Teacher's Situated Knowledge Through Metaphor Construction and Its Story- Licensing

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Abstract

This theoretical article argues for metaphor construction and development to explain how teachers situate their knowledge and make sense of their teaching lives and practices. However, the process of metaphor construction must go beyond the scope of cognitive theories, and their systematization of concepts in metaphors. Metaphors, as conscious attempts to situate teachers' knowledge, must be considered as a text whose constituting elements are the teachers' values, belief systems, ideologies, professional knowledge, and culture intertwined in their minds. The concept of story licensing plays a key role in validating the definition and development of metaphors to explain teachers' situated knowledge construction.

Key words: metaphor; story licensing; teacher's situated knowledge.

Resumen

El conocimiento situado del docente a través de la construcción de metáforas y de la validación de sus narrativas

Este artículo teórico argumenta cómo el proceso de construcción y desarrollo de metáforas explica cómo los profesores sitúan su conocimiento y brindan sentido a su vida docente y a sus prácticas. No obstante, el proceso de construcción de metáforas debe ir más allá del alcance de las teorías cognitivas y de su sistematización de conceptos en las metáforas. Las metáforas como apuestas conscientes por situar el conocimiento docente deben ser consideradas como un texto cuyos elementos constitutivos son los valores, los sistemas de creencias, las ideologías, el conocimiento profesional y la cultura interrelacionados en las mentes de los docentes. El concepto de validación de narrativas juega un papel determinante en la ratificación de la definición y el desarrollo de metáforas que expliquen la construcción de conocimiento situado por parte del docente.

Palabras clave: metáfora; validación de narrativas; el conocimiento situado del docente.

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Résumé

La connaissance située des enseignants à travers la construction de métaphores et la validation de leurs narrations

Cet article théorique explique comment le processus de construction de métaphores permet aux enseignants de situer leur connaissance tout en donnant un sens à leur métier et leurs pratiques pédagogiques. Néanmoins, ce processus doit dépasser la portée des théories cognitives et leur systématisation des concepts à propos des métaphores. Les métaphores en tant que tentatives conscientes en vue de situer le savoir de l'enseignant doivent être conçues comme un texte dont les éléments constitutifs ce sont des valeurs, les systèmes de croyances, les idéologies, la connaissance professionnelle et la culture articulés dans l'esprit du professeur. La notion de validation des narratives joue un role déterminant dans la consolidation de la définition et le développement des métaphores qui expliquent la construction d'une connaissance située chez les enseignants.

Mots-clés : métaphore ; validation des narrations ; la connaissance située des enseignants.

INTRODUCTION

There is a plethora of studies that address the concept of metaphor, and they literally go back in time to Aristotle (1941) who defined metaphor as "the application of an alien name by transference either from the genus to species, or from species to genus, or from species to species, or by analogy, that is proportion" (p. 21). The analyses that spring from this definition delve into the relation of concepts or the possible analogies. Years later, scholars such as Burke (1945) in his Grammar of Motives rendered a more elucidating definition "as a device for seeing something in terms of something else" (p. 503). Even though the idea of analogy continues, there is also a new idea of considering the metaphor as a device to make sense of meanings. As soon as a metaphor is created, there is a network of interpretations that let the participants of the metaphor display their perspectives or understandings. In a more recent view, Johnson Sheehan views metaphors as a hermeneutic exercise where there is clearly an interaction among the text, its producer and its receiver within a context. Johnson Sheehan theorizes this interaction in terms of Gadamer (1989) termed as the hermeneutic circle. This circle for Johnson Sheehan (1999) is "the paralogical process of guesses and negotiation that takes place during interpretation. As projective expectations are met or not met, the interpreter alters her prior beliefs to fit new information. She asks questions, makes guesses, works things out" (p. 56).

The relationship between language and thought as expressed through metaphors, from the *perspective* of teacher's situated knowledge, is the topic of this paper. Every time a teacher meets up a new group of students, both his foundational and working knowledge in pedagogy and other related such as languages, sciences, or humanities to name a few need to be situated or interpreted again based on these

new individuals that the teacher is going to teach. These students may behave according to the teacher expectations or knowledge, or they may pose many challenges as to how a teacher may face this teaching scenario. The same happens with students who go from one teacher to another; they certainly experience an entire process of accommodation to the new teacher and his teachings.

In an article on how teachers shape and reshape their knowledge and thinking, Freeman (1996) develops the notion that teachers are always renaming their experience and reconstructing their practice. This author cites a classical study of medical education *The Boys in White* (Becker, Geer, Hughes, & Strauss, 1961) from which both the literatures on teacher socialization and teacher cognition built the term of conceptions of practice. He comments on the views of practice as a matter of perspective. In fact, a medical crisis should be solved following criteria and parameters established in advance by procedures or protocols. However, a medical crisis could also present itself as a problematic situation that requires the practitioner to figure out a solution on the spot as if the medical circumstances were brand new.

Similarly, Johnson (2009) provides several accounts of teachers producing narratives (texts), which are intended to provide some perspective of these encounters with groups of students where technical/scientific teaching knowledge was put to test on the contingencies of real language classrooms. She provides an example of a research project conducted by Herndon (2002) in which a literature teacher whose beliefs on students' ownership over their learning were blatantly contradicted by her actual classroom practices dominated by her own elaborations on what reading and writing should be all about; therefore, the opportunities for these students to own their learning were slight to say the least.

Johnson Sheehan (1999) poses the idea that both the invention and development of metaphors creates a narrative that is to be interpreted by the participants in the context of their creation. Furthermore, he places the idea of metaphor within a new view of hermeneutics which he explains as follows:

> Hermeneutics has always stressed the relationship between interpretation and understanding. What sets contemporary hermeneutics apart from classical hermeneutics is the notion that an objective or essential meaning for a word or phrase is never available. As a result, the interpreter is always negotiating meaning with a text/speaker, inventing an understanding that is entirely contingent to the given context. (Johnson Sheehan, 1999, p. 55)

Teachers' knowledge is situated every time teachers encounter a new group of students to teach. These students have all different sets of expectations, skills, life histories, and difficulties which means that teachers need to resort to their various sources of knowledge such as their values, belief systems, ideologies, professional/technical knowledge, culture, and even political ideas to respond to both the possibilities and constraints that the new teaching scenario poses for them.

The thesis of this theoretical article is that the process of metaphor construction and processing is a possibility for teachers to situate their knowledge. The paper argues for a much broader understanding of metaphors beyond cognitive theories that view metaphor as a conceptual structure to account for the relationship of its terms. I argue for the recognition of metaphors as part of a larger piece of discourse namely a text. The elements that contribute to the making of this text include aspects from the above sources of teachers' knowledge, which are called upon, as teachers will always have to renew their knowledge, or what they think they know on the bases of the ever-changing contexts of their teaching. For example, one area of controversy in education these days is how technology has become inevitable in different educational settings. We find teachers who cannot bear the fact that students may not be present in classrooms, and students who cannot advance in their online (autonomous) learning because there is not a teacher telling them exactly what to do every step of the way. The challenge for both teachers and students is to redefine not only the physical conditions of learning but also the roles and interactions that are conducive to learning in such environments. It seems that, on the one hand, teachers need to understand, come to terms, and evolve with these new means of communicative and academic mediation that do not even require face-to-face interactions for learning to happen. On the other hand, students need to understand that steady progress in online learning environments requires a very strong sense of work ethics and a great deal of self-regulation.

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Bunderson (2003), cited by Middleton (2010), classifies technology learners as 'resistant', 'conforming, 'performing' and 'transforming' (p. 8). He proceeds to define them as follows: 'resistant' learners will find difficulties to understand and assume technology; the 'conforming' will accept technology but require assistance; the 'performing' group demonstrates more control and feels comfortable with technology; the 'transforming' learners are the ones who use and adapt technology according to their own needs and purposes. Middleton also considers that such categories may also apply for teachers and their levels of openness and eagerness towards technology and its role in education (p. 9).

Scholars in the field of teaching have different disciplines of knowledge such as pedagogy, psychology, linguistics, second language acquisition, which work as story-licensing frameworks for metaphors to come alive as part of either formal or informal learning experiences. These frameworks will come for the most part from their communities of practice (Wenger, 1998). If this learning is formal, the academic licensing will manifest itself as their epistemology for learning. In the case of informal learning experiences, the licensing takes the form of the teacher's personal belief system. In both cases, metaphor construction is an emergent concept for teachers to develop situated understandings of their practice (Paavola & Hakkarainen, 2005).

Edge (1992) contributes to this idea of formal and informal learning in teachers' preparation when he asserts that both experiential understanding and intellectual

comprehension become complementary when there is a thoughtful attempt to bring them together by articulating these dimensions through the expression of the self (p. 7).

In a similar vein, Johnson (1999) criticizes the fundamentals of language education programs that intend to educate teachers based on a range of fragmented theories, and methods that could be applied in any situation regardless the context. However, context determines the adequacy of most theories, methods, and teaching practices. Johnson adds that the essence of teaching is situated and interpretive (p. 8), which means that teachers' knowledge needs to be constantly reframed in terms of the context and the circumstances where teaching is enacted. In other words, teaching is for the most part figuring out how to work with a specific group of students in concrete circumstances of time and place. She concludes that teachers need to develop reasoning, which will become progressively robust as teachers make sense of their practices when "they engage in critical reflection- reflection on themselves as teachers, on the lives of other teachers, on their own teaching practices, on the teaching practices of others, and on the places where teachers work" (Johnson, 1999, p. 11).

I think the ideas of both Edge and Johnson are enlightening in the sense that they claim that teachers need to develop, as an overriding criterion to advance in their practice, the desire to make sense of their teaching beyond the bureaucratic demands that teachers and teaching have to deal with these days. They also argue for teachers to develop and continually renew the interpretive frameworks where they seem to operate in terms of their pedagogy, and the knowledge of ancillary areas in teaching such as linguistics, and psychology.

Thomson (2015) provides a more recent perspective on how teachers can make sense of their practice by tracing the research conducted on teachers' understanding of schooling using metaphors. She talks about the work on schooling metaphors by Sfard (1998), which predominantly uses categories such as *acquisition orientation* or *participation orientation* (p. 3) Thomson also advances the research developed by Patchen and Crawford (2011) who do not consider that teaching can be reduced to categories that may be familiar to teachers such as transmissionism or constructivism. They think that teachers' thinking is constantly changing due to the also changing circumstances of their teaching contexts and their reflections about teaching and learning (p. 4).

Thomson's (2015) own research on prospective teachers (PTs)' beliefs about their conception of teaching and learning indicates that these student teachers had different motivations towards teaching that were clustered in three groups: the conventional, the enthusiastic, and the pragmatic. The beliefs and conceptions of the first group were around the idea that teachers and students had a similar relationship as the one in gardeners and their plants. The enthusiastic viewed the relationship of students and teachers like the work in an office where people were doing their jobs, and there was some direction encouraging the employees (the students) to do well or to better themselves. The pragmatic set described their beliefs

as though they were the captains of a boat and their students as passengers (p. 12-14). The researcher concluded that these different views of teaching can be beneficial for both teacher education and teaching development programs since

> Teacher educators can use metaphor analysis as a means to assist PTs in examining the initial values, beliefs and philosophies about teaching and learning and how these impact their classroom teaching. Metaphors could also serve as a pedagogical tool in teacher education courses by, for example, opening dialogues on different theories of teaching and learning to detect and correct PTs' misconceptions, discussing conditions that encourage quality teaching, and seeking alternative instructional ways to promote quality teaching. (Thomson, 2015, p. 17)

The above quote echoes the thesis of this paper regarding how metaphors flourish as narratives that are the result of teachers and students encounters. I argue that both the construction and development of these metaphors will account for how teachers use appropriately academic fields such as pedagogy, psychology, or linguistics to license their classroom stories. Nevertheless, the emergence of teachers/teaching metaphors needs to be associated with the terms: thinking, language, professional discourse, and learning.

In the first place, metaphor and thinking need to be seen as a relationship in which the concepts connected with a metaphor are part of a complex background of ideas that range from personal points of view to ideologies and cultural relationships. These ideas are organized around the notion of licensing stories, which are part of a wider narrative from different fields of knowledge. Some examples of the use of metaphor as licensing stories from the language-teaching field are further presented in this paper to illustrate this phenomenon as understood by both prospective and in-service teachers.

In the case of metaphor and language, my argument points at understanding metaphor as a hermeneutic exercise between professors and students. Such an exercise is relevant because it provides the idea of *perspective* to recognize the encounters of teachers and students in a learning situation. In these circumstances, the metaphor acquires the condition of a meaning-making device created and sustained through language.

Freeman (1992) conducted a research project in a language classroom, and the focus of the study was to establish to what extent a teacher role in a lesson has matched her students' expectations about the lesson development. The shifting focus of the research ended up determining how the teacher and the students dealt with issues of authority and control over the class contents.

The results of this study, which were for the most part gathered by interviewing the class participants and observing their interactions, point to the direction that teachers and students develop an evolving understanding of what to learn and how

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to learn it; the challenge was to make it work for both parties. Freeman (1992) provides the following description of this symmetric process through three phases:

> In the first and third phases, the interaction is primarily teacher-student, with Maggie providing a structure of questions and prompts to which students respond. In the second phase, which makes up most of their classtime, students are involved primarily in peer interaction which gives more or less free, or at least open-ended run to their energy. Thus they mix talk in French with talk about it, and talk about it with talk about other topics. In a very real sense, this process which can appear chaotic and unstructured is when understanding emerges. (pp. 76-77)

Freeman (1992) asserts that these interactions allow seeing the real process of second language learning where students are encouraged to produce language regardless the accuracy of their forms. The above situation opens a space for both teachers and students to really discover the appropriateness of what they are saying regarding authentic contexts of language use (p. 77).

Philpott (2013) explored the landscape of narratives as viable alternative to shape metaphors. The author compared the frameworks proposed by Clandinin and Connelly (1996), and Wertsch (2002). The former understand metaphor as a landscape that is determined by circumstances of place and time and is populated with people's actions and relations where emotional aspects are fundamental to make sense of such a landscape. The latter views narratives as tools to mediate understandings. These narratives can be both individual and collective and aim to influence people's thinking and actions.

Narrative inquiry has been heralded in recent times as a viable alternative for teachers to be aware and build knowledge based on their own contexts; Johnson and Golombek (2002) has defined it as the "systematic exploration that is conducted by teachers and for teachers through their own stories and language" (p. 6).

I will emphasize the power of metaphor as a learning mechanism or device for teachers in the process of making sense and eventually conceptualizing their own learning. In this process, there are some important gains for teachers: first, they find in metaphors a source of both meaningful learning and innovative knowledge, and second, they have the unique chance to create their own theories of learning as teachers shape their metaphors with elements from their own contexts of practice. Regarding these ideas, I provide an example of a language teacher-training course that inspired and helped a scholar to develop a metaphor through a process of story licensing.

As far as the relationship between metaphor and professional discourse is concerned, I present a brief historical account of how natural sciences came to express their production of knowledge. I propose a reflection for the members of human sciences to acknowledge the ongoing construction of a genre that fits the communicative needs of their community of practice. I also comment on an article on

metaphor and representation that maintains that there is a clear connection between metaphors and the evolving genre of scientific discourse. In fact, metaphors are becoming more real in the language of sciences such as physics.

Last, I will address the links between metaphors and learning. In this section, I will refer to a conception of learning framed in the metaphor of acquisition, participation, and knowledge-creation; the last one being more conducive to the thesis of this paper, which is the idea of metaphor construction as a very feasible learning *perspective*.

METAPHORS AND THINKING

Metaphors appear as a formulation of thinking that unveils networks of relationships to account for phenomena in the world. Cognitive theorists such as Gibbs (1992) in the processing of figurative language; Chandler (1991), Holyoak and Thagard (1989), and Gentner (1989) and their connectionism models and processing have worked in understanding the motivations and inner relations that stem from the metaphor; Nevertheless, the focus on *what* a metaphor is needs to be redirected towards *when* it happens (Gibbs, 1992). In other words, the attention should be oriented towards the process of metaphor construction. Gibbs (1992) claims that the different approaches to metaphor understanding such as linguistics, the speech act theory, psycholinguistics, the interaction theory, and conceptual theory have failed to understand that they only have a glimpse of the metaphor, and it corresponds to a temporal moment of its total comprehension which is for the most part an evolving concept. The author argues that the most important aspect in metaphors is how they account for the understanding of a phenomenon in a particular way, which materializes the thesis of this paper to consider metaphors as perspectives.

If we think that the roots of metaphors are their linguistic realizations, we can think of metaphors as manifestations of a text. The idea of text maintains the realities of an author with an audience in mind, a purpose, and obviously, a message. These elements are also part of metaphors as they are influenced by discursive principles and ideological positions (Eubanks, 1999).

In an article on the story of conceptual metaphor, Eubanks (1999) studies its possible mappings in the world of business as he analyzes various metaphors in this field. The author worked with focus groups whose participants discussed the aptness of metaphors used in the language of business and trade. The participants conducted activities such as surveys, discussions, and rationales for metaphors. The author examined feature, systematic, and image-schematic mappings whose rationales were based on people's stance that stemmed from personal, philosophical, and social ideas. These rationales were considered as licensing stories. The author goes onto stating,

For us to regard any mapping as apt, it must comport with our licensing stories –our repertoire of ideologically inflected narratives, short and long, individual and cultural, that organize our sense of how the world works, and how the world should work. (Eubanks, 1999, p. 426)

The previous quote offers the words individual and cultural as important aspects in the formulation of narratives as licensing stories. For this paper, these two concepts help us to advance in the argument that people build their conceptual systems as narratives that are both highly individualized and culturally laden in nature.

The field of language teaching has devoted some attention to teacher's individual metaphor formulation. Munby and Russell (1990) explored metaphor as part of a research project with in-service teachers. The authors did not want to work on the technical or propositional aspects of professional knowledge. They examined non-propositional knowledge of teachers on how they understood their profession through their individual metaphors of practice. The authors concluded that metaphors help teachers as heuristic to make sense of their practice. They also offered an important chance for teachers' reflections. Last, they cautioned teachers to "mind their metaphors" (Munby & Russell, 1990, p. 121) as they are constantly experimenting with the empowering force of language.

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Another example of teachers' individual use of metaphor is presented by Cortazzi and Lixian (1999), who conducted a study with British teachers from a variety of settings that ranged from primary education, postgraduate students taking primary education courses, undergraduate students of communication and university students of English as a Foreign Language from diverse backgrounds recruited in British universities.

They did not want to examine how metaphors help teachers understand their practice, but how metaphors became bridges to learning. They concluded that the occurrence of metaphors was present in various teachers' settings to talk about teaching and learning. The evidence also showed that the change in metaphors for student teachers over periods was a sign of learning. As far as the metaphors produced by other ethnic groups, the authors pointed out that they were limited. They also concluded tentatively that it seemed that the metaphors in these groups were more inclined to work on the idea of collectivism as opposed to the individualism in the British milieu. The cultural aspect in metaphor understanding is essential since the bases of metaphors reflect symbolic agreements of several parties involved in a community. The researchers found instances of the metaphor of teachers as *friends or parents* in accounts of Chinese, Japanese, Lebanese and Turkish teachers more often than in their British colleagues (Cortazzi & Lixian, 1999, p. 175).

Kramsch (2002) provides a more recent example of metaphor framing and reframing when she invites scholars in the field of second language acquisition to abandon the computer processing metaphor with concepts such as input and output. She offers a more comprehensive and even more telling metaphor of second

language learning framed as language as socialization which intends to reconcile the lingering divide between the cognitive and the social views of language learning. She also warns scholars not to be trapped in the metaphors and promotes a view of language learning more encompassed with the idea of ecology. She feels that is a much suitable metaphor since

> The metaphor, which captures the dynamic interaction between language users and the environment as between parts of a living organism, seems to offer a new way of bringing together frames from various disciplines to illuminate the complex relationship under investigation. (Kramsch, 2002, p. 3)

The above studies point out how metaphors are closely associated to thinking in terms of cognitive attempts to make sense of areas of professional work and performance. The studies also seem to indicate how the process of metaphor definition and elaboration are instances of learning.

METAPHORS AND LANGUAGE

The relationship between metaphor and thinking shows that metaphors need to be seen as products of both language and culture. In the language teaching field scholars and professors make students part of their communities of practice. The very act of teaching allows both professors and students to enact the culture that identifies them. One of the identity elements is the discourse, which bestows membership through activities such as persuasion, training, or relevant qualification (Swales, 1990, p. 24).

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The exchanges among professors and students in either research or university settings place them in a continuous process of meaning negotiation as they attempt to make meanings of distinctive situations. This meaning negotiation creates a rhetorical situation that requires a hermeneutic process between the speaker, his text, and the interpreter in a particular context (Johnson Sheehan, 1999).

Johnson Sheehan (1999) described the hermeneutic exercise as the process of understanding phenomena as the interpreters mediate an invention based on information from the text/speaker, the context, and his prior knowledge and beliefs. This process takes place as the interpreter "asks questions, makes guesses, or works things out" (p. 56).

As for the process of metaphor formulation, the author asserts that the hermeneutic process is challenged, but remains the same, as the interpreter goes through the exercise of metaphor sense making. Furthermore, the hermeneutic process follows the steps of metaphor identification, invention, and narration. The author explains these ideas as he asserts that:

For most interpreters, identifying a metaphor is a simple act, because a metaphor is typically an obvious contradiction within the given contextual narrative-i.e. the statement goes sharply against her prejudices and guesses. Second, once the interpreter identifies a potential metaphor, she then *invents* a meaning for the phrase that brings the sentence into better coherence with her projective expectations and the contextual narrative. Finally, the interpreter uses the identified metaphor to invent a *narrative* that fleshes out and perpetuates a particular perspective. (Johnson Sheehan, 1999, p. 57)

The process of meaning negotiation through discourse and identifiable narratives provide metaphors with the condition of becoming language meaning making devices, which allow their originators to account for different perspectives of the concrete teaching/learning realities or contexts. If we think of the roles of teachers and students as possible speakers and/or interpreters in a teaching-learning environment, we should bring to our attention their power relationships. No matter how egalitarian a teaching-learning environment is, there is a situation of asymmetry between their participants, namely the teacher and the students. This asymmetry is constantly challenged as these people evolve in their relationships and eventually become colleagues or somehow equals; they achieve a condition of symmetry. In the process of going from asymmetry to symmetry in their relationships, there are constant moments of identity reconstruction.

Educational settings exemplify the evolving nature of the relationship among teachers and students in the teaching-learning environment. In other words, the student, who began, as an interpreter of the teacher's narrative of his knowledge, will change, as the teacher becomes the interpreter of the students' attempts to build their own stories as an essential part of their learning process. If it is the case of a metaphor, then it is the interpreter of the students' metaphor that accounts for their learning perspective. I believe that the acuity, sharpness, and even aptness of metaphors will depend on how both teachers and students have built their narratives in processes of intertextuality.

Tudor (2001) presents an example of how the local environment and the ethos of learning of the people in Papua New Guinea shaped the execution of a business project as both practical and collaborative. The author comments on a project conducted with business students as they were visited in their workplace. These people exposed good abilities for group work, autonomous decision-making, and problem solving as well as self-supportive group relationships (p. 176). The author goes on to describing the background to any learning process in this community as follows:

By the time he reaches manhood, a Papua New Guinean male traditionally will have learned to build a house capable of withstanding some of the most rugged climatic conditions in the world; he will make and maintain deadly weaponry; he can construct traps for birds, bandicoot and boars; and,

depending on his location, he may also build suspension bridges or ocean-going sailing vessels. (Tudor, 2001, p. 175)

Some of the conclusions of this project were that the cultural learning process of this community already had embedded in their lives constructs that were fashionable in Western methodological practice, such as experiential learning, task-based, and cooperative learning.

Woodward provides another clear example of how metaphors account for teachers' situated knowledge and story licensing. She was presented with the idea of giving a teacher training course. However, she wanted to transgress the customary lecture-practice activities in teachers' training courses. She thought that both the content and the process of the training course were equally important for the teacher-training group to understand how teacher-training works. She describes the content as "the information, skills or knowledge to be taught or learnt (…)" The process is understood as "how information knowledge is going to be taught or learnt, or, in other words, what ´vehicle´ will be used to ´convey´ the content" (Woodward, 1991, p. 4).

In sum, what she does is to use the image of the Möbius strip to establish her metaphor that in a teacher training course the content and the process work in equal and more importantly complementary terms.

One of the most compelling examples from her book is how she demonstrates a session on jigsaw listening. She divides the main aspects of the jigsaw listening into principles, setting up and running a jigsaw listening, and materials available for jigsaw listening sessions. She then goes on to organizing the trainees into three types of groupings: initial grouping, cross grouping, and plenary. In the meantime, they all have been working on listening tasks sheets and comprehension checks in their group configurations.

Woodward (1991) calls her training sessions "loop input sessions" (p. 12), which means that while students are learning the content of the session, they are actually processing what the content is about. In sum, students are learning by doing which provides trainees with hands-on practice on key concepts about their practice.

Woodward also provides a rationale (story licensing) to account for how loop input makes part of a much wider scope on how to understand teacher-training sessions. She considers that her loop input sessions match a three-tiered system where there is an approach, a method, and a tactic level. At the approach level, she feels that content and process should match so that trainees have a deeper understanding of the training material. In regard to the method level, she considers that there must be consistency between the medium and the message so that there is a clear articulation between the teacher, the learners, and the materials. At the tactic level, Woodward (1991) emphasizes the idea of creating or establishing a vehicle for "transmitting information, a way of conveying or eliciting skills, knowledge or information" (p. 159).

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The accounts provided by Johnson Sheehan, Tudor and Woodward are related to Golombek and Johnson´s (2017) view on how narratives are sources of teachers´ knowledge as they comply with the ideas of externalization, verbalization, and systematic examination. Externalization has to do for the most part with sense making; verbalization is related to conceptualization, and systematic examination is when teachers become knowledgeable of their own teaching circumstances (p. 18). This view is closely related to doing teacher research.

METAPHORS AND PROFESSIONAL DISCOURSE

The narratives that professors and students may share even if they are metaphorical in nature are also licensed by both their communities of practice and their discourse communities. The former as groups of people who have established a relationship motivated by some area of study or common interest, and the latter as the types of interactions and the uses of language to fit their community communicative purposes.

In the field of teaching, we should bring up the issue of power and representation of human sciences compared to natural or "exact" sciences. Human sciences have evolved in their discourse communities towards the forms of representation of the hard sciences pursuing some sort of dispassionate language that does not get in the way of communicating their findings and discoveries. Nevertheless, professionals in the human sciences do not seem to be aware of the process of genre definition and construction within the disciplines of positivist science. To exemplify this process, we can examine a bit of the history of the establishment of the scientific community.

The history of experimental science from its beginnings had to face the issue of finding ways to convey their production of knowledge. In his review, Bazerman could trace the development of the science genre from reports and even letters that described the manipulation of nature without any intention of testing hypotheses or making tangible claims. The community of scientists progressed towards more "disciplined" accounts that patented what is known "as the principles of regularity or canons of evidence." (Bazerman, 1988, p. 12) which are, in sum, the rules of the game for this community of practice.

The recent history of the science community of practice has forced their practitioners to dedicate as much time to their researching as to their writing and publishing. Papin (1992), in an article on Language, Metaphor and Representation, quotes Hesse's thesis that "all language is metaphorical" and that "scientific revolutions are, in fact, metaphoric revolutions" (p. 1253). She goes on to giving examples from various sciences in which the use of metaphor has been extensive in order to communicate researchers' theorizing about their fields of knowledge; she mentions specifically the field of physics where there has been an attempt to question their ways of expression:

> Physicists often ask the same questions as poets, writers, and literary critics do. Whether or not this commonality is new, the gap between the sciences and literature seemed wide enough at one time to make us believe that we lived in "two cultures." But foremost physicists have also come to examine the fundamental act of naming. In their research and "thought experiments," they have encountered, confronted, and probed the process of metaphor. We might be living in one culture after all. (Papin, 1992, p. 1254)

The above quote illustrates the efforts of both natural and human sciences to conform to the norms of becoming public. However, it seems to be that some forms have been more dominant in various fields and have become the traditional option for communicating and literally licensing the academic work of most disciplines! (No pun intended). Some other alternatives as metaphors have not been fully developed to make the fit among the audience, the medium, and the message to represent "truth" (Freeman, 1998).

METAPHORS AND LEARNING

Paavola and Hakkarainen (2005) examine some views of metaphor as learning in their study of the acquisition and participation metaphors. They propose the knowledge creation metaphor from three principles. The first one is based on the idea that schematic models of knowledge follow logical processes. The second one has to do with the collaborative learning activities that promote interaction. The third idea principle relies on the idea of creating devices that mediate innovative understandings in social structures. Such devices result from the creative manipulation of different systems of symbols as language and numbers to represent knowledge in cultural settings.

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It may be assumed from the definition of the third aspect that our understanding of learning should be broadened beyond the knowledge of models to follow logical processing; it should be more comprehensive and include the social setting and the needs of the particular environment where creative or innovative *perspectives* are called for to solve problematic situations.

Wegner and Nückles (2015) have a more recent view on the issue of metaphors as acquisition or participation. They researched a group of university faculty where they broadened the idea of metaphor as a process of "enculturation or apprenticeship in thinking" and teaching and learning as "collaborative growth" (Wegner & Nückles, 2015, p. 630). Their results indicated that the participants view learning in terms of both a personal experience and a collaborative effort; however, they also reported that the participants had developed personal metaphors which the researchers attributed to the cultural contexts and settings where the professors worked.

The language-teaching field has written representations that account for their contribution to the social sciences. Metaphors are part of this universe in which they suggest more than a network of terms associated. Metaphors are illustrations of texts that belong to wider narratives that make up the wealth of knowledge in a community of practice. This wealth of knowledge is the product of professional, cultural, social, and personal ideas.

The licensing that results from the encounters of professors and students in different teaching-learning environments occurs if metaphor construction receives both the recognition as a meaning-making device and as a valid alternative for learning. In the process of learning, metaphoric thinking and metaphor construction are legitimate approaches to account for understanding the complexities of contexts in which professionals formulate their *perspectives* as situated knowledge.

The present paper has explored the nature of metaphors in relation to a number of aspects that comprise what teacher's knowledge is about. First, teachers' practices always pose a number of challenges as to how they approach the teaching-learning scenario. As a result, teachers will always resort to how they conceptualize or make sense of their practice based on the teaching circumstances they are dealing with. Second, the process of sense making is both cognitive and linguistic as teachers use their professional language to understand their work. Third, teachers usually make sense of their practices through narratives, which can be metaphorical in nature and will require some understanding first and then their licensing to account for what is happening in a classroom or any other teaching-learning setting.

I think teachers are hard-pressed with a number of metaphors that society has bestowed upon them. It is common for people to see teachers as gardeners, artists, loving parents, jugglers, coaches, sources of knowledge, or facilitators. However, it is very naïve if not dangerous to reduce teaching and teachers to aprioristic views that disrespect the complexity of teaching and learning. Moreover, these views of teachers and teaching deny any possibility of agency in what teachers do in their classrooms and in society at large.

CONCLUSIONS

This paper argued for how metaphors and their construction can account for how teachers situate their knowledge in their teaching circumstances. It also argued for the conceptualization of such metaphors as stories or narratives whose construction depends on the contexts where teachers work and relate to other people, particularly their students.

The article explores a network of relations where the notion of metaphor is viewed against the backdrop of thinking, language, professional discourse, and learning. The integrated understanding of how metaphors operate within the above concepts contributes as a framework to help teachers make sense of their knowledge and situate their practice.

I consider that teachers require frameworks where they can work or make sense of their practice in both theoretical and pedagogical terms. These frameworks usually come from outside teaching or teachers in the era of accreditation or quality control systems in education. I strongly believe that teachers' knowledge may come from inside out teachers in the form of metaphors or narratives where sense making is usually what teachers and students demand from each other in educational settings.

I provided several examples where teachers' knowledge does not only come from areas such as pedagogy or psychology; I have tried to show that teacher's knowledge is highly complex as teachers need to make sense of their technical knowledge as well as their values, beliefs, and even ideologies when they are tested or even challenged in their classrooms.

Metaphors were the leitmotif of the present paper, and I believe they responded to the idea that they could condense teachers' thinking since these metaphors, as texts, could be the result of teachers' language, professional discourse, and learning. In fact, this learning is not only about the students or their learning but also learning about teaching itself.

Finally, I want to use the metaphor of the atom to affirm that this paper was more about the periphery of the metaphor than its nucleus. I also consider that a deeper understanding of metaphor in the language-teaching field should include the magnetic waves of metaphor in thinking, language, professional discourse, and learning. I do not think this happens in this linear order, but I do think that they all need to give metaphor the status of a vehicle to set in motion situated perspectives on language teaching and learning.

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