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of teaching and literacy

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Abstract:

The purpose of this study was to examine pre-service elementary teachers' metaphors of teaching and literacy and then relate their metaphorical images of literacy to content presented in the reading methods course. Specifically, fifty-two participants generated responses to open-ended statements, "Teaching is. . ." and "Literacy is. . ." Results indicated that the pre-service teachers' metaphors could be grouped into eleven themes for teaching and fourteen themes for literacy. Two themes of teaching that arose in previous research, nurturing and guiding, were evident in the responses of this population as well, illustrating their commonality and perhaps universal nature. The primary literacy theme was the parts/ingredients metaphor (N=8). Four dominant metaphors of literacy were identified: sequence of knowledge and skill, parts that come together as a whole, foundation of life, and journey. Twenty-three (or 44%) of the pre-service teachers wrote metaphors that related to content presented in the reading methods course. We advocate that future research should solicit pre-service teachers' metaphors of literacy early in the teacher preparation program and students should be taught to examine their metaphors throughout the course of study. Further, novice teachers should be followed into the classroom and monitored as they engage in learning to teach. We believe the metaphor will continue to be a powerful conceptual means for framing and defining teachers' awareness of their beliefs.

Literacy is a seed. With some nurturing, it grows a stem, leaves, and eventually blossoms into beautiful flowers with strong roots to share with the world. ~ Pre-service Teacher A

Literacy is like a smoothie. All the elements blend together to create a new product, but if the elements aren't balanced, then the outcome is not as great. ~ Pre-service Teacher B

Literacy is a long train. There are many stages in literacy, in many departments (i.e. fluency, comprehension, word knowledge, writing). Each train car is a new strategy, a reading stage, or literature obstacle. We all begin in the caboose (usually as young children) and move forward in our literacy development. Each bump along the track is like obstacles that we face with literature. Once we get to the front of the train, we are advanced readers. We can now see clearly for miles and miles, but are still learning. ~ Pre-service Teacher C

Humans use words and images to interpret life, their experiences, their teaching, and even their view of a content area. Some, like Vygotsky (1962), argue that language itself defines and limits our thinking, just as our past experiences influence the way we view and interpret present and future experiences. Over the past two decades researchers and teacher educators have shown considerable interest in metaphors as a means to better understand how teachers perceive their most basic views about schooling, life, children, curriculum and teaching (Lakoff & Johnson, 1980; Munby, 1986; Provenzo, McCloskey, Kottkamp & Cohn, 1989; Tobin, 1990). A metaphor has been defined as a "figure of speech in which a word or phrase literally denoting one kind of object or idea is used in place of another by way of suggesting a likeness or analogy between them" (Webster's, 1961, p. 528).

There is a growing body of literature that supports the study and use of teachers' metaphorical images in understanding how they conceptualize their work and themselves in that work. Typically, teachers' metaphors of teaching, children and life have been solicited, but rarely have teachers' metaphors of a content area been explored. Few studies, if any, have specifically solicited pre-service teachers' metaphorical beliefs about literacy. Therefore, the purpose of this study was to examine pre-service elementary teachers' metaphors of teaching in general and

literacy in specific and to relate the metaphors to the content presented in the pre-service reading methods course in which they were enrolled. Guiding questions include:

1.   What patterns exist among the metaphors pre-service teachers used to describe teaching?

2.   What dominant metaphorical views of literacy did pre-service elementary teachers possess?

3.   How do these metaphorical views of literacy correspond with the content presented in the reading methods course?

Theoretical Framework

Teaching Beliefs

Within the educational literature, the study of teaching beliefs has been problematic due to poor and often conflicting conceptualizations, lack of definitional clarity, and dissimilar understandings about beliefs (Pajares, 1992). Richardson (1996) has reviewed this construct and presented a working definition. She says beliefs "name, define, and describe the structure and content of mental states that are thought to drive a person's actions" (p. 102). They cannot be directly observed or measured; therefore, beliefs must be inferred from people's verbalizations and actions (Pajares, 1992). Teaching beliefs are part of one's broader, general belief system (Pajares, 1992). Teaching beliefs usually develop from personal experience (Clandinin, 1986), prior schooling and instructing experiences (Anning, 1988; Britzman, 1991; Knowles, 1992), and interaction with formal knowledge. Formal knowledge may be imparted, for example, through interaction with school personnel, books, television, and religious classes.

A number of studies have shown the resilience of the pre-service teachers' beliefs; their entrenched ideas strongly affect what and how they internalize the content of the teacher

education program. Zeichner and Tabachnick (1981) looked at the literature regarding the

effects of teacher education programs and learned that university preparation has minimal

impact. Shipman (1967) concluded there was a lack of college influence; the pre-service

teachers possibly aligned their opinions with the prevailing university culture in a veneer-type

layer to insulate themselves, but there was no real change. Authors (2005) found the persistence

of ideas that beginning teachers bring to their university preparation and those beliefs extend into

actual classroom practice. Teacher development seemed to be more influenced by the schooling

environment rather than the pre-service preparation the teachers received. Britzman (1991) and

Calderhead and Robson (1991) found that pre-service teachers have strong positive or negative

images of previous teachers, and these reflections greatly influence how they receive and act on

their teacher education program. Bullough, Knowles and Crow (1992) and Butt and Raymond

(1987) assert that these held beliefs of pre-service teachers influence how teachers think, act and

view the teaching experience. Too often, ideas and views of pre-service teachers have been

ignored (Carter, 1990; Connelly & Clandinin, 1988, Kagan, 1992). Pajares (1992) stated that the

lack of exploring the pre-service teachers' beliefs may be one cause for outdated and ineffective

teaching practices. Consequently, their beliefs should be recognized, valued and acted upon by

teacher educators.

The theoretical framework for examining teachers' beliefs was Zeichner and Gore's

(1990) theory of teacher socialization. This theory holds that an individual becomes a

participating member in the society of teachers through a process that is influenced by pre-

training experiences as a pupil, formal pre-service teacher education and in-service years of

teaching. Academic analysis alone is insufficient for encouraging personal responses to beliefs;

teacher candidates become socialized into the profession during the practice teaching component.

Meaning is derived through social interaction between persons and modified through a largely internal process of interpretation. Becoming a professional teacher is an interactive, dynamic and interpretive process between the meaning making of a novice teacher in relation to the context of his teacher education program and the context of his actual practice. This theory of teacher socialization promotes coalescence and coherence between thought and action.

Metaphors

One of the ways researchers have attempted to examine pre-service teachers' beliefs is to study the cognitive devices they use to interpret their world, personal lives and professional careers. Perhaps the most compelling of these is the metaphor. For the purposes of this study metaphor refers to those analogic devices that lie beneath the service of a person's awareness, and serve as a cognitive device for learning new information, concepts, and skills, and as a means for framing and defining experience in order to achieve meaning about one's life (Hardcastle, Yamamoto, Parkay & Chan, 1985; Yamamoto, Hardcastle, Muehl, & Muehl, 1990).

Several studies have used the metaphor as a tool to investigate pre-service teachers' beliefs. Mahlios and Maxson (1995) discovered that preferred metaphors for elementary and secondary school were family and team, and metaphors for life were tree, ocean, mountain and trail. The two most frequently selected metaphors for childhood were flower and spring. Thereafter, the pre-service teachers' metaphors of life, childhood and schooling were compared to the adjectives they used to describe ideal students, teachers, administrators and parents. Mahlios and Maxson found considerable overlap in the adjectives describing ideal adult roles across metaphorical themes and concluded that pre-service teachers often possess simple and naïve views of children that cross over the actual differences in their root metaphors. A later study by Mahlios and Maxson (1998) categorized pre-service teachers' metaphors of teaching

into four themes: teaching as telling, teaching as nurturing, teaching as guiding and teaching as stimulating. Their study found that pre-service teachers' personal metaphorical beliefs hold more importance for them than concepts and theories commonly taught in their teacher preparation programs.

Literacy foundations

Jean Piaget, noted Swiss philosopher turned grand theorist, forever changed the way we look at child cognitive development by envisioning it as a series of transformations over time. His stage theory, considered by some to be the epitome of all stage theories, spawned other significant stage theories in related fields, including education (Bjorklund, 2005). Stage development theory posits that students progress through a sequence of acquiring knowledge from emerging to advanced concepts; in literacy this begins with concepts about print and develops over time into sophisticated reading and writing (Henderson & Beers, 1980). Although there are different names for stages, the researchers agree on key characteristics for each stage (Chall, 1983; Fountas & Pinnell, 1996; Gunning, 1996). Emergent readers discover that words are made of sounds and gain knowledge of the conventions of print. Beginning readers understand the concept of a word and begin to read short passages that have repeating phrases, high-frequency words and a simple plot. Transitional readers develop automaticity and fluency as they recognize significant numbers of words by sight and apply their skills by tackling series and chapter books. Intermediate readers, typically fluent, are learning how to comprehend more effectively across different genres of text with more complex plots and are encountering informational text content. The advanced reading stage continues into adulthood as reading becomes more abstract, technical, complex and sophisticated.

As students develop in literacy, they use strategic processes to gain meaning (Adams, 1990; Pressley, 2000). Some of these processes are strategies for decoding words (e.g. taking a running start, chunking words, skipping) (Fountas & Pinnell, 1996) and other processes aid comprehension, such as summarizing, evaluating, asking questions, making connections and inferencing (Fountas & Pinnell, 2000). Becoming a strategic reader is a process that occurs over time, scaffolded by appropriate instructional strategies aimed at the particular stage of development.

In addition to the development of reading strategies, students also must possess reading skills. In 2000, the National Reading Panel disseminated a report that identified five skill areas which are essential for students' development as a reader. These include phonemic awareness, phonics, fluency, vocabulary and text comprehension. A balanced reading program includes instructional time devoted to the teaching of these five skills. Additionally, research supports the concept that reading, writing and spelling are related and integrated processes (Bear, 1991; Bear, Invernizzi, Templeton & Johnston 2004; Ehri, 1997; Moats, 2000). With proper instruction these areas develop in synchrony (Bear, et. al, 2004).

Models of reading describe how readers translate print to meaning. Top-down models declare that readers rely greatly on their prior knowledge and that meaning is formed conceptually (Smith, 1985). Bottom-up models interpret the reading process by stating that learners gather meaning by first focusing on the graphemes then associating phonemes, combining graphemes-phonemes into words and forming words into sentences (Gough, 1985). Interactive models of reading propose that readers use both top-down and bottom-up processes (Rumelhart, 1977). The interactive model suggests that students know and implement the alphabetic principle and bring their prior knowledge to bear while reading.

Relations may be found between the stated foundations of reading and the commonly held metaphors of education. The premiere choice of metaphor to describe childhood is "a flower blossoming" (Mahlios & Maxson, 1995, 1998). This metaphorical image of childhood relates to the developmental theory that espouses children progress in their knowledge of and ability to use skills and strategies. Another connection between literacy and metaphor is the role of balance. A flower doesn't blossom without key growth ingredients such as sunshine, water, warm temperatures and nutrients in the soil. Likewise, a child's reading ability doesn't reach full potential without a balance of a literacy framework as outlined by five key components (National Reading Panel, 2000). In this manner, substantive themes of metaphors and literacy may be connected by a common thread (e.g. growth or the principle of balance).

Methodology

Participants

The fifty-two participants were majoring in elementary education and were enrolled in their senior year at a large Midwestern research university. All but one participant was White-European. Five participants were male and 47 were female. Forty-nine of the 52 were 22-23 years of age and the three students that were non-traditional were ages 25-26.

The Literacy Course

The reading methods course met four hours per week in two 2-hour segments – two hours one day per week in an elementary school to interact with primary and intermediate grade students and two hours the second day per week in the university classroom to gain information about how to teach reading. Topics in the class were presented through stage development theory (emergent through advanced, although most of the semester was devoted to beginning, transitional and intermediate readers) and a balanced literacy instructional framework for each

stage. The four-part framework included fluency, word knowledge (e.g. phonics, phonological awareness, word study), comprehension (e.g. vocabulary and comprehension) and writing. We promoted that beginning readers through advanced need this balance of literacy components, but the instructional emphases and activities may differ for each stage.

Likewise, the five components of the National Reading Panel (2000) were presented as an overview at the beginning of the semester and more specifically incorporated as we discussed the literacy framework for the stages of development. For example, we discussed phonological awareness with emergent/beginning readers and focused on comprehension for transitional and intermediate readers. For each of the five elements, we discussed the research rationale and then presented instructional techniques and activities.

In addition, we were also required to teach assessments in this course such as running records (Clay, 1985), Analytical Reading Inventory (Woods & Moe, 2003), spelling inventories (Bear, Invernizzi, Templeton & Johnston, 2004) and informal assessments including Dolch sight words (Dolch, 1927), retellings, and phonemic awareness tasks.

Data collection and analysis

We began the semester by stressing the importance of beliefs and the role a teacher's value system plays in his/her instruction. We devoted some time to learning about different theoretical models (e.g. top-down/bottom-up/interactive) and the preservice teachers' cognition was tapped to help them express what they believe. At the completion of the course, the participants were asked to revisit their original beliefs in comparison to their present beliefs. Thereafter, illustrations of metaphors were provided and discussion focused on how metaphors are a cognitive device used to frame beliefs. Then, the pre-service teachers were asked to self-

generate their metaphorical beliefs for teaching and literacy and give their rationale for their selection.

To analyze the metaphors, we employed a type case model as described by Everston, Weade, Green and Crawford (1985). We took each single case and analyzed its metaphorical content (Ball & Smith, 1992) then other cases were compared and contrasted. By examining each open response, recurrent patterns of metaphors could be determined. Once patterns were identified, the type case analysis allowed identification of what metaphors were typical or ordinary and what metaphors were atypical or extraordinary based on the frequency of occurrence. The use of content analysis as a research tool has some limitations that should be mentioned. A frequency count does not indicate what meaning or significance a particular item might have, only how often the item appears (Ball & Smith, 1992). Also, sometimes the written word could be interpreted in different ways. What we saw in the phrases may not be entirely representative of what the students meant to convey.

After the overall metaphorical categories were identified for teaching and literacy, the participants' metaphors for teaching were compared to their metaphors for literacy to determine if there was a relationship between their two metaphors. Then the literacy metaphors were interpreted against the literacy content presented in the reading methods course.

Results and Discussion

The purpose of this study was to explore pre-service teachers' metaphors of teaching and literacy and then compare the literacy metaphors to the content presented in the reading methods course. The results will be presented through the guiding research questions.

What patterns exist among the metaphors pre-service teachers used to describe teaching?

Examination of the participants' written responses to "teaching is. . ." revealed that pre-service teachers had very definite and yet varied metaphors about teaching. Their ideas could be classified and categorized under eleven broad themes: making a difference, gardening, lighting a candle, highs/lows, connections, sport, box of chocolates, handyman, guiding, learning experience and other. Table 1 shows the numerical value of each category of metaphor. Specific examples of metaphors and the preservice teachers' reasoning may better illustrate the nature of these categories.

Making a difference. The most dominant theme of pre-service teachers' metaphors was the fact that they are in the profession to make a difference. Some of the clichés, such as "touching the future" were stated by the novice teachers. Others stated key words such as "inspiration, believing, empowering, giving the greatest gift of oneself, and sharing oneself."

Gardening. A highly common theme among novice teachers is the metaphorical image of supporting and nurturing students. Many participants used the words *gardener, nurturer*, *caring*, *loving,* and *growing*. One gardening metaphor was specifically expressed as, "Teaching is tending a garden - each seed needs to be cared for – some in different ways then others. And, over time, each seed is transformed into its own unique flower." Another participant explained why she chose a gardening metaphor. She said, "Teachers try to plant a love for learning in the students or give them the basic skills and knowledge needed to be successful. Then, they watch the students grow and blossom into intelligent, resourceful individuals." These pre-service teachers who believe teaching is nurturing consider it their responsibility to provide an environment which is conducive to their students' learning and growing.

Lighting a candle. Two teachers wrote that teaching is lighting a candle that can't burn out; the candle spreads one light to the next. The said light is the learning that occurs.

High/lows. The idea that teaching has many challenges, yet rewards, was stated by nine participants in very unique statements. One participant wrote, "Teaching is like hiking. There will be some tough spots to conquer, but in the end, it is incredibly rewarding." Another wrote, "Teaching is like a leaf falling from a tree. There will be ups and downs, but I'll eventually find my place. There are going to be times when I feel overwhelmed but I'll also experience highs, like when a student understands a concept." One likened this idea of highs/lows to the flow of a waterfall; "There are times when teaching is a small stream slowly moving and almost stagnant, yet there are times when it is flowing freely and nothing can get in the way." Two pre-service teachers paralleled teaching to a roller coaster with ups/downs and getting to the end of the ride was the accomplishment of learning. One novice teacher wrote of the adventure like a sea, always rolling and rumbling, yet continually moving forward even during the calm days. In creative and descriptive words, these participants described the reality of teaching.

Connections. Four teachers noted the relationship between knowledge and success in different ways. One participant wrote that the connection between students, teachers and the acquisition of knowledge is like a magnet. Another person put in writing, "Teaching is spinning a spider-web. . .making connections and making a coherent whole of what you know. . .helping students make connections that will support future learning." Another wrote of teaching as the "bridge of knowledge" and the fourth participant said "teaching is building a ladder to climb towards success." Although they had different statements, these four metaphors of teaching reveal the connection between present learning and future knowledge and success.

Sport. Three respondents believed teaching is like a sport, each mentioning a specific sport. One inscribed "Teaching is like a round of golf. With golf you can hit 75 bad shots, and then sink a putt for birdie on the last hole and feel like the entire round was a success. With teaching, all it takes is to see the light come on for one child and you will feel like continuing on." Another participant wrote of running a marathon and how "You must pace yourself and never give up because the feeling of accomplishment is euphoric!" The third teacher paralleled teaching to the teamwork involved with sports. She explained her metaphor in writing, "There are successes, failures, and injuries along the way, but teamwork will ultimately be the best way to get through it all and have fun."

A box of chocolates. Two pre-service participants said "teaching is a box of chocolates." Both wrote, "You never know what you're going to get." One person noted she needed to make the most of "whatever she gets." The second further elaborated of chocolates in relation to the diversity within a class and the fact she needed to recognize each student (e.g. chocolate) will be different.

Handyman. In the category of handyman, one pre-service teacher specifically mentioned the metaphor of being a handyman while both participants said teaching is providing tools for students to be successful and achieve.

Guiding. Two teachers conceptually see their work as guiding students. One teacher wrote, "The ultimate goal of learning is to find the truth of life – it is our job as teachers to start students on their way. We can't be with them always but we can give them a love of learning." The second participant said that we can lead children and show them the way to do something but we can't force them; the children must choose to follow along.

Learning experience. Four teachers used the metaphor of teaching as a learning experience for themselves. One teacher mentioned, "I realize that you can never consider yourself done learning how to teach, and while you may improve with years of experience, no one is ever truly an expert teacher." Another wrote, "Teaching is like fruit ripening. We are constantly growing and maturing as teachers. . . we are continuously learning from both positive and negative experiences."

Other. Some novice teachers' metaphors do not fit in the stated categories so this grouping shows their variety of cognition. One student's teaching metaphor was, "Teaching is my best alarm clock. Teaching is the only thing that I would get out of bed for without an alarm clock buzz." Another stated, "Teaching is selling. Students are consumers of knowledge and the teacher is displaying his/her wares. To be a good teacher you must convince the students that you have something that they need to live a successful life." A participant voiced that teaching "is a puzzle – if you put all the right pieces together in the right places, you (and your students) will be able to see the whole picture." Teaching was also paralleled to bathing; it must be done everyday. There are several ways to get clean, either a shower or a bath and there are many methods/techniques that may be used (e.g. bubbles, salts, candles, shampoos, soaps) to accomplish the same task. After bathing we feel refreshed. Lastly, one metaphor of teaching was expressed as "the thorn of a rose." The rose is wonderful and corresponds to the rewarding things teachers do to better children's lives. But looking closer under the beautiful petals, one notices the thorns, which are the massive amounts of unrewarding activities that teachers are required to do.

These eleven categories show the diversity that teachers possess about their view of teaching. The present themes can be compared to categories identified in prior research. Mahlios

and Maxson (1995) found family and team to be the most common metaphors of elementary school. Later, Mahlios and Maxson (1998) identified four themes: teaching as telling, nurturing, guiding and stimulating. No participant in the present study specifically used the terms family or team. However, the identified themes of nurturing and guiding were evident both in previous research as well as the current study. Nurturing and guiding have been found with more than one population; therefore, these studies may illustrate their commonality and perhaps universal nature. The current categories show the breadth of pre-service teachers' perspectives of teaching when they were asked to generate their own metaphors.

What dominant metaphorical views of literacy did pre-service elementary teachers possess?

Participants were asked to produce their metaphor of literacy at the completion of a reading methods course. Of the generated metaphors, fourteen themes emerged. Again, these show variation and uniqueness of view. Table 2 lists the number of metaphors in each category and the percentage of the total. Again, examples of metaphors and descriptions of the pre-service teachers' explanation and reasoning provide a clearer picture of the categories.

Journey. Four novice teachers' metaphorical view of literacy was a journey that continues into adulthood. One person said that some students have an easy journey and others have a difficult one. Another wrote it is an educator's responsibility to teach children to read before they can set off on their own journey. One participant wrote, "Literacy is an ongoing journey. At first, one must learn how to walk (learn fundamental knowledge of the alphabet, etc) and then that walking turns into a hike as more skills are learned (cueing systems). Eventually, one can run (by becoming more fluent and working on comprehension). The journey doesn't stop here. It continues as readers continue to 'take off' with their knowledge."

Parts/ingredients. Eight pre-service teachers spoke of literacy as having many elements. Four referenced baking (e.g. cookie, cake, smoothie) with all the ingredients that come together for sweet success. One wrote, "You have to get the perfect recipe for each student – pulling in just the right amounts of various support and instruction to help that student blend their ingredients to create a great turnout." Four other participants likened literacy to parts of a whole, such as the pieces of a puzzle to come together for a whole picture, parts of a cheerleading pyramid with each person (part) being absolutely necessary, a scrapbook filled with many themes (parts) that build on one another and the strands that come together to form a braid.

Adventure/exploration. Four participants wrote that literacy is like an adventure, an exploration with no known ends. One person wrote that literacy allows a student to travel to unknown places and through time, and another person said that literacy is an open sea – there are so many ways to teach literacy, but once someone knows how to read/write the world is an open sea to explore.

Opening a door. Two novice teachers wrote that literacy is going through a door. Once people learn to read (unlock the door) they enter into a bright new world where they can learn many interesting facts and understand what they learn.

Foundation. Four undergraduate pre-service teachers wrote that literacy is the foundation, the building block for learning. Just like a house cannot stand without a strong foundation, one cannot have a strong education without reading. A foundation is built one block at a time; it doesn't happen immediately. One of the four participants likened the foundation to the tree trunk of education. Literacy is the base and all the other aspects of schooling (e.g. science, social studies) stem from the trunk.

Nurturing. Four individuals selected words to describe their metaphor of literacy – *time, exposure,* consistent *nurturing* of a seed that grows beyond expectations into a beautiful flower. One student wrote that "Literacy is a bird. We nurture it and teach students a 'nest full' of skills to refer back to, but once they learn to read the opportunities are endless and they can fly wherever they want to go."

Essential. In order to live a fulfilling life, literacy is fundamental. "Literacy is water. . .you need it to survive" wrote one teacher candidate. Another expressed her metaphor as "Literacy is sunlight. If we have it, we thrive and flourish. If we don't have it, we wither and do not succeed in life."

Tools. "Literacy is a tool for learning." It is "handing them a tool and telling them to build their dreams of life." Another participant noted, "It is giving a child a paintbrush to paint their life's success." A fourth pre-service teacher wrote, "Some tools are already there, some are missing. It is a teacher's responsibility to teach students how to use the tools they have, and to provide them with the tools they lack. With all the proper tools and knowledge of how to use them, a student will have a full literacy toolbox and be a successful reader and learner."

Politics. Two pre-service teachers said literacy is like politics. Everyone has an opinion and their own way to teach literacy. One participant elaborated and wrote of the great debate and the importance of a bottom-up approach.

Key. Four participants referenced literacy as the "key to success" or the "key to knowledge." "It is hard to be successful in the world if you don't know how to read" one participant explained. "Literacy keeps you informed, stimulates your imagination and allows you to dream."

Prosperity. One participant wrote, "Literacy is the beginning to a prosperous education." Another wrote, "Literacy is gold. It is extremely important to achieve and when you get it, never trade it in."

Challenge. Two pre-service teachers who struggled in school viewed literacy as a challenge – a challenge to teach and a challenge to learn. One individual wrote, "Literacy is a constant struggle for understanding."

Ladder. Three individuals wrote of literacy as a ladder. "Each rung of the ladder is a different step to becoming literate, such as wanting to learn to read, developing concept of word, learning new vocabulary, improving fluency, etc. A certain rung may designate one 'literate,' but I don't think we ever stop improving our reading skills, discovering new genres, etc. Therefore, the ladder never really ends." Another expressed, "The more literate the child, the sturdier the ladder." A third participant wrote, "Mastery of one skill makes it possible to move up and master more."

Other. Six pre-service teachers expressed their metaphors that were unique and not moldable to a defined category. Following are two examples. "Literacy is like a detectives approach to a crime scene. It requires attention to detail. Each student (crime scene) is unique and a teacher of literacy needs to examine a student's abilities and individualistic instructions so that the student can build upon their skills. One skill leads to another and finally they begin to see the whole picture of literacy." One male participant wrote, "Literacy is like driving a car. . . With literacy, it eventually becomes so automatic that you don't even realize how many actions and strategies you are using when you read and write a simple word."

No known studies have solicited pre-service teachers' metaphors of literacy in which to compare the present results. However, we have learned that teachers' metaphors vary

considerably as illustrated with fourteen themes that show different cognitive metaphorical

constructs. Of these fourteen themes, four dominant metaphors of literacy have been identified:

literacy is a *sequence of knowledge and skill* (e.g. ladder), literacy has *parts that come together*

as a whole, literacy is the *foundation of life* and students may be given tools to build the

foundation, and literacy is a *journey* and as a person goes on that journey, s/he opens doors with

the key to success and is able to explore the world.

Lakoff and Johnson (1980) illustrated how metaphors can link together through

entailments. In the present study, coherence among and between teaching/literacy metaphors

may be found in several themes: gardening for both teaching and literacy, highs-lows of

teaching/challenges of literacy, teaching is making connections/literacy has connected parts, and

teaching is being a handyman/literacy is providing students with tools. For example, one

entailment is the relationship between guiding students (i.e. teaching) and the journey of literacy.

These metaphors imply that educators help students become independent. The coherence

between the two entailments comes from the teacher's role in leading them and teaching them

the skills the students need to progress on their way to become literate persons. Figure 1

provides an example of how the two metaphors link, and thus forecast possible cognitive

structures guiding thinking and practice possibilities, i.e. entailment patterns.

When comparing the pre-service teachers generated metaphors for teaching and literacy,

only three participants selected similar metaphors for each. For example, one teacher candidate

said that teaching is a garden and literacy is a seed. Another participant wrote of the elements

for teaching (e.g. cooking) and literacy (e.g. cheerleading pyramid). The third participant wrote

about tools for both teaching and literacy. The majority of participants (49 pre-service teachers)

did not explicate a relationship between their teaching and literacy metaphors. In sum, it appears

that the literacy metaphors vary considerably from the teaching metaphors and show the diversity of beliefs held, yet they can be brought together through dominant themes and entailment patterns.

How do these metaphorical views of literacy correspond with the content presented in the reading methods course?

When comparing these metaphors to the content presented in the reading methods course, there are several connections that may be seen. First, the content of the course throughout the semester was structured around pupil developmental stages. The metaphor of ladder and journey reflect this conceptual framework. A ladder illustrates progression of literacy knowledge by moving ahead one rung at a time (e.g. concept of word, becoming fluent, learning vocabulary, discovering new text genres). As a child becomes more literate, the ladder becomes sturdier. Several "journey" participants mentioned words that also confirmed development. A person begins the journey by learning how to walk (fundamental alphabetic knowledge) and then hiking and finally becoming more competent so one can run (comprehension and fluency). There are stops along the journey, the journey continues into adulthood, and the journey may be easy for some and hard for others. The participant who likened literacy to a train (under "other" category) also exemplified this developmental understanding through her held metaphors.

Second, class content covered a balanced literacy framework including the emphasis on National Reading Panel (2000) components. Several participants (N=4) portrayed their metaphor of parts through baking, which parallels our discussion of a balanced literacy framework (e.g. like a diet). Individuals do not only eat one food for every meal every day; therefore, the literacy instruction children receive should include a balance of components. One participant spoke of literacy as a braid, which originated from the teacher candidate's reading of

<u>Words Their Way</u> (Bear, Invernizzi, Templeton & Johnston, 2004) and our discussion of the

synchrony of literacy. Three other participants used the metaphor of parts, yet they creatively

applied the metaphor to another topic such as a scrapbook, puzzle or cheerleading pyramid.

Third, the pre-service teachers received instruction on the strategies good readers use

when they are engaged with text. Four participants cognitively illustrated literacy as providing

students with tools (i.e. strategies) to help them be successful. One male participant paralleled

literacy with the skills used when driving a car – they become automatic.

Fourth, at the beginning of the semester, the reading wars and great debate were

mentioned in the textbook and discussed in class. Two participants chose political metaphors to

describe their metaphor of literacy.

Table 3 shows the metaphors that relate to course content. Out of the 52 pre-service

teachers, 23 (or 44%) selected metaphors that related to the content learned in the reading

methods course. This means we see a relationship between metaphors held and concepts

presented in the course. Previous literature states that teacher education programs have minimal

effects on teacher candidates' ideas (Authors, 2005; Shipman, 1967; Zeichner & Tabachnick,

1981). Therefore, our findings were incongruous with previous research since 44% of our pre-

service teachers seemed open to program ideas and related their metaphors to course content.

One important component of the reading methods course was the weekly 2-hour

practicum in which university students worked with both a primary and intermediate grade

elementary student. Zeichner and Gore's (1990) teacher socialization theory stated that meaning

is derived when teachers engage in the practice component and they interact with students. In

this study, the participants had opportunities to reflect on their practical teaching experiences and

relate it to the learned content presented in class, thus promoting coalescence and coherence of thought and action.

The remaining 56% of the teachers who did not relate their metaphors of literacy with course content primarily focused on the importance of being literate. This emphasis could stem, in part, from their personal experience (Clandinin, 1986) and prior schooling experiences (Anning, 1988; Britzman, 1991; Knowles, 1992). The majority of students who choose to be teachers are often successful in their reading and writing abilities and they have learned the value of being literate. That said however, two of the participants spoke of the previous challenges they had in learning to read and write and interestingly, their metaphors reflected this personal difficulty in becoming literate. For them, personal experience carried more weight than formal instruction. One of the "challenge" participants went on to write that "because of my School of Education classes, I have discovered ways of teaching it (literacy) in an enjoyable way. Now I look forward to the challenge." She acknowledged the role of formal knowledge in helping her become more comfortable with a personal difficulty.

Implications and Recommendations

This study allowed us to see pre-service teachers' core metaphors of teaching and literacy. In our research, we have used the construct of metaphor and assert that metaphors are psychologically held understandings or beliefs about teaching and literacy that are felt to be true.

Compared to previous research (Mahlios & Maxson, 1995, 1998), the participants in this study showed greater diversity in their metaphorical responses. This could be, in part, due to the fact that participants in previous research had the option to select their teaching metaphor from a list or generate their own. When given a list, most of the participants chose an already-provided

metaphor. In this present study, two examples of metaphors were given to assist students understanding of the role of metaphor; however, no metaphors were available for selection.

This study has also shown the relation between metaphorical beliefs and course content. It appeared that almost-half of the students were able to internalize the concepts presented in class and relate them to a cognitive device (metaphor) that illustrated their beliefs about literacy. The fact that some teacher candidates were able to relate course content to their formation of metaphors may have been influenced by the practicum component in which they learned from the elementary student. Without this real-life experience, it is possible not as many teacher candidates would have related content to metaphorical constructs.

Since this study does not allow us to determine the interaction of metaphors and formal knowledge, further research is needed to investigate the interaction. Moreover, we cannot assume or conclude that the 44% of participants who related course content to metaphors will align their metaphorical belief with practice in their own classroom. Neither do we know how these metaphors translate into teaching competence and student learning. We intend to follow some of these teacher candidates into the field to investigate these questions and determine how the metaphor provides a conceptual anchor during the chaotic first years of teaching. We are also interested in understanding how literacy metaphors modify. Do pre-service teachers' literacy metaphors change and if so, what influences that change? Through analyzing their self-generated metaphors, the metaphor may be a means to help novice teachers better understand their change process. One way to conduct this investigation may be through teacher autobiographies, dialogue journals, self-examination of metaphors and their meaning, discussion of teaching cases and discussing field experiences. It is through depth of inquiry that complex issues will be better understood (Bullough & Baughman, 1997; Bullough, Knowles & Crow, 1992). Also, we did not

educate the pre-service teachers to systematically access their metaphors as a means to examine

their beliefs. Future research could analyze teacher candidates' metaphorical constructs at the

beginning of their teacher preparation program and then teach students to examine them

throughout the course of study.

      In this manuscript, we have examined an association between metaphors of teaching and

literacy, which indicates the possibility that the metaphor may offer educators a conceptual

means to define and examine their literacy beliefs. Metaphors, in general, offer a framework for

organizing one's thinking and plan for action (Hardcastle, Yamamoto, Parkay & Chan, 1985;

Yamamoto, Hardcastle, Muehl & Muehl, 1990). As the field of literacy continues to

revolutionize, one's metaphor of literacy may change over time, or the metaphor may be a

concrete and potent means to describe one's beliefs amidst the pendulum swings in the field.

These questions remain to be examined.

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Table 1.Teaching Metaphor Categories

Metaphor generated	Number	Percent
Making a difference	9	17
Highs/lows but worthwhile (e.g. hiking, roller coaster)	9	17
Other (e.g. bathing, alarm clock, puzzle, thorn of rose, selling, cooking)	8	15
Gardening	7	13
Learning experience	4	8
Connections	4	8
A sport (e.g. golf, marathon)	3	6
Box of chocolates	2	4
Handyman giving tools	2	4
Guiding	2	4
Lighting a candle	2	4

Table 2. Literacy Metaphor Categories

Metaphor generated	Number	Percent
Parts/ingredients (e.g. baking, braid, puzzle)	8	15
Other (e.g. spiral, detective, driving car, train)	6	11.5
Journey	4	7.6
Exploration/adventure	4	7.6
Foundation	4	7.6
Nurturing (e.g. gardening, bird)	4	7.6
Key to knowledge/success	4	7.6
Tools	4	7.6
Essential (e.g. water, sunlight)	3	6
Ladder	3	6
Politics	2	4
Gold/prosperity	2	4
Challenge	2	4
Opening a door	2	4

Table 3. Literacy Metaphors Related to Course Content

Course content	Metaphor category generated	Number
Components of literacy	Parts/Ingredients	8
Stages of development	Journey	4
	Ladder	3
	Train (other)	1
Strategies/skills	Tools	4
	Car (other)	1
Great debate/reading wars	Politics	2
Total		23

Figure 1