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Language Teacher Cognition in Applied Linguistics Research: Revisiting the Territory,

Redrawing the Boundaries, Reclaiming the Relevance

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Understanding language teachers' ''mental lives'' (Walberg, 1972) and how these shape

and are shaped by the activity of language teaching in diverse sociocultural contexts has

been at the forefront of the sub-discipline of applied linguistics that has become known as

language teacher cognition. Although the collective research efforts within this domain

have contributed critical insights into what language teachers know, believe, and think in relation to their work (cf. Borg, 2006), limited progress has been achieved in addressing some of the most pertinent questions asked by applied linguists, policy makers, and general public alike: How do language teachers create meaningful learning environments for their students and how can teacher education and continuing professional development facilitate such learning in language teachers? By revisiting the domain's epistemological, conceptual, and ethical foundations, this special issue sets an agenda for reinvigorated inquiry into language teacher cognition which aims to redraw its current boundaries and thus reclaim its relevance to the wider domain of applied linguistics and to the real-world concerns of language teachers, language teacher educators, and language learners around the world.

Keywords: language teacher cognition, second language teacher education

This article posits that language teacher cognition, a branch of applied linguistics concerned with investigating "the unobservable dimension of language teaching" (Borg, 2003, p. 81), has arrived at a crossroads. On the one hand, rapidly expanding research activity has continued to illuminate complex 'inner' dynamics underlying language teachers' work. The findings have shown that language teachers' practices are shaped in unique and often unpredictable ways by the invisible dimension of teachers' mental lives that have emerged from teachers' diverse personal and language learning histories, language teacher education experiences, and the specific contexts in which they do or

learn to do their work. On the other hand, however, limited progress has been achieved in addressing some of the most pertinent questions asked by applied linguists, policy makers, and general public alike: How do language teachers create meaningful learning environments for their students and how can teacher education, continuing professional development, and the wider educational and sociocultural context facilitate such learning in language teachers? To us, the co-editors of this special issue, these questions constitute the central project of language education research to which the study of language teacher cognition should aspire to contribute.

Despite the ever growing body of research on what language teachers know, believe, and think (Borg, 2006; Woods, 1996), we know little about how such cognitions relate to students' language learning experience in these teachers' classrooms (e.g., Tsui, 2011). Similarly, despite a vast range of innovative teacher education interventions and recommendations produced as a result of language teacher cognition research (e.g., Burns & Richards, 2009; Farrell, 2015), their uptake in actual teacher education programs around the world appears limited (Tedick, 2009; Wright, 2010); even the question of what constitutes meaningful and worthwhile impact on teacher education practices is far from resolved (Kubanyiova, 2012).

This special issue has been assembled in full awareness of the theoretical, methodological, and practical challenges—also evident across the articles in this volume—that addressing such questions presents for language teacher cognition research. It is precisely thanks to this domain of inquiry that we now understand that the complex relationship among learning to teach, teaching practices, and students' learning defies the causality assumption that is so prevalent in public discourses on accountability regimes

for teacher education programs. At the same time, however, if language teacher cognition strives to be a credible and relevant domain of inquiry that influences these public discourses in productive ways, then its findings must have something meaningful to contribute to what we have termed the central project of language education research.

This article, along with the contributions to the special issue, does not claim a comprehensive treatment of this complex objective. What it does do, however, is suggest opportunities for redrawing the domain's epistemological, conceptual, and ethical foundations, which could help language teacher cognition to re-align with its larger purposes. First, we show how what is today recognized as 'mainstream' language teacher cognition domain (see overviews in e.g., Borg, 2006; 2009, 2012; Song, 2015) offers a limited *epistemological landscape* for understanding cognition, largely informed by the cognitivist paradigm. We discuss how efforts at enlarging these epistemological boundaries and viewing teacher cognition through alternative lens as *emergent sense making in action* offer enhanced opportunities to study the relationship among teachers' cognition, practice, and students' learning.

The second opportunity is in redrawing the boundaries of the domain's *conceptual geography*. The predominant focus on isolated constructs, such as beliefs or knowledge, produces partial at best and irrelevant at worst understandings of teachers' sense making in relation to meaningful learning of both language teachers and their students. Our proposal for language teacher cognition research is to embrace the complexity of teachers' inner lives in the context of their activity and aspire to understand what we have broadly termed *ecologies of language teachers' inner lives,* as these relate to what language teachers do, why they do it, and how this may impact on how their

students learn. We propose that the links among teachers' actions, reasons, and impact on students be examined in light of *intentionality*, a feature common to different mental processes and related to purposeful actions.

The proposed conceptual expansion means moving away from a top-down delineation of the domain's scope which has appealed to traditional psychological categories (cf. Borg, 2006). Such conceptual boundaries, however, are difficult to maintain when the scientific and philosophical communities lack agreement on the nature of the mind and mental states. For example, in cognitive science and cognitive psychology, the computational and representational views of mind have been challenged by conceptions of cognition as emergent, situated, distributed, and embodied (Barsalou, 2008; Chemero, 2009; Gibbs, 2005). Similarly, the traditional distinctions among cognition, emotion, and motivation have been replaced by views across the theoretical spectrum that they are mutually influential and distinguishable but not dissociable (Braver et al, 2014; Pessoa, 2008; Storbeck & Clore, 2007). Although current research results are too tentative to be directly applied to teacher cognitions, they suggest that it is pragmatic to maintain an open attitude about the scope of the language teacher cognition research. Studies reflecting this attitude and adopting bottom-up approaches to identifying salient dimensions of language teachers' inner lives (e.g., Feryok, 2012; Feryok & Pryde, 2012; Golombek & Doran, 2014; Kubanyiova, 2009, 2012) have shown promising ways forward in pointing to the role of complex inner lives in influencing teacher learning, teaching practice, and the students' experience.

The final point returns to the heart of our argument and the need to engage with questions of what knowledge can be of value to whom (cf. Ortega, 2005) and how such

an *ethical vision* for this research domain can be achieved. We discuss how reclaiming

the relevance of the field needs to happen through linking teacher cognition to

meaningful teacher development and students' learning, and that this needs to occur in

response to changing linguistic, cultural, and socioeconomic realities of language

classrooms around the world.

<A> EPISTEMOLOGICAL LANDSCAPES OF LANGUAGE TEACHER

COGNITION

Even though the emphasis on teachers as active thinking and feeling agents in

their own development and in the educational process was a unifying raison d'être of the

cognitive tradition in research on teachers and teaching, distinctive epistemological

orientations to how teachers' cognitions were conceived and researched were evident

from its early days in the general teacher education domain. In one perspective, teacher

knowledge was seen as 'objective:' abstract, propositional, and justified by appropriate

evidence (e.g., Berliner, 1987; Gage, 1978); in another, it was conceptualized as

'subjective:' more situated, experiential, and embodied (e.g., Nespor, 1987; Elbaz, 1991;

M. Johnson, 1989) and closely connected with beliefs, moral values, and emotions (e.g.,

Calderhead, 1996; Clandinin, 1985; Munby, Russell, & Martin, 2001; Pajares, 1992).

Conflating objective and subjective views of knowledge was sometimes explicitly

warned against (e.g., Feimen–Nemser & Floden, 1986; Fenstermacher, 1994).

Although "an inclusive term to embrace the complexity of teachers' mental lives",

that is, "teacher cognition" (Borg, 2006, p. 50) may have been intended as a solution to

these tensions, their distinctive epistemological roots, and therefore the tensions themselves, have remained largely unexamined and unaddressed in general overviews of the domain with respect to language teachers (Barcelos & Kalaja, 2013; Borg, 2003, 2006, 2012; Song, 2015; Woods, 1996). Explicit acknowledgment that there are different ways of understanding and researching cognition is critical particularly for novice researchers who often turn to such overviews for comprehensive treatment of the domain. In the context of this article, such open scrutiny of what counts as evidence of language teacher cognition, how it can be accessed in empirical data, and how researchers' ways of knowing may affect what they learn is indispensable to both situating and assessing studies in relation to the central project of language education research. We discuss these issues in the following sections.

<B> Cognitions as Reified Mental Constructs vs. Emergent Sense Making in Action

The main strand of language teacher cognition research efforts have typically concentrated on two objectives: (a) to identify the range of cognitions, usually beliefs or knowledge, that language teachers have about different aspects of their work (e.g., Gatbonton, 1999; Kissau, Algonzine, & Yon, 2013; Mullock, 2006), and (b) to shed light on the relationship between teachers' cognitions and practices (cf. Basturkmen, 2012). Because in this strand of research teachers' mental constructs are assumed to be unavailable for direct observation (cf. Baker, 2014; Borg, 2012), they need to be accessed through various elicitation instruments, such as standardized questionnaires containing categorical belief/knowledge statements or carefully developed stimulated recall protocols and interview guides. The researcher's task is seen as that of a "miner" (Kvale

& Brinkmann, 2009, p. 47) of data that are usually treated as "reports" (Daiute, 2014, p. 10) of cognitions.

Understanding cognition in this way links a significant part of the domain to the acquisition metaphor informed by the cognitivist view, which sees "knowledge as a kind of material, . . . human mind as a container, and . . . the [teacher] as becoming an owner of the material stored in the container" (Sfard, 2008, p. 49). This epistemological tradition treats cognitions as reified mental constructs, that is, static and discrete entities that are typically dissociated from action and context, as well as other dimensions of teachers' inner lives (e.g., emotions, motivations, values). Teachers' cognitions are assumed to be acquired as a result of their professional and personal experiences, readily accessed and articulated in self-reports, and applied (or not) in teaching practices. It is also assumed that a match between stated beliefs and practices is desirable and should therefore be facilitated, for example, through reflective practice (Farrell & Ives, 2015), and thus one of the aims of language teacher cognition research has been to shed light on the reasons where this is not the case (e.g., Li & Walsh, 2011; Phipps & Borg, 2009) in order to improve teacher learning and practice by identifying further development needs.

While we do not intend to dismiss the value of the cognitivist epistemological perspective in its general contribution to the domain's knowledge base, a social alternative seems better suited to address what we have termed the larger vision of language teacher cognition. Within this participation-oriented epistemological perspective, teacher cognition has been represented by a number of metaphors in general research on teachers, including cognition as gestalt (Korthagen, 2001), situational representations (Clarà, 2014), and patterns of participation (Skott, 2015). All of these,

while distinctive in their conceptual origins, emphasize teachers' situated, dynamic, and embodied knowing in action and, accordingly, place the study of teacher cognition in settings in which it finds expression: the contexts of participation in practice.

True, the epistemological view of cognition as emergent sense making in action is not new or uncommon in the study of language teachers and second language teacher education: It has been at the core of early research in language teacher education that focused on the emic perspective of teaching (e.g., Freeman, 1993), is acknowledged as central in the origins of teacher cognition research (Borg, 2006), and has been more fully theorized in second language teacher research informed by sociocultural theory (e.g., K. E. Johnson, 2009). But apart from elaborated discussions informed by sociocultural theory (R. Cross, 2010; Golombek, 2009; K. E. Johnson, 2006), a comprehensive treatment of distinctive epistemological perspectives as well as of the diverse conceptual, methodological, and analytical options that the broader "social turn" in applied linguistics (Block, 2003) presents for researchers of language teacher cognition has not been integrated into mainstream overviews.

<B> Researching Cognition in Action

Even though the call for including the study of practices into language teacher cognition research has repeatedly been made (cf. Borg, 2006), viewing cognition through the participation metaphor differs significantly from 'stated cognitions–observed practice' designs that are typically employed to respond to these calls. Such designs have a tendency to separate thought and action (R. Cross, 2010), putting them in an almost

adversarial relationship, by abstracting them from the context that binds them together. Within the participation paradigm, in contrast, practices are understood not as spaces in which reified mental constructs, such as beliefs, may or may not be applied, but rather as "dynamic and evolving outcomes of individual and communal acts of meaning-making" (Skott, 2015, p. 24). Accordingly, studying language teachers' sense making should be understood as an interpretive activity, akin to research in sociolinguistics, anthropology, or cultural psychology, whose aim is to gain a deeper understanding of how ecologies of language teachers' inner lives—a term we discuss in the next section—unfold in contexts of their practice. The researcher's task lies not in eliciting cognitions, but rather in "disentangle[ing] patterns in the teacher's reengagement in other past and present practices in view of the ones that unfold at the instant" (Skott, 2015, p. 24).

This means that stated beliefs and practices often appear difficult to reconcile not only because they are complex and context-sensitive relative to teaching situations (which they undoubtedly are), but primarily because the two may be tied to different contexts of teacher cognition in action relative to the research context. This sense making is deeply embedded in larger phenomena of social participation, such as teachers' desired membership in the researcher's social network (Kubanyiova, 2012), emerging participation in professional communities of practice (Kanno & Stuart, 2011), membership in an immigrant community (Barkhuizen, 2010), or a pursuit of deeper societal purposes for developing empowered and responsible students (Hayes, 2010), all of which go beyond the typical focus of language teacher cognition research viewed from the acquisition perspective. Pursuing research into language teacher cognition through the participation metaphor requires commitment to those analytical approaches that are

epistemologically closer to the study of actual practices. These include a range of discourse analytic, narrative, and ethnographic approaches (e.g., Fagan, 2012; Morton & Gray, 2010; Razfar, 2012; Tasker, Johnson, & Davis, 2010; Varghese, 2008), some of which have already facilitated promising inroads into addressing the link between teachers' knowing in action and their students' learning (cf. Dudley, 2013).

<B> Reflexivity

As already suggested, researching cognition in action also demands researchers' sensitivity to how this sense making unfolds in the research event itself. This requires far greater acknowledgment than has been the case in mainstream language teacher cognition of the social interactive (Talmy & Richards, 2011) and highly interpretive nature of research activity (Talmy, 2014), and of human reflexivity in general (Bruner, 1990), with its capacity to make and shape meaning of the past in the light of the present and vice versa. When teachers describe their emotional struggles, passions, motivations, values, or beliefs, they do not simply put words to pre-existing mental mechanisms that reside, fully developed and ready to be coherently articulated, in their heads. When they tell, they tell with a particular purpose, to a particular audience. What and how they tell is shaped by the context of the telling which influences what can, should, or even must be told about their selves, their students, and their teaching worlds. Equally critically, what we as the researchers 'see' in the telling is an outcome of our own epistemologies. This means that a crucial part of empirical inquiry into language teacher cognition, which may be inherent

in the participation epistemology but is by no means exclusive to it, should include reflection on the contexts and actors of telling and how these may shape what is learned.

<A> CONCEPTUAL GEOGRAPHY

<B> *Intentionality and Language Teacher Cognition Research*

One of the concerns raised about research on teachers' inner lives is its conceptual variation, signalled by a continually multiplying and overlapping terminology (Clandinin & Connelly, 1996; Fenstermacher, 1994; Woods, 1996). Borg (2006) suggested that clear definitions were needed until agreement on core concepts was reached, but also proposed using concepts from psychology, including "cognition, knowledge (and its subtypes), beliefs, attitudes, conceptions, theories, assumptions, principles, thinking and decision-making" (p. 272). Even with recent expansion proposals to include emotion and identity in the domain's scope (cf. Borg, 2012), however, a top-down approach to determining its conceptual geography no longer appears viable in pursuing the central project of understanding how language teachers create meaningful learning experiences for their students and how they can be enabled to do so.

Instead of taking a top-down approach to identifying the concepts relevant to language teacher cognition, a bottom-up approach to establishing conceptual clarity is to identify the common element over a wider range of studies. One candidate is a broader concept of *intentionality*, which is both individual and collective (Searle, 1990), includes the three traditional mental faculties of cognition, emotion, and motivation (Schweikard

& Schmid, 2013), and is central to agency (Wilson & Shpall, 2012; see also Atkinson, 2014, on the related concepts of theory of mind and common knowledge). Philosophical accounts of intentionality subsume psychological conceptualizations, which differ across different branches of psychology. In philosophy, intentionality is the aspect of mental processes or states that is *about* things: that is, perceiving, thinking, or feeling do not occur without something being perceived, thought, or felt, and may underlie all mental states or even consciousness (Pierre, 2014). Cognitive psychology addresses them empirically, but other branches of psychology focus on different aspects of intentionality: In developmental psychology, for example, intentionality focuses on purposeful human actions, which may be the fundamental capacity underlying social cognition (Malle, Moses, & Baldwin, 2001). The two senses are related to each other. At least one philosophical account (Searle, 1990, 2002, 2010) focuses on how collective intentionality underlies social concepts or facts, that is, "whole patterns of behavior and social relationships" (2002, p. 137) that constitute social reality, which are relevant to the instructional contexts of language teaching and learning, and thus to language teacher cognition research. Collective intentionality also underlies the subject matter of psychological accounts of social cognition and human development. For example, a key child development milestone is when, through eye-gazing, infants infer the intentionality of others through the intentions they share as they perceive the same things. Such inferences about other intentional minds involve sociocognitive skills (cf. Atkinson, 2014) that enable further development of joint attention, cooperative communication, collaborative activity, and instructed learning (Tomasello & Carpenter, 2007), all of which suggest a basis for examining how learning (cf. Yu, Ballard, & Aslin, 2005) can be

shaped by teachers who create suitable conditions for student learning in instructional settings (see Kubanyiova, this issue). However, the initial inference about other minds is based on the social reality or background (Searle, 1990, 2002, 2010) of human life in which a child and a caregiver exchange a gaze in the midst of looking at the same object.

A few studies offer directions in which intentionality has been and could be further explored in the context of language teaching. Gibbons's (2002, 2003) work on mediating ESOL student learning is essentially about how teachers develop shared intentions with their students through joint attention and cooperative communication in collaborative activity during instructed learning. Underlying those shared intentions may be an intentional orientation to knowledge, which Roth (2014) targets directly through a phenomenological analysis of intentionality. Although these studies address the impact of teaching on learning, they do not directly address teachers' inner lives.

Psychologists often refer to the 'folk concept' of intentionality as the mentally specified goals or aims, which carry a commitment to act (Malle, Moses, & Baldwin, 2001). This concept has practical relevance for establishing the link between teachers' inner lives and student learning by examining how teachers' desires, beliefs, and intentions for both particular classroom actions and more generally for themselves, education, and their students make a difference in the learning and lives of their students. Intentionality also has practical consequences for teacher education, particularly through developing the awareness of intentions while teaching (e.g., through reflective practice; see Farrell, 2015) and skills (e.g., through approaches informed by sociocultural theory; see Johnson, 2009).

However, the wider sense of the philosophical approach to intentionality is also important for encompassing all mental processes or states that are about something: an inclusivity that not only suits the aims of this special issue to redraw the boundaries of language teacher cognition research by expanding them but also ensures that the domain is open to current directions in cognitive science and psychology that challenge the traditional distinctions among cognition, emotion, motivation, and identity (discussed earlier), especially in research on teachers (cf. D. I. Cross & Hong, 2009; Gregoire Gill & Hardin, 2015; Kaplan, 2014; Zembylas, 2014).

\<B\> Steps Toward Ecologies of Language Teachers' Inner Lives

Intentionality has been 'borrowed' from psychology and philosophy in order to find a concept sufficiently broad to encompass different strands in language teacher cognition research. There is other evidence of borrowing theoretical insights from social cognitive psychology on the reciprocal relationship among cognition, behaviour, and environment (Bandura, 1986), applications of sociocultural theory to understanding the social nature of human thought (Vygotsky, 1986), anthropological psychology's ecologically-embedded explorations of cognition (Bang, 2007), the view of cognition as socially distributed and situated in discourse advocated in conversation analysis and discursive psychology (te Molder & Potter, 2005), applications of complexity and ecological metaphors to understanding cognition in its nested ecosystems and different levels and timescales (Larsen–Freeman & Cameron, 2008; van Lier, 2004), and poststructuralist critical theories, including critical applied linguistics, which highlight the power of values and challenge dominant forms of thought perpetuated through social

macro-structures and unequal power relationships (Morgan, 2007; Pennycook, 2001). All of these perspectives are fundamentally about intentionality, while recognizing the need to adopt diverse conceptual metaphors to encompass it.

For example, Razfar (2012) adopted *language ideologies* to highlight the deeply embedded social, political, and discursive nature of teachers' beliefs and practices. Similarly, Varghese (2008) used *cultural models* to foreground the personal and professional socialization processes underlying language teachers' understandings and adoption of language policies. Scarino (2014) examined *life-worlds* to emphasize the ecologically embedded nature of teachers' *interpretative frameworks*. Further afield, *figured worlds* (Holland, Lachicotte, Skinner, & Cain, 1998) have been adopted as a conceptual metaphor to understanding novice teachers' sense making in different learning-to-teach contexts (Horn, Nolen, Ward, & Campbell, 2008; Nolen, Ward, & Horn, 2014). And, finally, Zembylas (2007) has argued emphatically for taking a critical stance towards understanding teachers' *emotional ecologies*, which challenges the notion that emotions, feelings, and bodies are somehow in opposition to cognition, rationality, and the mind. These views, all aligned through varied conceptual metaphors with the broader social turn in teacher education and applied linguistics research, locate teachers' inner lives in the larger world of social facts that are grounded in collective, or shared, intentionality.

Viewing language teacher cognition through the lens of ecologies of teachers' inner lives is useful for two reasons. First, it focuses on teachers' inner lives, maintaining the focus established in early research in education and educational psychology research that aimed at widening the narrow behaviorist view of teaching by including teachers'

thinking, in terms of the full range of individual intentional mental processes or states as well as purposeful actions at the individual level. Second, it situates those inner lives within teachers' larger lives and within larger environments, most pertinently their classrooms, which exist in schools in larger systems (such as local and national educational systems), but also their larger lives and the social, cultural, and historical environments in which they occur. All of these are grounded in collective intentionality and the collective purposeful actions that occur within them. Recognizing such complexity and situatedness in language teacher cognition research may require a wider range of explanations and metaphors than are regularly deployed in narrowly psychological approaches to language teacher cognition, and thus underlies the position taken in this issue: The conceptual scope of language teacher cognition research cannot be fully pre-determined in advance, but needs to be allowed to emerge (in light of researcher knowledge and experience) through the research process. Intentionality offers a core concept that links individuals and others, minds and actions, and encompasses the link between teaching and learning. It can therefore serve as a core focus for researching language teachers' inner lives in action in order to establish the connection to student learning of the larger vision proposed here.

<A> TOWARD AN ETHICAL VISION OF LANGUAGE TEACHER COGNITION

Decisions about the contours of the conceptual geography as well as the kinds of epistemological landscapes that we wish to include under the common umbrella of language teacher cognition will ultimately need to be guided by an ethical vision for this

domain of inquiry. In other words, we advocate a research agenda that explicitly engages with its worthwhile purposes (Kubanyiova, 2012; Ortega, 2005) and scrutinises its choices not only in the light of what can be learned, but primarily by considering whether what can be learned is worth knowing and for whose benefit.

Although the purpose of language teacher cognition has generally been described as "to better understand teachers and teaching" (Borg, 2006, p. 273), it has not always been made clear, either in individual studies themselves or through critical overviews of existing research, how the various strands of research contribute to this goal. For example, understanding "what language teachers know, believe, think, and do" (Borg, 2003, p. 81) has been used as a broad umbrella defining this research domain's scope. Indeed, a cursory glance at a sample of recent work published under the label of language teacher cognition shows that new research continues to explore teachers' cognitions about a wide range of aspects of L2 teaching, including pronunciation (Baker, 2014), speaking (Baleghizadeh & Shahri, 2014), listening (Graham, Santos, & Francis–Brophy, 2014), assessment (Büyükkarcı, 2014), integrated content and language instruction (Ellili–Cherif, 2014), technology (Sardegna & Dugartsyrenova, 2014), and many more. These descriptive mappings of what teachers believe, know, and do provide important insights that enable us to appreciate specific content areas and curriculum domains from the teachers' perspectives. However, the domain as a whole has not sufficiently reflected on why such findings might be needed in the light of current theorizing in language teacher cognition, how they might contribute to a better understanding of teachers and teaching, and, crucially, what ends such understandings might serve.

The absence of explicit reflection on the social relevance is indicative of a more widespread trend in language teacher cognition research whose relevance is generally implicitly assumed, but rarely explicitly argued. Our position, in line with Alexander, Grossnickle, and List's (2014) conclusion about teacher motivation research, is that "without a more definitive sense of where those embarking on this adventure are headed, it will be rather impossible to determine whether they are moving in a positive direction" (p. 159). Therefore, we wish to put forward for language teacher cognition what Ortega (2012) has argued for SLA: Conceptual and epistemological diversity, although important and good, will not in itself ensure the social relevance of language teacher cognition research. Only a social standpoint, taken by consciously and conscientiously asking "Why?" and "To what end?" offers a basis for discovering our ends—our purposes, aims, and ideals. In what follows, we offer examples of possible directions for an ethically grounded research agenda.

<B> Reclaiming the Relevance to Teacher Development and Students' Language Learning

Exploring the impact of teacher education on teachers' learning and development has always been at the center of the language teacher cognition agenda. Yet, the question at the heart of this debate is whether the accumulated empirical evidence has anything meaningful and relevant to say about how these programmes should go about educating teachers who will be both able and willing to make a positive difference in their students' language learning in diverse linguistic and socio-political contexts. That teacher cognition research has largely failed to generate such evidence has recently been argued by researchers in general teacher education learning (Ball & Forzani, 2009; McDonald,

Kazemi, & Kavanagh, 2013). They have called for a shift away from the development of teachers' cognitions as the ultimate goal of teacher education research and practice and towards the development of the so called 'core practices' of teaching which foster students' deep engagement in learning. This is a welcome shift, but it does not render teacher cognition research irrelevant; instead, it highlights the important contribution the cognitive turn has made by showing that teaching cannot be reduced to a set of replicable behaviors (cf. Zeichner, 2012).

What the critique does make obvious, however, is that in order to reclaim the relevance of language teacher cognition research, we need a firmer commitment to understanding those practices of language teaching, teacher learning, and language teacher education that illuminate how teachers can be helped to make a difference to their students' lives in the language classrooms. Language teacher cognition research needs to focus more sharply on how the inner worlds of teachers shape how their learning in formal settings, development over their careers, and teaching make a difference to their engagement with and influence on student learning. Although not every study can be expected to address this link directly, language teacher cognition research that strives for social relevance should be able to articulate its contribution in relation to this research agenda.

This leads to what we see as one of the most serious threats to the relevance of language teacher cognition: our systematic failure to address the links between language teachers' inner worlds and their teaching, and their students' inner worlds and their learning. Calls for making such links have been issued in virtually every overview of the domain (e.g., Barcelos & Kalaja, 2013; Borg, 2006, 2009; Kubanyiova, 2014; Song,

2015; Tsui, 2011), recognizing that the focus of teacher cognition should be "on the way teachers understand their world, insofar as this understanding affects the way they structure classroom experience and interact with their students" (M. Johnson, 1989, p. 361). However, this call has not been widely taken up by the scholarly community in the language teacher cognition research, not least because of the complex demands that such a task makes on both research design and researchers' expertise. However, if there is anything we can learn from trends in neighboring disciplines (e.g., a significant slowdown in the previously burgeoning domain of teacher self-efficacy beliefs due to the absence of a strong research base linking teacher self-efficacy beliefs and student learning [Klassen, Durksen, & Tze, 2014]), it should be that without serious programmatic efforts to produce compelling evidence of teachers' sense making and their students' learning—or, what Freeman and Johnson (2005) have termed "the relationship of influence" (p. 74),—we risk relegating the domain to the margins of applied linguistics and of education research in general.

<B> Responding to New Linguistic Realities in the Globalized World and Serving Underserved Populations

This journal (cf. Kramsch, 2014) has recently engaged extensively with the rapidly changing linguistic, cultural, and socio-political landscapes that globalization has brought about and with the implications these changes have for L2 pedagogy. A crucial task for language teacher cognition as a domain is embracing a research programme that

addresses the new concerns that these changes imply for language teachers and language teacher educators around the world.

Language teacher cognition must reconfigure its research agenda to include the ways in which language teachers come to terms with the dynamic, socially-embedded, and unpredictable nature of language and meaning making (Byrnes, 2012; Tedick, 2009; Trappes–Lomax, 2002), with the radical changes in conceptualizing communicative and intercultural competence in multilingual settings (Kramsch & Whiteside, 2008), and with the shifting emphasis from the monolingual native-speaker model to learners' multilingual competencies and repertoires as the basis for successful language teaching and learning (May, 2014).

There is much to learn about the inner landscapes of language teachers' lives that inform their interactions with students from linguistically, socio-politically, and socioeconomically marginalized backgrounds (Bigelow, 2010; Varghese, 2008) and with students with language disabilities (Kormos & Smith, 2012; Martin, 2009). Similarly, we have limited understanding of the knowledge, commitments, visions, and emotions that underlie language teachers' practices in under-resourced contexts (Tin, 2014) as well as those scarred by conflict (Elbaz–Luwisch, 2004; Hayes, 2010) and low teacher morale (Fatima, 2013).

To sum up, language teacher cognition researchers, regardless of their epistemological orientations and conceptual homes, must engage with questions of what knowledge can be of value to whom and how such an ethical vision for the discipline can be achieved. But the key premise for this section is that it cannot be assumed that value is inherent in any research domain. Instead, as Ortega (2012) notes, "social utility and

educational relevance must be questioned and justified anew for each new project researchers may pursue" (p. 220).

<A> THIS ISSUE

The key purpose of the first four articles in this special issue is to show the value of going beyond rationalist conceptualizations of cognition to examine a range of mental processes and experiences that contribute to understanding teachers and teacher educators. Moodie and Feryok use multiple data sources collected over a year to show how commitment—a multidimensional construct encompassing cognitive, motivational, affective, and social dimensions—for teaching English in Korean primary school teachers developed, and how it contributed to their practices. In the next article, Golombek situates her study in sociocultural theory to analyse the value of reflective journal writing on a graduate teacher education programme in the United States. Her findings show how the relationship between a teacher educator's and her student teacher's *perezhivanie,* that is, lived experience united through cognition, emotion, and activity, contributed to the professional development of both. Crookes explores the synergy between language teachers' philosophies and language teacher cognition, pointing out that the common conceptual areas but different disciplinary origins offer a way of expanding the boundaries of language teacher cognition research, highlighting the value of focusing on language teachers' critical cognitions. Cognitive conceptions of teacher language knowledge are challenged in Coffey's article on the embodied nature of language

knowledge. He investigates pre-service teachers of modern languages in England who drew language body portraits to explore their experiences of language.

The next four studies explore teachers' cognition in action as it unfolds in the activity of teaching, teacher learning, and lesson planning. Johnson adopts a Vygotskyan concept of *obuchenie*—teaching and learning as collaborative activity— to show how a teacher educator's mediation enabled pre-service teachers in an MA TESOL program in the United States to transform everyday ideas into professional knowledge that informed their practices and shaped language learning opportunities for their students. Svalberg also considers the process of developing a professional knowledge base of international students in an MA TESOL programme in England by making visible their development of functional grammar through engagement in consciousness-raising activities. A dynamic systems approach is used in Feryok and Oranje's article about a teacher who adopted a project to promote intercultural teaching and learning in a German as a foreign language class, but focused on practicalities rather than pedagogy. Kubanyiova closes this section with a fine-grained study of the opportunities for L2 development created and constrained in teacher-led discourse to show how multiple dimensions interact to affect not only language teachers and teaching, but also learners and learning

<B> Contributions to Redrawing Epistemological Landscapes

In line with the participation metaphor of researching language teacher cognition, the empirical studies in this special issue have drawn from a range of discursive approaches, such as microgenetic analysis, narratives, conversation analysis, and grounded theory ethnography. Some offer snapshots of 'live' sense making in action (Johnson, Svalberg, Feryok & Oranje, Kubanyiova), while others provide a detailed

examination of teachers' sense making of their participation in past events to highlight patterns relevant to current and future practices (Moodie & Feryok, Golombek, Coffey).

Two studies in particular exemplify researcher reflexivity. Golombek's reflexivity with regard to her role as a teacher educator who was also a researcher shows how her *perezhivanie* influenced the way in which she judged her student teacher's engagement. It serves as a powerful reminder that the sense making of researchers and teacher educators profoundly influences which particular dimensions of experience become relevant in a particular situation. Kubanyiova's study also demonstrates that awareness of research as an interactional event (Talmy & Richards, 2011), which takes into account the various identity projects that participants pursue in these events, can expose unanticipated facets of language teachers' sense making and its consequences for students' learning.

<B> Contributions to Redrawing the Conceptual Geography

Although most of the empirical articles in the special issue do not directly address intentionality, it underlies the concepts they draw on. This is directly addressed in Moodie and Feryok's study, which argues that the commitments of its teacher participants were grounded in the intentions underlying their actions. In particular, the development of emotional attachments to English and memories of their own positive and negative learning experiences showed their efforts to create shared intentions with their own students by creating rapport and using engaging activities that created a collaborative spirit in the classroom, even when activities did not require communicative collaboration.

Three of the articles consider how to develop greater awareness of language in novice teachers through the metaphorical exploration of multilingualism in body portraits

(Coffey), reframing novice teachers' grammar concepts and how they are made learnable through expert mediation (Johnson), and challenging limited pre-existing concepts of grammar through techniques that generate cognitive conflict (Svalberg). All three are aimed at novice teachers in order that they develop both sophisticated linguistic knowledge and experience the learning process for themselves. Each of them emphasizes a different area of current expanded views of cognition. In Coffey, cognitive experience is metaphorically embodied in portraits that reflect the actual embodied experiences of novice teachers; in Johnson, it is distributed among the teacher educator and each novice teacher; in Svalberg, it is both situated in authentic linguistic contexts for grammar and distributed among the novice teachers' efforts to make sense of functional grammar in those contexts.

Four articles focus on the challenges of establishing shared intentions in the larger ecologies in which teacher' inner lives are nested. Some of the issues raised are supports for and threats to developing shared intentions with students in line with language education policies (Moodie & Feryok), emotional understandings that color how a teacher educator understands a pre-service teacher's intentions (Golombek), differing teacher and researcher intentions for their interactions (Feryok & Oranje), and how possible selves shape how a teacher manages her class's communicative intentions (Kubanyiova).

Finally, Crookes' conceptual article argues for the need to enable teachers to examine their own teaching philosophies, and for greater awareness of philosophy in the field of language teacher cognitions. This foray into intentionality as underlying the central project of language teacher cognition research is an effort to do that.

<B> Contributions to an Ethical Vision

Although this special issue is, admittedly, far from answering the central questions posed in the introduction, several articles contribute to reclaiming the relevance of language teacher cognition by scrutinizing the practices of language teacher education and professional development. Johnson offers evidence that the quality of dialogic interactions between teacher educators and student teachers is crucial to teacher learning, arguing that student teachers need multiple opportunities to externalize their cognitions in practical tasks in order to internalize the mediation that teacher educators provide, that is, learn. Johnson's study not only makes mediated internalization visible through the data from different practices of teacher education, but crucially, also offers evidence of how student teachers' enactment of specific language teaching practices creates opportunities for their students' language learning during their teaching practicum.

Svalberg examines the mediation of student teacher learning through collaborative tasks that pushed them to engage with a functional view of language. Her focus on the student teachers' *engagement with language* during these tasks allows insights into the depth of their sense making and thus possibilities for meaningful internalization, even though the connection with these course participants' future students' learning remains a theoretical speculation.

Feryok and Oranje's study also makes visible one teacher's sense making and how the role of institutional demands shape what happens inside her practices. The kinds of concerns that oriented this language teacher's sense making during her planning allow

us to assess opportunities as well as hindrances to her developing an intercultural perspective in which she can contribute to students' development of intercultural competence in her German as a foreign language classroom.

An example in this special issue of addressing the relationship between teachers' cognition, practices, and the students' learning more directly is Kubanyiova's examination of a teacher's discursive practices in teacher-led classroom discourse and how these created or hindered L2 development opportunities for learners of EFL in a secondary classroom in Slovakia. By combining a research concern of the SLA domain with interrogation of ethnographic data concerning the teacher's sense making, Kubanyiova shows the powerful role of this teacher's image of a desired future self in both facilitating and hindering students' language learning experiences. This study demonstrates that foregrounding the theoretical and analytical focus on student learning, participation, and engagement should become the starting point for research that aims to address the notoriously difficult link between teacher cognition and student learning.

Four articles also consider the new linguistic realities of the globalized world through explorations of language teachers' multilingual repertoires, intercultural frames, and critical philosophies of teaching. By uncovering the embodied multilingual histories of future teachers of foreign languages in the United Kingdom, Coffey's article contests the largely cognitive-rational and monolingual norms guiding the field's explorations of language teachers' knowledge of language. Feryok and Oranje consider the challenges experienced by their teacher participant in teaching in largely monolingual classrooms which she wished to address through an intercultural language teaching focus. Svalberg's study considers how language teachers develop their awareness of the highly complex

and dynamic nature of "learning to mean" in L2 (cf. Byrnes, 2012; Gebhard, Chen, Graham, & Gunawan, 2013). And, finally, Crookes advocates inclusion of social justice issues into the language teacher cognition agenda. This would enable teacher educators to support the development of language teachers' critical philosophies of teaching through their critical cognitions.

<A> CONCLUSION

This article, along with the contributions in this special issue, makes a case for three shifts in current thinking about the hidden dimension of language teaching. The first concerns embracing the social turn in applied linguistics (Block, 2003), which encourages reflection on the diverse conceptual, methodological, and analytical options that the social alternatives to the predominantly cognitivist epistemology offer to language teacher cognition researchers. In particular, we have highlighted the benefits that studying cognition as *emergent sense making in action* has for bridging the links between teachers' inner worlds, their practices, and their students' language learning experiences.

The second shift advocates a move away from a top-down strategy to charting the domain's conceptual geography and towards an open-ended bottom-up approach that seeks to encompass the complexity of teachers' inner lives in their ecologies of practice. We have suggested that this link can be examined profitably in light of *intentionality,* which provides a conceptual lens for understanding individual as well as shared sense making in action and enables insights into the relationships between teaching and learning. Efforts to understand intentionality within what we have termed broadly as

ecologies of language teachers' inner lives encourages a wider range of conceptual metaphors than the current scope of the domain allows and the boundaries therefore ought to be redrawn.

By linking the language teacher cognition domain with other domains of applied linguistics and social sciences more broadly, its place in the wider world and its relevance to broader concerns is necessarily tied to the diverse human communities that have emerged around the world. The third shift is in recognizing the pivotal role of context in the study of language teacher cognitions. This shift must carry with it due regard for larger contexts as well as the specific situations of individual language teachers. The micro-perspective of language teachers' inner worlds and individual practices is embedded in the larger ecologies of workplaces, educational systems, national language policies, and global issues. There must be a greater recognition in language teacher cognition research that the immediate classroom interaction, the research context in which such interaction is documented, the teacher's sense of the broader institutional setting, the status of his/her profession in the society, the global context of L2 learning and use, and the social status of students' home languages and socioeconomic circumstances all play decisive roles in determining which of the teacher's unobservable dimensions are relevant at an instant and over a career (Razfar, 2012; Scarino, 2014; Varghese, 2008).

Finally, and most crucially, our discussion of opportunities for redrawing the domain's epistemological and conceptual boundaries has been firmly rooted in what we have presented as an ethical vision for language teacher cognition. We have advocated a research agenda that explicitly engages with its worthwhile purposes and puts moral

values and ethical principles at the center of our work: "The basic principles which guide our work should not only be conceptually clear, but also morally transparent" (van Lier, 1994, p. 339). This principle requires a new sense of reflexivity, one in which the roles, rights, and responsibilities of researchers and participants (and others involved in the research production and use) are considered. "Why?" and "To what end?" must be asked. This is a wider vision of research in which social relevance develops dialogically in a community. As a part of *applied* linguistics, this dialogue necessarily reaches beyond researchers' and participants' activities and is nurtured by a firm commitment to the communities that have a right to expect to benefit from its research pursuits.

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