somewhat, or not at all? Why?

Response before exercises: Somewhat. [Unable to give explanation for response.]

Response after exercises: Extremely. It's a great thing.

(17) *Question*: Henry is a player on the team that just won the championship. How joyful is he—extremely, very, somewhat, or not at all? Why?

Response before exercises: Extremely, I guess, because it would be fun to play the game.

Response after exercises: Somewhat. It's not really that big of a deal.

As indicated by Example 16, before the exercises, the idea of having a baby is beyond his reach. After the exercises, it is likely that he does not have any more a notion of the depth of a mother's feelings than he does before, but he expresses a realization that she feels great joy. In Example 17, before the exercises he does not even state an opinion. Rather, he tries to state someone else's opinion. He has probably seen teams celebrating victories on TV, and the players probably seem extremely happy. Still, he does not understand their joy: he says, "I guess." He is just reporting on the reaction he has seen in others. He further reveals his ignorance when he adds, "It would be fun to play the game." Although you may agree with his unintended message, that playing the game is more satisfying than winning, when players celebrate after a game, it is not because they just played, it is because they just won; and he does not understand this. After the exercises, one could argue that he still does not understand their joy, and one might well be right; however, he does understand what they are celebrating about, and is not impressed. Maybe one day he will win a championship of some sort, or at least want to, and will know what they are feeling; or maybe he has already reached the realization that winning really is not a big deal—a realization, incidentally, that many people never come to. In either case, the key point is that whereas before the exercises, he simply attempts

to report their joy, after the exercises he has formed a definite opinion about what it is, just as he has formed an opinion that a mother feels great joy about having a baby.

Beauty

As Appendix A illustrates, Ron's answers to questions about beauty, both before and after the metaphorical exercises, reflect an effort to support his responses with the definition for beauty that he gives. Before the exercises, that definition is, "When something looks good, I don't know, something like that." Several weeks later, after the exercises, it is, "When something looks or sounds good, or…There's something more, but I can't explain it." Unlike with the concepts of honor, beauty, and joy, he is unable to quite go beyond his penchant for relying on literal definitions in the absence of easy-to-articulate explanations for his solutions to scenarios. Even so, his understanding of and his ability to express his understanding of beauty does change from before the exercises to after them. Before the exercises, Ron gives a definite answer and provides a reason for his answer for none of the 7 questions designed to elicit elaboration and delineation of his understanding of beauty. For 2 of the questions, he provides an answer but does not provide a reason, and for 5, he cannot provide an answer at all, that is, he says he did not know. After the exercises, he gives a definite answer and provides a reason for his answer for 3 of the 7 questions. For 2 of the questions, he provides an answer but does not provide a reason, and for 2 of questions, he does not provide an answer or says he does not know.

For the most part, this change is extremely subtle; yet it is real. Consider Example 18, below.

(18) *Question*: Can music be beautiful? Why or why not?

> *Response before exercises*: Yes, it sounds good. [Reminded that that he said the definition of beauty was that something looks good, he added, "Um, yeah, I guess, I don't know."]
>
> *Response after exercises*: Yes, when it sounds *really* good.

Before the exercises, he says that something is beautiful only if it looks good, yet when asked if music can be beautiful, he says yes. In other words, he does believe music can be beautiful, he just cannot or does not articulate it in his definition of beauty. After the exercises, despite altering his definition of beauty to include things that sound good, he adds the qualifier, *really*, to his description of beautiful music. Music is not beautiful if it just sounds good, but only if it sounds *really* good. By comparison, when asked whether a human face could be beautiful, he says, "Yes, because it can look good sometimes…" He does not say it has to look "*really* good," but just "good." One could argue that it is only by chance that he adds this qualifier; but before the exercises, he becomes confused when he has to provide support for his opinion that music can be beautiful. It is more likely that his ability to express his understanding of beauty has improved, subtly. In his experience, beauty is more associated with sight than with hearing—there are a great variety of things, from paintings, to landscapes, to people, to animals, that can look beautiful and that adults, for example, are likely to say look beautiful, while beyond music and perhaps sometimes the sounds of nature, there is very little that is very often said to sound beautiful. To him, therefore, it takes a greater degree of sensory pleasure to reach the level of beauty for sound than for sight; and his use of *really* gives expression to this—an expression, notably, that he is not able to reach before the exercises.

Another change in his understanding of beauty is that he is now certain that kindness is beautiful.

(19) *Question*: Is a person who is kind to everyone beautiful? Why or why not?

Response before exercises: Maybe, I don't know.

Response after exercises: Yes. It's hard to explain. They are, though.

No one thing that happens during the metaphorical exercises can explain his absolute sureness that a kind person is beautiful, but his viewpoint may actually stem more from his experience discussing joy. If you recall, he comes to believe that warmth and friendship and togetherness are more joyful than winning a championship. Here, I think he may want to champion kindness, which is often associated with warmth and togetherness and friendship. Since his idea of beauty has not become as defined as his idea of joy, honor, or freedom, he cannot say for certain that kindness does or does not lie outside the parameters of what beauty is, and so includes it, thinking of beauty as a good thing, and thinking of kindness as a good thing, as well. That is, without a definite opinion of what beauty is, he assigns it different qualities that he admires. Also, in Exercise 3, while discussing *The Giving Tree*, he becomes very moved as the tree gradually gives itself away; and it is possible that he simply makes a leap. He just decides that the qualities of this tree, the foremost of them being generosity and kindness, are components of beauty. If so, then metaphor has been instrumental in the ongoing construction of a concept, in this case a broadening of his concept of beauty.

Neither Lola nor Henry exhibit much of a change in their conceptualization of beauty from before the exercises to after them. In a couple of cases, Lola seems to believe she understands beauty more than she did prior to the exercises; but she is not able to express this possible understanding any more clearly. In response to most of the questions, she simply gives the same answer after the exercises as she does before, or

otherwise says "I don't know." Henry is basically unable to answer the questions about beauty, both before and after the exercises. It appears that neither has progressed much if any toward reaching a greater understanding of beauty or of expressing the understanding they already possess.

Love

Ron's answers to the questions designed to elicit elaboration and delineation of his understanding of love after the exercises are not markedly different than his answers before the exercises. Before, in response to the question "What is love?" Ron answers, "When you care about someone, I don't know. Yeah, something like that." After, he says, "When you *really really* care about someone—or maybe with a girl, that's different." Before the exercises, Ron gives a definite answer and provides a reason for his answer for 4 of the 7 questions designed to elicit elaboration and delineation of his understanding of love. For 1 of the questions, he provides an answer but does not provide a reason, and for 2, he cannot provide an answer at all or says that he does not know. After the exercises, he gives a definite answer and provides a reason for his answer for 5 of the 7 questions. For 1 of the questions, he provides an answer but cannot provide a reason, and for 1 of questions, he cannot provide an answer or says he does not know.

The one definite change that has taken place is that he has begun to perceive the sheer bigness of the concept. After the exercises, for example, he adds the qualifier, "*really really"* to how much one has to care about someone for it to constitute love. Just to care about someone is no longer enough, love is more than that. Consider, also, Example 20.

(20) *Question*: Can you love the world? Explain.

Response before exercises: Yeah, I guess, because it has the stuff you like on it—something like that.

Response after exercises: Yes, it's *everything*.

It is hard to imagine something bigger than *everything*. In addition, while before the exercises, Ron consistently says, "I don't know," or some variation thereof in response to questions about love (e.g., the "I guess," qualitative in Example 20), after the exercises he claims to know what it is but to be unable to explain it:

(21) *Question*: Can you love an idea? Explain.

Response before exercises: I don't know.

Response after exercises: Yes, because…I can't explain it.

(22) *Question*: Who loves each other more, usually, a parent and child or a husband and wife? Explain.

Response before exercises: I have no idea.

Response after exercises: [Thinks about it for awhile, but finally shrugs]

It is easy to dismiss a child when he says he knows what something is but cannot explain it. A typical adult response is, "Well, that means you don't know what it is." Many of us apparently do not remember how many times as children we knew what we wanted to say, but just could not get it out. Perhaps we were told so many times by adults that this meant we really did not know what we wanted to say, that we came to believe it. To what extent thought creates and affects language and vice versa is beyond the scope of this study, but many researchers (e.g., Pinker, 1994; Hespos and Spelke, 2004; Seitz, 1997; Kovesces, 2005; Gibbs, 1994) have postulated and demonstrated that not being able to express a thought does not mean that the thought does not exist, or even that it

cannot be a complex and developed thought. In this case, I believe Ron has perceived that there is simply no way to give adequate expression to the concept of love, it is too vast a concept. It is *everything*. He does have a definite conceptualization of it however, or at least believes he does, and he wants to express what it is, but simply cannot, and furthermore seems to have some realization why it is that he cannot, that is, because it is so complex an idea.

Over the course of the metaphorical exercises, nothing happens precisely that one can point to and say, there, that is where he starts realizing love is just too big a concept to completely comprehend or express; however, looking at the exercises as a whole, one can see the foundation of this realization. He is consistently frustrated or stumped by the exercises involving love. In the pretend-play, he simply turns to me and says, "I don't know what to do." For Exercise 4, the storytelling, although his story is, as usual, detailed, rich, and amusing, he seems to lose his focus and just tell a meandering tale that unlike his stories about freedom, joy, and honor, does not come to any sort of conclusion. After the story, he says, "That one's no good." For the stem completions, he struggles to come up with metaphors for love but cannot. He begins to say something on several occasions, then cuts himself off, mumbling something about that one not being any good. Finally, he points to a calendar on the wall and says, "Love is a cat and dog, like in that picture, on the calendar." Throughout all the exercises directly addressing love, this is the only time he is remotely satisfied. Asked to give a reason why love is that cat and dog, he says, "They look like they really love each other." In other words, the only time he is able to explain love to his own satisfaction is when he gets the opportunity to do it without limiting it with an explanation or even a developed thought. In the picture, love

is an image that is open to a vast array of interpretation; to give it one interpretation would be to limit it. As long as it is this cat and dog, this picture, it can remain limitless.

Strangely, whereas Ron exhibits much more consistent progress in his understanding of joy, freedom, beauty, and honor than Lola does, Lola's change in her understanding of love far surpasses his. Before the exercises, Lola is not able to provide a response to the question "What is love?" After the exercises, she says, "When you like someone—*a lot*." Before the exercises, Lola gives a definite answer and provides a reason for her answer for 2 of the 7 questions designed to elicit elaboration and delineation of her understanding of love. For 2 of the questions, she provides an answer but no reason for that answer, and for 3, she is unable to provide an answer. After the exercises, she gives a definite answer and provides a reason for her answer for 4 of the 7 questions. For 3 of the questions, she provides an answer but cannot provide a reason for her answer.

These numbers tell only part of the story, however. Not only is her understanding of love more abstract after the exercises, she also exhibits an awareness of various kinds and degrees of love which before the exercises she seems oblivious to. Consider Examples 23 and 24, below:

(23) *Question*: Can you love somebody you've never met, or a character in a book? Explain.

Response before exercises: No, because you don't know who they are.

Response after exercises: Yes, sort of. In a book, maybe, if you *really* like the character.

(24) *Question*: Can you love food? Explain.

Response before exercises: Yes—well, food that you really like.

> *Response after exercises*: Yes, well, there's different kinds of love, and different, you know, degrees.

In Example 23, after the exercises, she is willing to admit that it is possible to love a character in a book—to in other words, love something that is not real. Yet, she is not ready to put these imaginary characters on the same level of lovability as real people. You have to *really* like them. Just as Ron is willing to admit that music is beautiful but thinks that the degree of sensory pleasure required of sound to ascend to the level of beauty has to surpass the degree of sensory pleasure required of sight to do the same, so Lola believes the qualities, whatever they are, that give rise to love, must be much more accentuated in fictional characters than in real ones. This level of complexity in the judgment of beauty or love illustrates a fairly sophisticated understanding of the concept, or at least an awareness that the concept is very complex. It also demonstrates a limited ability to express an awareness of this complexity—an ability she does not demonstrate before the exercises.

As shown in Example 24, before the exercises, she only knows that she "loves" food. No doubt she has, throughout her life, heard people saying that they love pizza, love chocolate, and so on, and thinks of herself as "loving" food that she enjoys eating. Does she believe that she loves food in the same way as she loves her parents, grandparents, or siblings? Of course not; but there is no recognition of this in her words. She only is able to put this differentiation into words after the metaphorical exercises. She adds, also, that there are different degrees of love. Something has happened during the exercises that has enabled her to give voice to an inner knowledge which one has to assume was already extant.

The strangest thing about Lola's superior progress in the ability to express her understanding of love is that she refuses to talk about love during the exercises. The best stem completion she is able to come up with is, "Love is a bond." She declines to tell a story about love, she declines to partake in any pretend-play centered around the concept of love. She is embarrassed by the topic, and largely avoids it. It would seem, then, that beyond the general effect we see throughout the exercises, that working with metaphors subtly enhances the children's ability to express their understanding of abstract concepts, her progress is puzzling. It could be that before the exercises, her level of conceptualization is already at the level she demonstrates after them, but that she is tongue-tied by her discomfort in talking about love; and after the exercises, after becoming more inured to the various topics and more relaxed with me, she is more free with her answers.

Henry's answers to questions about love change very little, if any, from before the exercises to after them. This is perhaps because being the youngest and least developed of the three, and love being the most ambiguous and maybe the most complex of the concepts, he simply cannot wrap his mind around the concept.

CHAPTER FIVE: CONCLUSION

In this study, it was observed that from before their work with metaphor to after, the change in the degree and quality of the children's understanding of abstract concepts, along with their ability to express that understanding, varied widely from one child to the next. Additionally, it was observed that each exercise had a different effect, both in magnitude and specific quality, upon the different children. Yet, most importantly, it was observed that for all of the children, their work with metaphor did produce a definite change in their abstract thinking (whatever the indefiniteness of the specifics of the changes). Determining exactly how the different exercises bring about different changes in perception and understanding can seem to demand a subtle eye; yet by careful examination, as we have seen, we can begin to delineate effects.

Two notable changes occur in the abstract thinking of the children over the course of the exercises, that can be traced to the stem completions. First, the children gain an understanding that these abstract concepts are too "big," or too complex, to be explained by definitions. After the exercises all three of the children consistently refuse to give the same simple answers to the questions about love, honor, beauty, freedom, and joy that they give before the exercises. Before the exercises, they often seem sure that they know what a particular concept means, and proceed to give a simplistic description of it (demonstrating their lack of understanding of it). Then, after the exercises, they seem just as sure that they cannot describe the concept in question.

Second, over the course of the exercises, the children, particularly Ron, begin to fuse conceptual domains. Even though the exercises do not always clearly and directly link the responses Ron gives before them to the ones he gives after them, it is clear that

something has happened; his understanding and his expression of his understanding of freedom, has changed. Gerhart and Russell (1984, 2004) present the idea of *metaphoric process*. Some metaphors, they say, are not a matter of language at all, but of conceptual formations in the mind, beyond language. What we are doing, they suggest, when we come up with a metaphor, such as Ron's *Freedom is a river*, is approximating a mental process wherein we bring disparate conceptual domains together, enriching our understanding of both domains, and leading the mind to leaps of understanding and development. According to Gerhart and Russell, the mind utilizes this metaphoric process much more frequently than we actually come up with metaphors in language; but I think it is a logical possibility that being forced to come up with metaphors actually forces the mind to engage in this metaphoric process, that is, having to produce verbal metaphors forces the mind to come up with the nonverbal ones from which the verbal ones arise; and if Gerhart and Russell are correct, then Ron, simply by being pushed both to see and create the metaphors he does in Exercises 1 and 3, is forcing his mind to engage in this metaphoric process, which in turn enriches his understanding of the domains addressed. (Bear in mind that it is not as if he suddenly becomes a master of metaphor, his progress is subtle.) Work by Kovesces (2002) supports this possibility. Drawing on the work of others, he concludes that while conceptual metaphors can be expressed linguistically, they can also be expressed in nonlinguistic ways, including, "movies and acting, cartoons, drawings, sculptures, buildings, advertisements, myths, dreams interpretation, the interpretation of history, cultural symbols, morality, social institutions, social practices, literature, and many others" (65).

Additionally, Cameron (2003) consistently finds that students seldom initiate metaphors but that once a teacher does, the students fall in line, and with varying degrees of effectiveness depending on the development of the student, extend and use those metaphors. So, as demonstrated by her experience, through encouraging Ron by providing sample stems and sample entailments of my own, I actually help him towards the non-linguistic process that both makes him more capable of creating metaphors, and more capable of making the abstract connections between domains that is the basis of many metaphors.

The most notable change in abstract thinking that can be traced to the literature discussions is that after these exercises, the children are much more likely to explain things in terms of metaphors than they are before them. Although the other exercises also encourage the use of metaphors, there is a clear link between the discussions of *The Giving Tree* and Ron's use of the image of people hugging and Henry's use of the image of people smiling and laughing as explanations for something that is joyful. In the discussions, I intimate to them over and over again that some of the images in the passages might actually be explanations of ideas, perhaps even ideas that do not have one word such as love or joy or honor that they represent. Then, after the exercises, they are using metaphorical images to explain concepts—concepts which as noted earlier, they may well have discovered are too big, too complex, to be explained with a word or even a definition (which, of course was their preferred method of trying to explain the concepts before the exercises).

Of course, one could argue that their use of metaphorical images—of hugging or smiling or laughing—to explain things might actually limit their expressions of their

understanding of the concepts. For example, since the hugging is not joy, nor a definition of joy, but merely a *representation* of joy, one might propose that Ron is further away from effectively describing his understanding of joy than if he were struggling to find words to define it. But to me, that would be like saying that a great work of literature expresses love, joy, freedom, beauty, or honor, less effectively than a dictionary does. By using, in essence, a simple little metaphor to express his understanding, he is taking a first step towards creating elaborate metaphors that could both reveal and even extend his understanding. Seitz (1997) and Gibbs (1994), as stated earlier, both suggest that metaphor could be integral in actually constructing concepts. One could also argue that in the process of working with metaphors, Ron has become comfortable enough with them to come up with them quickly and easily, simply to get on to the next question without having to think very hard, in effect just mimicking metaphors I have produced for him. I do not believe this is the case; but even if so, he is still creating images, and mapping one domain upon another, in this case a domain consisting of concrete physical expressions upon one of hazy, abstract terms. Fraser (2003) finds that when exposed to metaphor-rich poetry and asked to come up with metaphors of their own, that children often at first mimic the poetry, but that this mimicry soon yields to creativity.

The emotional response that all of the children have to *The Giving Tree* deepens their understanding that the images of the story represent things outside of the story. It seems to me they know that a tree losing its apples, leaves, branches, and so on, would not move them so, and therefore that it has to be something else moving them, something the tree represents. I can find no compelling evidence of this, beyond my own intuition, but I think it a definite possibility that deserves mention.

An interesting change that occurs in the abstract thinking of the children that can be traced to the storytelling exercise, as limited as it was, is that after the exercises, they sometimes apply the specifics of the qualities they assign to the characters or objects in their stories, to the questions put to them. For example, Ron, in telling his story about honor, assigns the quality of self-sacrifice to Joey the colt, and then later gives examples of "honorable" behaviors that involve self-sacrifice. Similarly, Henry assigns a quality of serene imperturbability in the face of wrath to the honorable character (Skip) in his "Honor" story, and then later claims that when Tara is extremely angry with William and yet does not yell at him, she is "sort of" honorable because she does not yell, but "not really" honorable because she is angry (and not serene through and through). In effect, they are deciding for themselves what qualities comprise the concept of honor. These decisions are probably greatly influenced by what they have seen, heard, and been told before; nevertheless, they are actively dissecting a very abstract concept. This parallels the childhood experience of my brother and me, spoken of in the introduction. Like Ron and Henry, we were assigning qualities of being to the entities we made up and pretended to be.

The progress shown by these three children both in their understanding of abstract concepts and in their ability to express their understanding does not necessarily prove that such exercises would be valuable in the same way to *all* children. However, it illustrates that such exercises do have an effect on some children, and *might* therefore have an effect on others, and suggests the value of further research, to test whether this pattern of improvement would be consistent among children of different ages and backgrounds.

Of course, to garner even more revealing results the study could be altered, its weaknesses addressed. For example, while each exercise did yield many interesting results and observations, these were usually quite subtle, perhaps not even readily seen without in-depth analysis. This may well have been because there being so many exercises to go through, none of them could be undertaken in great detail or with great depth. If the study had focused on one exercise only, the effects might have been more dramatic. If, for example, the study had focused on storytelling, the children might have created more and more characters that exhibited complex and hard to define qualities; or if the study had focused on stem completions, the children might have come up with metaphors of ever-increasing richness and creativity to describe the abstract concepts. As it was, though they did show themselves adaptable to new ways of thinking, they hardly had time to develop any one skill, any one avenue of abstract thinking. There is a remote possibility that focusing on one exercise would not have led to deeper or richer abstract thought in the unique avenue of that exercise, while at the same time restricting the development of abstract thought in the avenues of the other exercises; but it seems more likely to me that focusing more deeply on one thing would yield deeper results that were easier to analyze. Pretend-play, in particular, which as noted earlier, was largely unsuccessful as it was conducted in this study, needs much larger swaths of time to yield any meaningful results, and could be the sole focus of a study of this size.

It could be that abstract thinking is not taught in classrooms because it is difficult to teach, or it could be because it is simply not valued in our society as a way of thinking. If it is because it is difficult, then, as shown by the consistent progress of Ron, Harry, and Lola, in their abilities to understand and express abstract concepts, we have a skeleton of

a possible model for childhood instruction about abstract concepts. If it is because it is simply not valued, the question is sure to arise, why teach it, why teach abstract thinking? The answer to that question is probably a topic for another, more theoretically-based study. (I would submit that all concrete reality begins with ideas, and that a ready understanding of the abstract foundations of the concrete explanations that individuals are likely to make to one another, would foster not a deep and honest exchange of ideas; but that can for now only be a hypothesis to test in a different study.) But if we do decide that encouraging and teaching abstract thinking is valid, then such a study would provide the skeleton of a model for childhood instruction about abstract concepts.

At the risk of being scoffed at by closed-minded adults, I will suggest one more possible benefit of studies such as this one: they could provide valuable insights into the nature of the concepts addressed by participants. Even in this very broad and thus only skin-deep study, the children supply us with insightful comments and observations. If the study were more focused and in-depth, what might they give us? As Hull and Rose (1990) and Seitz (1997) suggest, it is possible that adults, armed with their ability to express concepts in language relatively well, actually limit those concepts by draping them in words, and that children actually have a purer concept of what they are, but are limited by their inability to express them in language—an inability that can, based on the evidence of this study, be circumvented by metaphor. Then, intellectually, we could take our places together with the wolf and lamb, the leopard and the goat.

APPENDIX A

Paraphrases of answers to questions about abstract concepts before and after metaphorical exercises

Question		Answer Ron,11	Answer Lola, 11	Answer Henry, 8
1. What is freedom?	**Before exercises**	When you're free. You can do stuff.	It's if you can do whatever you want to do.	When you're free. You can do stuff you want.
	After exercises	When you're free. You can do more stuff, do what you want to do, not whatever someone tells you to do.	[Same response as before exercises]	The sky. [Then, after researcher looks surprised, he gets self-conscious and adds, "You can do stuff—in the sky, maybe."]
1a. Jason is in prison. He dreams of being at home and doing what he wants to do. Is he free while he is sleeping? Why or why not?	**Before exercises**	Yes and no. In his dreams, it's an inner way.	I don't know.	I don't know.
	After exercises	Yes, because sometimes when you're asleep, it feels like it's real, so he might feel like he's really free.	No, not really. He's still there.	No, he's still in prison.
1b. Jason is in prison. He daydreams of being at home and doing what he wants to do. Is he free while he daydreams? Why or why not?	**Before exercises**	No, not really, because when you're daydreaming, you're just thinking about it. It would be like he's still there.	I don't know.	Yes. [Unable to provide explanation for response]
	After Exercises	Yes, because—like before [referring to	No, he's still there.	No, he's still in prison.

	After exercises, cont.	previous question]—it might sometimes feel like he's really free.		
1c. Alexis has to get up every day in the morning to go to school, even when she doesn't want to. Is she free? Why or why not?	**Before exercises**	No, because if she doesn't want to go but she has to, she's not free.	No, because she doesn't want to but she has to.	Yes, she still gets to do stuff other times.
	After exercises	No, because if you don't want to do something, but you still have to…	No, because she *has* to do something. If she wanted to go to school, then she'd be free; but she doesn't.	Yes, she still gets to do stuff after school.
1d. Marta lives in a democratic country such as the United States. Is she free? Why or why not?	**Before exercises**	I don't know. [Undecided, thoughtful] I don't know much about that stuff.	I don't know.	Yes. [Unable to provide explanation for response]
	After exercises	No, not necessarily, because she still can't do everything she wants to do.	I don't know.	Yes, she can do what she wants—pretty much.
1e. Joe lives in a country run by a militia. Is he free? Why or why not?	**Before exercises**	No. [No explanation provided]	I don't know.	No. [Unable to provide explanation for response]
	After exercises	No, because they have to whatever the militia says, right? And they might not want to.	No, it's a dictatorship, right? They just tell you what to do; there's way too many laws, you know.	No, people will always boss him around.

1f. Craig wants to move to Oregon, where he has a great job offer. His wife and children want to stay in Indiana. Is he free? Why or why not?	**Before exercises**	Yes, because he gets to choose if he goes or not…But they might get mad, so he is, but [thinking] I don't know.	Yes, because he can still go to Oregon if he wants to.	I don't know.
	After exercises	Yes, because he can choose, but there's other things, but ultimately he can choose.	Yes, he can leave them behind if he really wants. But if we wants to stay with his kids, then maybe not. But they'd probably have to go with him, so the kids are the least free.	Kind of. Sort of. [Unable to provide explanation for response]
1g. Katie is paralyzed; she is confined to a wheelchair. Is she free? Why or why not?	**Before exercises**	Yes, because she can still do what she wants, well, I don't know, it depends on what she wants to do.	No, because she can't move or anything.	Yes, she can still do stuff she wants. [In response to researcher asking, "What if she wants to walk or run?" he responds, "I don't know."]
	After exercises	No, because she can't do some things, like walk or run or other stuff.	Sort of, but not really. She is the same free as others in a way, with laws and rules and stuff, you know. But she can't move very well,	[Same response as before exercises]

	After exercises, cont.		either, you know, and that's important.	
2. What is joy?	**Before exercises**	When you're happy—when something good happens or something.	It's being happy. [Unable to give definition beyond synonym]	When you have fun. Playing.
	After exercises	When you feel good; sometimes freedom, if you're free, you're happy.	It's being happy. It's a story, a kid's book.	Smiling, laughing.
2a. Henry is a player on the team that just won the championship. How joyful is he—extremely, very, somewhat, or not at all? Why?	**Before exercises**	Extremely, because he'd he happy that his team won.	Very, because he won.	Extremely, I guess, because it would be fun to play the game.
	After exercises	Somewhat. It would be exciting, but maybe not joyful. [Seems to want to say more, but cannot articulate what he wants to say]	Extremely, because he won something.	Somewhat. It's not really that big of a deal.
2b. A mother just gave birth to a new baby. How joyful is she—extremely, very, somewhat, or not at all? Why?	**Before exercises**	Depends on whether she likes the baby. [Researcher then asks, "Don't mothers like their babies," and he responds, "Most of them."]	Very, because she got a kid, I guess, and she probably wanted it.	Somewhat. [Unable to give explanation for response]
	After exercises	I don't know; it depends. She	Not at all. [Refuses to give	Extremely. It's a great thing.

	After exercises, cont.	might not like the baby that much, plus it might hurt.	explanation for response]	
2c. Travelers crossing a desert, dying of thirst, come to an oasis of water. How joyful are they—extremely, very, somewhat, or not at all? Why?	**Before exercises**	Extremely, because they would die if they didn't get the water.	Extremely, because they got water, and that doesn't happen very much in the desert.	Extremely, because they get water, and they wanted it a whole bunch.
	After exercises	[Same response as before exercises]	Extremely, because they were dying, and now they found water and will live.	Very, because they get water and if they didn't they would die.
2d. Terry and Jean, sisters, have been separated for many months. Then they meet up. How joyful are they—extremely, very, somewhat, or not at all? Why?	**Before exercises**	Extremely, if they like each other, because if they hadn't seen each other in a long time, then they'd be really happy.	Very, because they got to see each other, and they hadn't for awhile.	Extremely, because they haven't seen each other in a long time.
	After exercises	Extremely, because they're excited and they're hugging and stuff.	Very. It depends on how much they like each other.	Very. [Unable to provide explanation for response]
2e. Terry and Jean, sisters, have been separated for many months, and Jean thinks Terry is dead. Then they are reunited. How joyful is Jean—extremely, very, somewhat, or not at all? Why?	**Before exercises**	Extremely, because like if someone is dead, or you haven't seen them for a long time, but you know they're alive, it's better that you know they're alive—isn't it?	Extremely, because she thought she was dead, and she's happy that she knows she's not.	Extremely. [Unable to provide explanation for response]

	After exercises	Extremely—more than in the previous question, because it's the same, but there's more.	[Same response as before exercises]	Extremely, because it was more than in the last one. It adds something [that she might be dead].
2f. Gene is 70 years old, and Andy is 10; otherwise, their lives are the same. Who is more joyful? Why?	**Before exercises**	Andy, because he knows he will probably live longer, while Gene knows he is closer to dying.	They're the same. There's no difference.	The 10-year old. He can do more stuff, instead of having to go to work.
	After exercises	Andy, because he has more time left, to enjoy things.	[Same response as before exercises]	They're the same joyful. You said, yourself, they're the same.
2g. Greg is a boy, and Carrie is a girl; otherwise, their lives are the same. Who is more joyful? Why?	**Before exercises**	Greg, because he would know that if he grew up and had kids, it wouldn't hurt; he wouldn't have to have the baby come out.	They're the same; their lives are the same.	I don't know; their lives are the same.
	After exercises	[Same response as before exercises]	[Same response as before exercises]	[Same response as before exercises]
3. What is honor?	**Before exercises**	[Unsure] When you honor someone, I don't know…I don't know.	I don't know. [Researcher asks, "Do you have a sense of it but just can't put it into words?" and she says, "No, I have no concept of it."]	[No response]

	After exercises	[Thoughtful] I know what it is, but I can't explain it.	I sort of know what it is, but I can't explain it.	Um [long period of thinking] I don't know.
3a. Jay gets into trouble for something that Kay did. If Kay is honorable, what will she do? Why?	**Before exercises**	She will say she did it, but I don't know why: I mean, I do, but I don't know how to say it, it's hard.	She will tell whoever was getting Jay into trouble that she did it. [Unable to provide explanation for response]	She'll tell the person that made the one guy get in trouble. [Unable to provide explanation for response]
	After exercises	She will tell that she did it, because it would be evil not to.	[Same response as before exercises]	She will tell that she did it. [Unable to provide explanation]
3b. Camilla promises Sue that she will never wear a blue shirt. Sue releases her from this promise, yet Camilla still never wears a blue shirt, because, she says, she promised. Is Camilla more honorable, or stubborn? Why?	**Before exercises**	She's stubborn, because Sue released her from it, so she can wear blue now, but [thinking, but is unable to articulate thoughts any further].	Stubborn, because she doesn't have to.	Both. [Unable to provide explanation for response]
	After exercises	I'm not sure.	[Same response as before exercises]	Honorable, because she never wore a blue shirt. [Researcher says, "But Sue said she could," and after a bit of hard consideration he replies, "She still is, though."

3c. Leon always obeys his parents and teachers. Is he honorable? Why or why not?	**Before exercises**	No, because sometimes you shouldn't do what people tell you to do, because sometimes they'll tell you to do things you don't want to do, or…[unable to articulate thought]	Yes, because he does what he's supposed to do.	Yes. He does what people tell him.
	After exercises	No, because if they told him to do something that was weird, that wasn't nice, or good, then he shouldn't do it, I don't think.	Sort of. Parents and teachers usually know what is right, but not always.	[Same response as before exercises]
3d. Tara is extremely angry at William, but she doesn't yell at him because she knows she will hurt his feelings Is she honorable here? Why or why not?	**Before exercises**	Yes, because she's trying to be nice to him.	Yes. Well, she didn't yell even though she probably wanted to.	I don't know.
	After exercises	No, because if you're mad, you *should* yell. It's not being truthful, you know.	Sort of. She's being nice, but not honest.	Kind of. She didn't yell, and that's good; but she still got mad.
3e. You find a suitcase filled with a million dollars. You take it to the police. Is this an act of honor? Why or why not?	**Before exercises**	Yes, because you're trying to give it back to the person who had it, but I wouldn't do it, I'd keep it, because if they dropped a million	Yes, because it's a lot of money and most people would just keep it.	Yes, because they might be able to give it back to the person who had it.

	Before exercises, cont.	dollars, they'd have to be really stupid. I don't know, that's weird.		
	After exercises	Yes, because it's not really yours, and the person whose it is might need it.	[Same response as before exercises]	[Same response as before exercises]
3f. Griff admits aloud that he was wrong about something, even though inwardly he still thinks he was right. Is this an act of honor? Why or why not?	**Before exercises**	No, because he thinks he right.	I don't know.	I don't know.
	After exercises	No, because he is lying.	No. He should be honest.	Yes. [Unable to provide explanation for response]
3g. Was Anakin (from *Star Wars* honorable? Why or why not?	**Before exercises**	No, he did good stuff, but he did bad stuff, too…evil stuff.	No, because he's a bad guy. He kills good guys.	Kind of, because he used to be good. [Unable to explain why he used to be good]
	After exercises	Yes and no. He did good things, but also evil things.	No, he's Darth Vader. He chopped up those kids.	No, because he kills people.
4. What is beauty?	**Before exercises**	When something looks good, I don't know, something.	I don't know.	I don't know.
	After Exercises	When something looks or sounds good, or...There's something more, but I can't explain it.	I don't know. I can't put it into words.	I have to see it. ["So you think you know what it is? and he says, "Kind of."]

4a. Is the grand canyon beautiful? Why or why not?	**Before exercises**	I don't know.	No, I just don't like how it looks.	I don't know.
	After exercises	Yes, it's pleasing to look at, and it, and it, uh [unable to articulate thought].	No.	I don't know.
4b. Is a deer beautiful? Why or why not?	**Before exercises**	I don't know. Sometimes it *could* be. [seems very unsure of answer]	No, they're cute but not beautiful. [Researcher asks what the difference is between beauty and cuteness, and she responds, "I don't know, but I know that a deer is cute, not beautiful."	I don't know.
	After exercises	I don't know.	Yes. [Unable to provide explanation for response, although seems quite sure of herself]	Sometimes, I think. [Unable to provide explanation for response]
4c. Is a deer running beautiful? Why or why not?	**Before exercises**	I don't know.	No, it's just a deer.	I don't know.
	After exercises	Yes. [Unable to provide an explanation for response]	Yes, it's the same as a deer.	I guess: Some people think they are.
4d. Can the face of a human be beautiful? Why or why not?	**Before exercises**	Yes. [Unable to provide any further explanation for response]	I don't know. [Seems embarrassed]	Maybe, I don't know.

	After exercises	Yes, because it can look good sometimes, and there's you know, sometimes, when you…[unable to articulate thought any further]	Sometimes. They just are—sometimes, not very often.	Yes. [Unable to provide explanation for response]
4e. Is a person who is kind to everyone beautiful? Why or why not?	**Before exercises**	Maybe, I don't know.	No. [Unable to provide explanation for response]	I don't know.
	After exercises	Yes, it's hard to explain. They are, though.	No, they're nice, not beautiful.	Sometimes. [Unable to provide explanation for response]
4f. Is this beautiful? [Show participant a picture of an impressionist painting by Monet] Why or why not?	**Before exercises**	I don't know.	I don't know.	I don't know.
	After exercises	I don't know.	I don't know.	I don't know.
4g. Can music be beautiful? Why or why not?	**Before exercises**	Yes, it sounds good. [Reminded by researcher that he said definition of beauty was that something looks good, he responds, "Um, yeah, I guess, I don't know."]	No, it can *sound* good.	Yes. [Unable to provide explanation for response]
	After exercises	Yes, when it sounds really good.	[Same response as before exercises]	Yes, in a different way.
5. What is love?	**Before exercises**	When you care about someone, I don't know.	I don't know. [Researcher asks, "Do you	[Hesitates, thinks about it, starts to say

	Before exercises, cont..	Yeah, something like that.	have any sense of it? and she says that yes, she does.]	something, and finally gives up and says, "I don't know.]
	After exercises	When you *really really* care about someone—or maybe like with a girl, that's different.	When you like someone—or some thing—*a lot.*	I don't know, kissing? [Giggles, and adds, "More than that."]
5a. Do good friends love each other? Explain.	**Before exercises**	Well, yes, because they care about each other, I guess.	Yes, well, no, maybe. They're just good friends, you know.	Yeah, I guess, I don't know.
	After exercises	Yes, because they care about each other.	Yes, because you care about them, and if they were dead, you'd be sad.	Sometimes—best friends, anyway.
5b. Can you love food? Explain.	**Before exercises**	Yes, because you really like how it tastes. [When researcher points out that this reason does not fit his definition for love given above, he becomes confused]	Yes—well, food that you really like.	Yes, it might taste good.
	After exercises	Yes, because it keeps you alive.	Yes, well there's different kinds of love, and different, you know, degrees.	Yes, if it tastes good.
5c. Who loves each other more, usually, a parent	**Before exercises**	I have no idea.	I don't know.	Husband and wife. [Unable to provide

and child or a husband and wife? Explain.	**Before exercises, cont.**			explanation for response]
	After exercises	[Thinks about it, but finally shrugs]	Husband and wife. Parents are always yelling at their kids, and a lot of kids hate their parents.	[Same response as before exercises]
5d. Can you love somebody you've never met, or a character in a book? Explain.	**Before exercises**	No, because you don't know them.	No, because you don't know who they are.	No, you've never met them!
	After exercises	No, well maybe, if you were knocked out, and someone saved you, and you didn't know who it was.	Yes, sort of. In a book, maybe, if you really like the character.	[Same response as before exercises]
5e. Can you love the world? Explain.	**Before exercises**	Yeah, I guess, because it has the stuff you like on it, something like that. I don't know, something.	No. [Thinks] I don't know.	I don't know.
	After exercises	Yes, it's…everything.	I guess, maybe. [Unable to provide explanation for response]	I think so. [Unable to provide explanation for response]
5f. Can you love an idea? Explain.	**Before exercises**	I don't know.	I don't know.	I guess. It might be cool.
	After exercises	Yes, because…I can't explain it.	Yes. [Unable to provide explanation for response, but seems sure of herself]	Yes. [Unable to provide explanation for response]

5g. Do brothers and sisters love each other? Explain.	**Before exercises**	I think so; because even though especially ___ gets mad and attacks us, I *do* care about them.	Sometimes. Sometimes they don't like each other and sometimes they do.	Sometimes, I guess.
	After exercises	Yes, they care about each other.	[Same response as before exercises]	Yes. [Wants to say something, but cannot articulate what he wants to say]

APPENDIX B

Stem Completions

Stem		Ron	Lola	Henry
1. Freedom is_____	**Completion**	A lake, or river. Blue. Road.	An animal.	A big house.
	Reason Given	Lake or river: You could swim when you wanted, and not be contained like in a pool; you could do backflips and not be told to stop. Blue: It's like the sky. Road: You're just going somewhere, where you want to go.	They do whatever they want to do.	It would be fun, and you could go into a whole bunch of different rooms and do a whole bunch of different things.
2. Joy is_____	**Completion**	Monkeys in the wild.	A bird.	A guitar.
	Reason Given	They seem happy.	That book about joy, I can't remember the title, has a bird on the front. Plus, it just seems right.	Music is joyful.
3. Honor is_____	**Completion**	A lion.	Pride.	A rock.
	Reason Given	They're supposed to be honorable, I think. Like in *The Lion King*. The father died	I don't know. I don't really have one for this one.	[Unable to provide an explanation for response]

		because he was honorable.		
4. Beauty is______	**Completion**	[Unable to think of one]	A sun setting. A castle.	A dragonfly.
	Reason Given	n/a	They're just beautiful things, you know.	It's all colorful and stuff.
5. Love is______	**Completion**	A cat and dog, like in that picture, on the calendar.	A relationship. A bond.	A house.
	Reason Given	They look like they really love each other.	I don't know…Tyler, I like him.	That's where love is.

APPENDIX C

Synopses of stories, Exercise 4

Ron

Freedom: Franklin, a little boy, is riding his bike down a hill really fast, extremely fast. He has a lucky little marble, which represents freedom, in his pocket. As he is going down the hill, the marble falls out without him realizing that it does. It rolls down the hill much faster than he is riding his bike. At the bottom of the hill, a mother bird sees the marble and picks it up and takes it to her nest, where her last baby bird is having trouble learning how to fly. When she gives the marble to him, he flies away, with more skill than any of his siblings had shown. Meanwhile, Franklin cannot ride his bike very fast anymore, and he is sad.

Joy: There's a tribe of monkeys, and this one monkey named Norbert is sort of strange, and none of the other young monkeys like him, and they don't let him play with them. It's a rule in this monkey clan thingamajig that you can leave when you grow up, and two years later, when he's grown up, he leaves. He travels for many miles before finally coming to a farm, where he scrounges for food, and hides in the trucks. It gets cold, though, and one day when one of the trucks is leaving, he gets in the back. When the truck stops, he gets out, and hungry, goes into a restaurant, where he meets up with a family—a mother, a father, a three-year old, and a five-year old. These children teach him to talk, and he makes many human friends.

Honor: Joey is a colt, whose father is the leader of a tribe of horses. Eventually, he succeeds his father as the leader of the tribe. One day, the tribe is drinking at a pond, when men with guns riding other horses approach. They recognize these men as ones who are known to capture horses and put saddles on them and ride them, like the ones they are riding now. Joey leads his tribe away, but seeing that there is no escape, he leads the men one direction by himself, allowing himself to be captured so that the rest of his tribe can get away. Thereafter, he is a steed for the men, but his tribe remains free.

Beauty: There is a dragon flying…I can't think of anything else.

Love: The object that represents love is one of those little candies shaped like hearts. He has arms and legs, and he's in a supermarket, near Valentine's day, and his name is Cornball. He jumps onto a cart, but nobody notices him and when they go outside and are pushing the cart across the bumpy pavement, he falls off the cart. He jumps onto the rim of a tire on a car, and when the car takes off, he gets real dizzy, but eventually it

comes to a stop, and he jumps off in front of a big house. He jumps onto the shoe of a five-year old who has gotten out of the car. Inside the house, he befriends an old piece of popcorn—named Popcorny—who was laying in a corner. Cornball and Popcorny have many grand adventures together, including saving the family from would-be burglars one time in the night. The family never knows that they exist, until one day, somebody sees Cornball and eats him, leaving Popcorny alone.

Lola

Freedom: There was a man, a bad guy, and he got sent to jail, for ten years. And then he got let out, and he was free. He felt really good—grateful.

Joy: There was this guy, and he got sent to jail for ten years, and then he got let out, and he was joyful to be out.

Honor: There was this guy, and he was a bad guy, and he got sent to jail for one day, because he had done something bad, and he told the truth. He said what he had done, and so he went to jail because he had told the truth.

Beauty: There was this guy, and he was a bad guy, and he got sent to jail for 50 years, because he killed 20 people. He never got to see his family while he was in jail, and everything stunk and was gray, and when he got out, he thought everything was really beautiful, and he wouldn't ever consider killing anybody again.

Love: [Lola declined to tell story where a character or object represented love.]

Henry

Freedom: Two cats are on the front porch of a house. One of them is named Joshua. A human calls them inside. Joshua runs away, and the other cat goes inside. Joshua gets hit by a car, because he didn't listen.

Joy: There are two dogs, John and Ant. They live inside a house, and when the owners leave, they put them in cages. John is happy and smiling; but then the cage door opens and he walks out, and he gets all sad because he knows that he will get in trouble for being out of his cage.

Honor: John and Skip, two boys, have a race, and Skip wins. Thereafter, John hates Skip, and tells John that he does. Skip says okay, and walks away. Later, they race again, and John wins. But John still hates Skip, and again tells him so, and again, Skip

says okay, and walks away. Later, they have a tiebreaker race, and John wins. Finally John doesn't hate Skip anymore, and Skip accepts this as well, and goes home.

Beauty: There are two people, Josh and John. Josh has blond hair. John has black hair and purple eyes. He is the beautiful one. John walks one way, and Josh walks the other way. That's it.

Love: Two cats, Joshua and Jones, both run away this time. But they just run to behind the house, and they live together in the backyard, and sometimes they go inside to be petted.

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