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A Sociocultural Rationale for an Explicit-Inductive Approach to Grammar Teaching in L2 Teacher Education

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ABSTRACT

Explicit knowledge of language is posited as a core component of language teachers' professional knowledge, as it impacts on their classroom practice, cognition and professional reflection. In response to a sociocultural turn in teacher education, this paper presents a sociocultural rationale for the implementation of an explicit-inductive approach to grammar teaching in L2 teacher education. In an explicit-inductive approach, students are guided to induce and articulate grammatical rules for themselves. A tripartite analysis of *teacher educator as pedagogue*, *student language teacher as teacher-learner* and *pedagogy as process* within an explicit-inductive approach is presented, to form a sociocultural model for the teaching of explicit knowledge in L2 teacher education. It is argued that an explicit-inductive approach which is grounded in praxis has the potential to develop student language teachers' (SLTs') content knowledge, i.e., their declarative knowledge of grammar, as well as their pedagogical knowledge of how to teach grammar. The paper calls for further discussion and critical reflection on the teaching of explicit knowledge in L2 teacher education.

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Introduction

The preparation of teachers has evolved in recent decades from transmission models of teacher training to constructivist and transformative pedagogies of teacher education (Loughran & Russell, 2007). Student language teachers (SLTs) are no longer conceived as 'empty vessels waiting to be filled with theoretical and pedagogical skills' (Freeman & Johnson, 1998, p. 401), and teaching is recognised as a profession underpinned by a distinct knowledge-base which informs what teachers need to know, and how they should acquire this necessary knowledge and skills (Darling-Hammond, 2016; Johnson, 2009; Loughran & Russell, 2007). Subject-matter knowledge is identified as one component of the disciplinary knowledge required by effective teachers. Explicit knowledge about language is a core element of language teachers' subject knowledge and teacher language awareness (Andrews, 2007; Andrews & Lin, 2017). Explicit knowledge can be defined as declarative knowledge of linguistic form, including metalanguage (Andrews, 2007).

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Focus on form, along with focus on meaning, is pivotal to effective language teaching (Ellis, 2005). L2 teacher education must develop SLTs' explicit knowledge of language as well as their pedagogical skills so that they can engage with both planned and incidental focus on form in the classroom. SLTs have different language learning needs than other language students as they must achieve a high level of declarative knowledge and metalanguage to draw upon in their teaching (Svalberg, 2012). Language teachers are tasked with the role of language user, language analyst and language teacher (Wright & Bolitho, 1993). Declarative knowledge is particularly important when analysing and teaching grammatical structures in one language and across languages. The manner in which SLTs engage with explicit knowledge in teacher education will impact on how they think about, and enact grammar teaching in future practice. Yet the dichotomy between linguistic knowledge, mostly derived from second language acquisition (SLA) and linguistics, and how students should learn to teach a language, remains an enduring problem in L2 teacher education (Erlam, 2008; Johnson & Golombek, 2016). Although epistemological changes in teacher education have been actively theorised, less attention has been paid to pedagogical processes in L2 teacher education (Ellis, 2010; Johnson, 2009; Wright, 2002). Yet, the learning experiences of SLTs provide an opportunity for both advancing L2 and reforming classroom practice if teacher educators intentionally engage SLTs in constructivist pedagogies (Johnson & Golombek, 2016; Singh & Richards, 2006). In response to a sociocultural turn in the theory of teacher education (Johnson, 2009; Golombek & Johnson, 2019; Johnson & Golombek, 2016), this paper presents a socio cultural rationale for the implementation of an explicit-inductive approach to grammar teaching (Norris & Ortega, 2000) in L2 teacher education.

A sociocultural perspective of teacher learning conceives that 'teacher learning is social, situated in physical and social contexts, and distributed across persons, tools and activities' (Johnson, 2009, p. 1). An explicit-inductive approach, where learners are guided to induce and articulate grammatical rules for themselves (Norris & Ortega, 2000), embodies a sociocultural conceptualisation of teacher learning, where SLTs and teacher educators can be actively engaged in the construction and reconstruction of conceptual knowledge of both language and pedagogy (Johnson, 2009; Golombek & Johnson, 2019; Johnson & Golombek, 2016). The process is rooted in praxis (Golombek & Johnson, 2019; Johnson & Golombek, 2016; Lantolf & Poehner, 2014), whereby sociocultural theory (SCT)/ research guides practice in teacher education, and in turn practice can shape theories underpinning teacher education.

The paper begins by succinctly presenting the concepts of explicit and implicit knowledge of language and elucidating the importance of explicit knowledge as central to language teacher knowledge. Epistemological changes in teacher education are considered and conceptual links are forged between an explicit-inductive approach to grammar teaching and socioculturalism. A tripartite analysis of: teacher educator as pedagogue, SLT as teacher-learner and pedagogy as process within an explicit-inductive approach to grammar teaching is presented in the final part of the paper to form a sociocultural model for the teaching of explicit knowledge in L2 teacher education. The goal of the paper is to consider an explicit-inductive approach to grammar teaching in teacher education through a sociocultural lens.

Review of the literature

Explicit knowledge

Explicit knowledge is conscious, declarative knowledge about language that a learner can draw upon when given sufficient time; it is distinct from implicit, intuitive knowledge of language which is accessed in real-time, unplanned communication (Ellis, 2005, 2015). Explicit knowledge is of importance to language teachers and language learners. From a learner perspective, SLA research has long acknowledged the facilitative role explicit knowledge can play in L2 attainment (Lightbown & Spada, 2006). Proponents of a strong interface position profess that explicit knowledge may process to implicit knowledge over time, if a learner is given adequate exposure to, and opportunities to practise, target forms (DeKeyser, 2005). An alternative weak interface position (Schmidt, 2001; Schmidt & Frota, 1986) suggests that explicit knowledge is of value even at the level of noticing, as it may encourage learners to modify their output of language, thus in turn providing input, which may subsequently process to intake for learning. Explicit instruction can play an important role in providing linguistic input focused on target grammatical forms which through carefully guided instruction and pedagogical tasks can lead to intake, processing and output of linguistic forms (Van Patten, 2002). Explicit knowledge of language supports the development of language awareness as learners can compare and contrast patterns across languages and attune their analytical skills to become more effective language learners (Hawkins, 2005).

Explicit knowledge and language teaching

Two kinds of form-focused instruction – focus on form (FonF) and focus on forms (FonFs) are identified in the literature (Loewen, 2018; Long, 1991; Long & Robinson, 1998). FonFs refers to traditional formal grammar instruction where teachers generally follow a set syllabus. FonF places a heavier load on teachers' own grammatical knowledge however, as it entails shifting attention to linguistic form as in naturally occurs in communication or in teaching. FonF is also critical in content-based instruction to facilitate a counterbalanced approach where learners engage with language and content simultaneously (Tedick & Lyster, 2019).

The importance of subject-matter knowledge for teachers is illuminated through Shulman's concept of pedagogical content knowledge (PCK) (Shulman, 1987). PCK is the combination of subject-matter knowledge with pedagogical skill, which is carefully adapted to meet the needs of learners. It is posited that language teachers' PCK comprises two components of content knowledge: knowledge of language – proficiency in the target language, and knowledge about language explicit or declarative knowledge of language form. Explicit knowledge of language is also a central to the PCK required by teachers in content-based instruction where teachers are required to integrate language and content teaching (Ó Ceallaigh et al., 2019; Troyan et al., 2017).

Explicit knowledge of language can impact on a language teacher's ability to: plan and teach form-focused lessons; make effective use of textbooks and resources; modify input and output of language; give appropriate corrective feedback; and draw learners' attention incidentally to language form (Andrews, 2007). Teachers' explicit knowledge of

language is needed to incorporate a focus on form in content-based instruction and thus improve the linguistic accuracy of students in immersion programmes (Tedick & Lyster, 2019). Declarative knowledge of linguistic form is necessary for teachers to facilitate language awareness activities as part of a plurilingual approach to language teaching. A plurilingual approach encourages students to compare and contrast linguistic patterns across languages in a way that recognises and affirms the value of all linguistic knowledge of all learners (Cenoz & Gorter, 2013; Dooly & Vallejo, 2020).

Explicit knowledge affects language teacher cognition, that is, a teacher's willingness and confidence to engage in grammar teaching as well as their capacity to engage in reflection. Research shows that teachers who have gaps in their knowledge about grammar (KAG) teach less grammar, avoid incidental focus-on form, and adhere strictly to the textbook (Borg, 2005, 2017). Critical reflection is considered central to transformative paradigms of teacher education which conceive student teachers not as consumers of knowledge, but as active participants in their own learning (Little et al., 2007). Explicit knowledge of knowledge impacts on teachers' capacity to engage in 'reflection-in-action' and 'reflection-on-action' (Schön, 1983) and modify practice through critical reflection.

Current research

Research has indicated gaps in the explicit knowledge of student language teachers and language teachers in various contexts (Erlam et al., 2009; Lindahl, 2019; Ní Dhiorbháin & Ó Duibhir, 2021). While native speaker teachers may excel in the realm of linguistic proficiency, richness of language and sociolinguistic appropriateness, they may be outperformed by non-native speakers with regard to explicit knowledge (Árva & Medgyes, 2000). All teachers require declarative knowledge of language including metalanguage to perform effectively as language analysts and language teachers. Research shows that SLTs experience particular difficulty in the realm of declarative knowledge (Andrews, 1999; Green & Hecht, 1992; Ní Dhiorbháin & Ó Duibhir, 2021; Tsang, 2011). Tsang's (2011) study on the linguistic knowledge of primary teachers in Hong Kong, for example, found that students achieved an overall mean score of 50% in the category of sentence correction, and a lower overall mean score of 19% when asked to explain the correction. Although metalanguage, the language used to describe language, is different from declarative knowledge which could be independent of specific terminology (Erlam et al., 2009), it is of particular importance to SLTs, in giving them a language with which to talk about language in the classroom (Alderson & Hudson, 2013). Studies indicate gaps in both native-speaker and non-native speaker teachers' knowledge of linguistic terminology (Andrews, 1999; Erlam et al., 2009). Despite the significance of explicit knowledge as a core component of language teachers' PCK, and evidence of gaps in the grammatical knowledge of SLTs and practising teachers, little attention has been paid to the teaching of explicit knowledge in L2 teacher education. An explicit-inductive approach has the potential to support teachers in acquiring declarative knowledge of linguistic form and metalanguage to support their teaching in the classroom. Epistemological changes in teacher education are now considered.

Epistemological changes

Evolving epistemologies have impacted on our understanding of what teachers need to know, and how they should acquire this knowledge and skills (Johnson, 2009). Prior to the 1970s, teacher preparation was conceptualised within a positivist epistemology of ‘teacher training’ or the applied science model (Wallace, 1991), which conceived that the linguistic knowledge needed by language teachers could be objectified, divided into chunks, and delivered to them (Freeman, 1996; Johnston & Goettsch, 2000). In later years, an emerging realisation that a myriad of factors impact on classroom performance, and that the link between teacher preparation and classroom practice was not linear, gave rise to a period of interpretivism. Theorists and researchers began to try and understand the factors that affected teachers’ performance. The importance of prior knowledge (Lortie, 1975), teacher beliefs (Denscombe, 1982), and the teacher as a learner (Kennedy, 1991) was recognised and teachers were conceived as living, thinking individuals. In line with developments in the human sciences in general, teacher education moved towards a sociocultural stance in the 1990s (Johnson, 2009; Golombek & Johnson, 2019; Johnson & Golombek, 2016). A distinction emerged between teacher training – a process by which SLTs mastered objectified learning outcomes – and teacher education, an internal process of continuous professional development which spans over a teacher’s career and is deeply embedded in social interaction, and social and cultural contexts (Johnson, 2009). The basic tenets of SCT and then of an explicit-inductive approach are outlined before forging conceptual links between the two.

Sociocultural theory

SCT derives primarily from the seminal works of the Russian psychologist Vygotsky (1978), who developed a psychological theory to account for the development of higher order mental functioning including language development. SCT posits that social/cognitive elements of human development are intricately linked and that the human mind develops through the dialectical relationship between a person and social/cultural tools over time. Elementary mental processes form a dialectical relationship with socially and culturally generated forms of mediation (tools, concepts, institutions), which humans gradually appropriate and internalise to self-regulate their mental functioning (Lantolf & Poehner, 2014; Lantolf et al., 2015).

Vygotsky proffered that the mediated process of cognitive development is deeply embedded in social and cultural contexts. Concepts encountered on an interpsychological plane (between people) can transition to an intrapsychological plane (within an individual) through the use of mediated sign systems. Self-regulation is developed as mediation is internalised from externally regulated activity (as objects help us gain control, for example, counting with blocks or on fingers) to other-regulated activity (where other people help us gain control for example, parents, teachers and peers) to self-regulated activity (where we control our own mental functioning) (Lantolf et al., 2015). This transition from object/other regulated to self-regulated is not reproduction of knowledge but rather a deep process of internalisation, which changes both the knowledge and the knower (Johnson, 2004).

Vygotsky (1978) differentiated between everyday experiential concepts acquired naturally from early childhood and abstract scientific concepts, which he also referred to as academic concepts (Vygotsky, 1986). He recognised that teaching-learning *obuchenie* had a critical role to play in a child's acquisition of academic concepts, and most importantly in negotiating the dialectic of academic and experiential concepts whereby a child can derive his own meaning and apply conceptual knowledge to real-life contexts (Vygotsky, 1997). Vygotsky (1986, 1987) shunned the idea of empty verbalism and the regurgitation of facts which can disguise lack of understanding; rather, he argued for developmental education focused on qualitative higher order mental development whereby learners assimilate concepts and rework them to suit their own needs.

The educational implications of Vygotsky's 'theory of mind' (Johnson, 2009) were prolific as they offered a guiding framework for pedagogy. Of particular importance to pedagogy is the concept of the zone of proximal development (ZPD). The ZPD is defined as 'the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (Vygotsky, 1978, p. 86). Development within the ZPD is collaborative, transformative and intensely dialogic. Every ZPD is unique to the particular history, culture and social experiences of the learner. The learner's trajectory is not predetermined. Each learner operates within specific mediational means which provide both opportunities and constraints within their ZPD (Swain et al., 2011).

The concept of activity in education was also reframed by Vygotskian theory which sees activity as a source of human development whereby the subject (learner) works towards a goal (object) through the use of tools which are mediating devices. Later models of activity theory (Engeström, 1999; Leontiev, 1981) are more complex as they focus on collaborative learning in activity systems which exist within a community bound by certain rules where there is a division of labour, and the community is located in a particular historical and cultural context. Object oriented action can relate to a specific shared problem. Activity systems can be situated in education where the subject or group of learners collaborate in object orientated action to achieve an outcome. By this measure, teachers must also engage students in activities that are constructivist rather than busy work and teacher education must model this for teachers.

Vygotsky's vision of developmental education relies heavily on teachers' pedagogical skill in creating social/cultural environments and goal directed activities that promote developmental growth whereby through mediation, learners appropriate and internalise abstract conceptual knowledge for their own means (Lantolf & Poehner, 2014; Ratner, 2012). In *obuchenie* teaching-learning are not separate but mutually responsive. Vygotsky recommended that in order to develop transformative pedagogical expertise teacher education should focus on the development of *scientific pedagogics* (Vygotsky, 1997), which entails enhanced subject knowledge along with methodological expertise in line with how learners develop higher order cognitive functions. This paper considers how an explicit-inductive approach to grammar teaching has the potential to develop SLTs' conceptual knowledge of grammar and of grammar teaching through a praxis approach to teacher education (Golombek & Johnson, 2019; Johnson & Golombek, 2016).

The teaching of explicit knowledge

Meta-analytic research indicates that teaching of grammar is effective (Kang et al., 2019). Explicit approaches, namely when a grammatical rule is presented to students or when students are guided to discover a grammatical rule themselves, have been found to be more effective than implicit approaches whereby no explicit attention is paid to grammatical form in several meta-analyses (Goo et al., 2015; Norris & Ortega, 2000; Spada & Tomita, 2010). Explicit approaches can be operationalised as: 1) deductive or 2) explicit-inductive. A deductive approach typically follows the three Ps. The teacher presents the grammatical rule at the beginning of class, the students practise the rule in a controlled manner, and finally the students produce the rule in different contexts. Deductive instruction is underpinned by a positivist paradigm of teaching and learning and research indicates that teachers are reluctant to diversify from traditional deductive grammar teaching (Larsen-Freeman, 2015). Many SLTs will have experienced learning grammar through transmissive teaching which will impact on their tacit knowledge and preconceptions of grammar teaching on entering teacher education (Lortie, 1975). While there is a clear teacher-led sequence for adopting a deductive approach, inductive approaches can be conceived along a continuum ranging from implicit inductive – featuring no teacher input, to deductive – teacher-led instruction (Decco, 1996; Glaser, 2014). In order to understand the differences in inductive approaches, it is useful to examine Salaberry's (n.d.) deductive-inductive continuum, depicted in Table 1, which builds on the earlier work of Decco (1996). An explicit-inductive approach is presented at point 2 on Salaberry's continuum – as guided induction (metalinguistic awareness). In an explicit-inductive approach, students are encouraged to analyse some form of linguistic input, and to arrive at, and verbalise grammatical generalisations of their own. Explicit-inductive approaches have varied according to how the rule is presented to students, means of mediation, as well as the amount of teacher guidance and feedback offered. Explicit-inductive instruction can be conceptualised under the umbrella term of 'language awareness activities', where students work alone or collaboratively with peers and teachers to notice a grammatical pattern (Wright, 2002).

Lantolf and Poehner (2014, p. 7) clarify that SCT is not a theoretical lens employed to understand L2 teaching and learning; rather, 'it undertakes to deploy specific scientific principles and concepts of the theory in order to intentionally promote L2 development through appropriately organized instructional practice.' An explicit-inductive approach fits well with SCT as it focuses on creating a learning environment and activities where

Table 1. Levels on the deductive-inductive continuum adapted from Salaberry (n.d.).

(1) Pure deduction	The teacher presents a grammatical rule and explains its application using examples. The students are given structured activities to practise applying the rule.
(2) Guided induction (metalinguistic awareness)	Students are presented with structured material; they discover and explicitly state the rule.
(3) Guided induction (input enhancement)	Structured material is typographically enhanced to draw students' attention to the target form. The grammatical rule is not explicitly stated.
(4) Guided induction (structured data)	Linguistic data is selected for the purpose of drawing students' attention to the target form. The target form is not explicitly stated.
(5) Induction	This stage is closest to naturalistic language acquisition where students learn the grammatical form through exposure to the language.

teachers and students engage in *obuchenie* and work collaboratively towards achieving a mutual goal through various means of mediation (Johnson & Golombek, 2016). It creates opportunities for SLTs and teacher educators to advance learning within their ZPD. An explicit-inductive approach focuses on reconceptualising experiential knowledge of grammar as abstract conceptual knowledge of grammar which can be internalised and made generalisable (Lantolf, 2002; Lantolf & Poehner, 2014). There is the potential also to reconceptualise SLTs' experiential knowledge of grammar teaching as transmissive and to develop conceptual knowledge of constructivist pedagogy through structured mediation with teacher educators and peers (Golombek & Johnson, 2019). This distinctly differs from deductive approaches which embody teaching as telling.

Mediation through tools and signs is central to Vygotskian theory. Explicit-inductive approaches can employ a range of mediational tools rooted in cognitive linguistics whereby charts, diagrams, and models are used to materialise the grammatical focus and mediate learners' conceptual understanding (Tyler, 2012). Vygotsky recognised the importance of language as semiotic mediation in the co-construction of knowledge. Swain (2006) used the term *linguaging* to describe how teachers and students use language as a tool to talk about language as they reflect, mediate understanding and co-construct explicit knowledge of language. Language is thus a mediating tool for higher intellectual functioning which involves both externalisation and internalisation of linguistic forms leading to reconceptualisation of artefacts (Swain et al., 2011).

Although guided induction may also be conceptualised using an SCT framework, an explicit-inductive approach is arguably of particular benefit to SLTs as it presents rich opportunities for social mediation between teacher and peers and for the development of declarative knowledge of grammar. Students' verbalisation of rules in an explicit-inductive approach may facilitate a higher level mental processing. Gal'perin (1969) posited that articulation of a concept serves as a transition between action reliant on purely material or materialised support and action that leads to abstraction. This abstraction can free learners from empirical contexts to use their knowledge in a wide variety of contexts. A deductive approach focuses on verbal definitions which may be memorised without any real understanding of the rule, akin to Vygotsky's verbalism. An explicit-inductive approach requires co-construction of a grammatical rule before verbalisation of a sequence which may promote internalisation of the rule (Shaffer, 1989). It also provides rich opportunities to develop metalanguage and to compare and contrast linguistic patterns across languages.

Johnson (2009) provides an example of an inductive learning activity in L2 teacher education in which language is conceived as social practice. Students were required to analyse two emails from two applicants to an MA TESL (Teaching English as a Second Language) course. Through a series of guided questions students were required to locate grammatical errors, explain why they were incorrect, and rewrite the sentences correctly explaining the changes made. It is not the aim of this article to review how explicit-inductive approaches to grammar teaching have been operationalised, but rather to conceptualise an explicit-inductive approach to grammar teaching within a sociocultural framework of L2 teacher learning and a praxis approach to L2 teacher education (Johnson & Golombek, 2016; Lantolf & Poehner,

2014; Lantolf et al., 2015). Future work should consider how best to link this with classroom practice.

A sociocultural model for the teaching of explicit knowledge

In response to a sociocultural turn in the theory of teacher education, Freeman and Johnson (1998) proposed that a reconceptualised knowledge-base for L2 teacher education should encapsulate: (i) the teacher as learner of teaching, (ii) the context of schools and schooling, and (iii) the pedagogical processes of language teaching and learning. Drawing on the work of Freeman and Johnson (1998), this paper proposes a sociocultural model for the teaching of explicit knowledge in L2 teacher education. This model (Figure 1) derives from the conceptualisation of: *teacher educator as pedagogue*, *SLT as teacher-learner*, and *pedagogy as process* within an explicit-inductive approach to grammar teaching. Teacher-educator as pedagogue and SLT as teacher-learner form a dialectic through engagement in pedagogy as a dynamic process within an explicit-inductive approach. The relationship between each of the three elements of the model is reciprocal and thus a synergy of learning is formed. The model is rooted in praxis forming a cyclical relationship between theory-practice-theory or practice-theory-practice (Lantolf & Poehner, 2014) for both SLTs and teacher educators.

Teacher educator as pedagogue

Teacher educators differ from professors of linguistics, as their teaching must encompass not only content, but also how to teach it as proffered by Vygotsky's *scientific pedagogics*. Figure 1 conceives the role of teacher-educator in an explicit-inductive approach, as pedagogue. The term pedagogue is used to convey practice which is constructive and socially mediated in the dynamic process of pedagogy (Loughran & Russell, 2007). Teacher-educators as pedagogues are tasked with intentionally creating a learning environment and goal directed activities that will promote systematic development of SLTs' content and pedagogical knowledge. They are also tasked with linking theory and

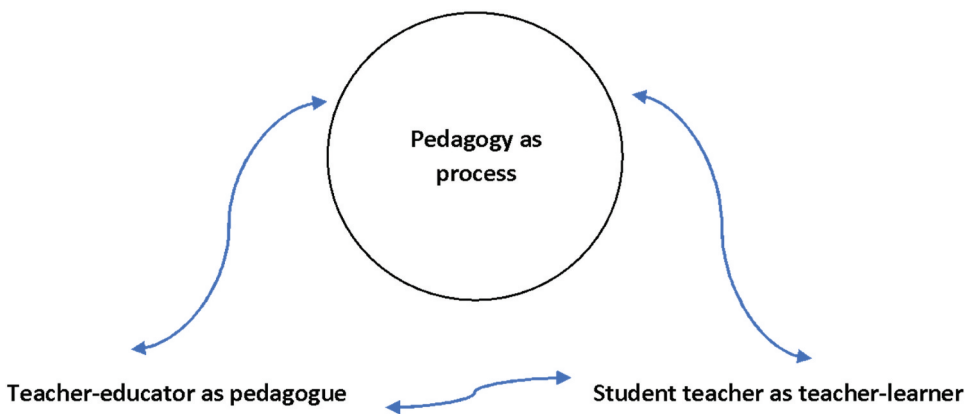


Figure 1. A Sociocultural Model in L2 Teacher Education.

practice – praxis (Lantolf & Poehner, 2014). An explicit-inductive approach to grammar teaching affords teacher-educators an opportunity to model a constructivist pedagogy for SLTs and to mediate SLTs' conceptual knowledge of grammar and pedagogy.

Within an explicit-inductive approach both teacher educators and students can mediate development within their ZPDs through languaging, various mediational tools and inductive activities. Mediation within the ZPD depends on learners' needs (Aljaafreh & Lantolf, 1994) whereby the mediator affects the learner and the learner affects the mediator. The role of the teacher-educator in an explicit-inductive approach is to question, to prompt and to provide constructive feedback and at times withhold assistance as SLTs test their linguistic hypotheses (Herron & Tomasello, 1992). Mediation is appropriated to meet the needs of learners with their individual ZPDs. Mediation within the ZPD opens opportunities for dynamic assessment (Lantolf & Poehner, 2014) as teacher-educators focus on what can be achieved through mediation and carefully attune their support and adapt their pedagogy to meet students' needs.

Activity in an explicit-inductive approach is targeted at reconstructing both grammatical and pedagogical knowledge. Feryok (2009) explored the potential of activity theory in teacher education to facilitate students' imitation of pedagogical tasks. Imitation in a Vygotskian sense requires conscious understanding of the different elements of an action and how they relate to each other, rather than mere repetition of an action. Feryok (2009) conceded that SLTs need to engage in carefully guided reflection and receive considerable experiential support to develop expert pedagogical knowledge. Teacher educators' facilitation of focused reflection is vital in reframing SLTs' conceptions of grammar teaching and learning and in students' imitation of pedagogy (Feryok, 2009). Introducing contradictory pedagogies to activity systems in teacher education have the potential to bring about change on both an individual and institutional level in terms of content and pedagogy (Wiske & Spicer, 2010).

SLT as teacher-learner

Freeman and Johnson's (1998) framing of SLTs as teacher-learners recognised SLTs as both learners of language, and learners of teaching. The conceptualisation of teacher-learner in terms of grammar teaching advocates that SLTs should develop knowledge of the underlying system of the target language (Thornbury, 1997), as well as pedagogical knowledge for teaching grammar. Teacher education should inspire the modification of SLTs' theories on how grammar is taught (Ellis, 2010) through conceptual thinking about pedagogy (Golombek & Johnson, 2019; Johnson & Golombek, 2016). An explicit-inductive approach provides SLTs with concrete experience of a learner-centered constructivist approach to grammar teaching as they are guided by teacher educators to discover rules and patterns.

In inductive learning students are actively engaged in examining and restructuring their everyday knowledge of grammar to develop abstract conceptual knowledge. Supported by a variety of mediational tools, inductive learning presents SLTs with an opportunity to analyse, discuss, co-construct and articulate grammatical knowledge within their ZPD. This experience is important in developing SLTs' capacity to analyse and teach language. Inductive learning has the potential to achieve deeper levels of understanding as learners actively discover patterns and rules in a way that makes sense to themselves (Shaffer, 1989).

Inductive approaches are considered particularly appropriate when learners are reorganising often inaccurate rules of grammar (Wright & Bolitho, 1993), which may often be the case with SLTs who enter teacher education with varying levels of grammatical knowledge. Mediation of grammatical knowledge has the potential to facilitate SLTs' development of declarative knowledge, and to reconceptualise ideas of grammar as transmissive.

It is argued that SLTs need to experience more than the regurgitation and reproduction in teacher education, if they are to encourage students to engage with grammar in an active way (Johnston & Goettsch, 2000). Ultimately, it is SLTs' critical reflection on their experiences of learning grammar through an inductive approach that will aid the internalisation of conceptual pedagogical knowledge and the reframing of preconceptions of grammar teaching (Johnson & Golombek, 2016). Intentionally mediating teacher reflection can challenge teacher beliefs by bringing them into contact with theory and practice (Negueruela, 2011) and teacher educators need to create safe mediational spaces in which to do this (Johnson & Golombek, 2016). SLTs will need to engage in the process many times to restructure and re-envision teaching which will ultimately benefit classroom practice (Golombek & Johnson, 2019; Johnson & Golombek, 2016).

Pedagogy as process

The role of teacher educator as pedagogue and SLT as teacher-learner form a dialectic in the conceptualisation of pedagogy as process in L2 teacher education (Figure 1). The terms teaching and pedagogy are fundamentally different (Loughran & Russell, 2007). Pedagogy consists of deconstructing the relationship between teaching and learning in all its nuances rather than telling. This distinction between teaching and pedagogy mirrors the distinction between behaviorist notions of teacher training and sociocultural theories of teacher education. In terms of explicit knowledge, Johnston and Goettsch (2000) highlighted the importance of how explicit knowledge is taught as well as the knowledge itself. SLTs need to engage in constructivist pedagogies themselves so that they can facilitate language awareness approaches for students.

An explicit-inductive approach in teacher education can be rooted in praxis as theory/research informs practice in a cyclical way from teacher-educator as pedagogue to SLT as teacher-learner to classroom practice. Without a strong connection between theory/research and practice, SLTs are likely to continue to rely on experiential knowledge to guide their teaching of grammar, and grammar teaching for the most part will remain transmissive. Pedagogy as process entails a transformative process with the potential to enrich *obuchenie* in language teacher education and in schools. It can be rooted in SCT where the mediated process of developing abstract grammatical knowledge reconceptualises explicit knowledge of language and knowledge of pedagogy.

In summary, pedagogy is not linear but is socially mediated and constructed across students' and teacher educators' ZPDs. An explicit-inductive approach is a suitable exemplar of pedagogy as a dynamic process in L2. Through situating the teaching of explicit knowledge within a sociocultural framework, teacher-educators and teacher-learners have the potential to actively engage in the construction and reconstruction of

grammatical and pedagogical knowledge through the enactment of pedagogy as process.

Conclusion

SLA research has yet to reach a consensus over whether a deductive or an explicit-inductive approach is more effective in achieving learning outcomes in L2 (Goo et al., 2015; Norris & Ortega, 2000). Deductive approaches are time efficient and may suit the learning styles of particular students (Ellis & Shintani, 2014). Yet, SLTs should acquire more than content knowledge during their teacher education. They need to learn theories about how language is developed and very importantly how to link theory with practice. In turn, teacher educators need to find ways to link theory and practice through their own pedagogies. Based on the model of sociocultural learning presented in this paper, an explicit-inductive approach has the potential to enhance SLTs' ability to verbalise about grammar, while challenging preconceptions of grammar teaching as transmissive and didactic (Svalberg, 2012).

The intentional introduction of constructivist pedagogies in teacher education has the potential to move SLTs towards more theoretically and pedagogically sound educational practices (Johnson & Golombek, 2016). An explicit-inductive approach can be rooted in the theory of socioculturalism, and presents an opportunity to incorporate a praxis approach in L2 teacher education. Based on the theoretical underpinnings of a sociocultural view of teacher learning, this paper argues for the exploration of the effectiveness of an explicit-inductive approach in the teaching of explicit knowledge in L2 teacher education. It is intended that this paper will invite further research and discussion on how the teaching of explicit knowledge is conceptualised and practised in teacher education.

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Notes on contributor

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