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Understanding the impact of teaching systemic functional grammar in initial English language teacher education

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The role of systemic functional grammar (SFG) is usually investigated in postgraduate courses and in-service programmes with experienced teachers. In contrast, this study examines the impact of SFG on student-teachers' professional development in a pre-service second language teacher education programme in Argentina. Framed in teacher research and ecological perspectives, a tutor examined the perceptions of a group of student-teachers during the course of an academic year in a mandatory SFG module which favoured content and language integrated learning (CLIL) and metalinguistic knowledge. Data were collected through student-teachers' evaluations, summaries of group discussions, coursework samples, and whole class discussions as inherent parts of the module dynamics. Student-teachers' perceptions indicated that SFG had a positive effect on content knowledge and pedagogical content knowledge.

KEYWORDS

CLIL, content knowledge, pedagogical content knowledge, systemic functional grammar, teacher education

El papel de la gramática sistémico-funcional (GSF) es usualmente investigado en cursos de posgrado y capacitaciones en servicio con docentes experimentados. Sin embargo, en este estudio se investiga el impacto de la GSF en el desarrollo profesional de estudiantes de un profesorado de inglés como

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lengua extranjera en Argentina. Enmarcado como investigación docente y desde perspectivas ecológicas, un docente formador examinó las percepciones de un grupo de estudiantes/futuros docentes sobre una asignatura obligatoria sobre GSF con foco en el aprendizaje integrado de contenido y lengua extranjera (AICLE) y conocimiento metalingüístico durante un año académico. Los datos fueron recolectados mediante evaluaciones a los estudiantes, resúmenes de discusiones grupales, trabajo en clase, y discusiones del estudiantado como partes inherentes a las dinámicas de la asignatura. Las percepciones de los estudiantes indicaron que la GSF tuvo un efectivo positivo en el conocimiento del contenido de la materia y el conocimiento didáctico.

PALABRAS CLAVE

CLIL/AICLE, conocimiento del contenido de una materia, conocimiento didáctico, formación docente, gramática sistémico-funcional

1 | INTRODUCTION

In teacher education programmes, applied linguistics can be incorporated through different forms such as reading material or modules that examine language and education. A brief glance at the map of second language teacher education shows the growing practice of adhering to systemic functional grammar (SFG) perspectives in second language teacher education (De Oliveira & Smith, 2019; McCabe, 2017) not only in English-speaking countries (e.g., Accurso & Gebhard, 2020; Burns & Knox, 2005; Chappell, 2020; Derewianka & Jones, 2010) but also outside Anglophone settings such as Latin America (e.g., Anglada, 2020; Vian et al., 2009). According to Liu and Nelson (2016), such increasing adherence rests on the affordances that SFG allows by: (1) focusing on meaning and function in language without disregarding form; and (2) strengthening the ties between linguistics and language education. Notwithstanding, little is known about the impact of explicit SFG instruction on student-teachers' professional development in pre-service teacher education programmes in the area of English language teacher education.

Framed in teacher research, the aim of this study is to examine the impact that an SFG module aimed at teaching the English language as a system (Liu & Nelson, 2016) had in an initial English language teacher education (IELTE) programme in southern Argentina, and the extent to which SFG can strengthen student-teachers' content knowledge (CK) and pedagogical content knowledge (PCK). To this effect, I first ground the work on SFG and language teacher knowledge base at pre-service level with a particular focus on content knowledge and pedagogical content knowledge. Second, I outline the research questions, methodology, context, the participants, data collection, and data analysis. Third, I present the findings around key themes. Finally, I discuss the findings under the light of the proposed theoretical background and put forward implications for further studies.

2 | THEORETICAL BACKGROUND

This study is constructed on two conceptual pillars: (1) SFG; and (2) teachers' knowledge base with a particular interest in content knowledge and pedagogical content knowledge. The sections below address each pillar to understand the focus of the study and overall pedagogical experience.

2.1 | Systemic functional grammar

For the purposes of this study, it will suffice to explain that in SFG, language is understood as a semiotic and paradigmatic system of choices for meaning making (Fontaine, 2013). Through an SFG view of language in education, grammar is “the resource we use whenever we produce (or understand) the wordings of a language” (Macken-Horarik et al., 2015, p. 146). In this study, SFG is a resource to understand language use, texture, information structure, and lexical choices (Bloor & Bloor, 2004), and it sets out to investigate what the range of relevant choices are, both in the kinds of meanings that we might want to express and in the kinds of wordings that we can use to express these meanings; and to match these two sets of choices. (Thompson, 2014, p. 9)

From the perspective outlined above, knowledge generation in education can be configured as meaning, and meaning is constructed, shared, interpellated, and transformed through language. Thus, it is of paramount importance that teachers develop professional knowledge of language since language, spoken and written, is the medium through which learning can occur.

The practice of educating teachers in SFG appears to be particularly directed at English language teachers after graduation in the shape of in-service teacher development courses or in post-graduate studies such as master's programmes (e.g., Chappell, 2020, Gebhard et al., 2013). De Oliveira and Smith (2019) have confirmed this tendency in a recent systematic overview of SFG in teacher education. In addition, they have identified several initiatives that allow pre-service teachers to compare the benefits of teaching grammar through SFG and traditional approaches. Hence, understanding grammar in teacher education and teachers' beliefs (Watson, 2015) matters since grammar structures speakers' linguistic choices and language functions in all domains of social practice, and such practice includes teachers' professional practices (Liviero, 2017) regardless of the subject they teach (Mohan, 1986).

In the sections below I approach content knowledge and its influence on pedagogical content knowledge. Once a relationship is explicated between them, I further discuss SFG to understand how it can impact on both areas of the language teacher knowledge base.

2.2 | Content knowledge and pedagogical content knowledge

According to Freeman (2020), the language teacher education knowledge base should be responsive to field-driven change. Hence, it needs to provide teachers with resources to understand the development and direction of applied linguistics, the role and nature of language (English in this study), context, learners, and language pedagogy. Regarding the latter, IELTE programmes aim at providing future teachers with adequate and contextually-situated tools and *knowledges* to deal with teaching, particularly during the transition from being student-teachers to novice teachers (Farrell, 2015).

The language teacher knowledge base in IELTE programmes is usually organised around three main intertwined areas which combine theoretically-informed and situated language pedagogy, self-inquiry, and understanding of learners' cognitions, emotions, and goals (Johnson & Golombek, 2020). According to König et al. (2016), the three areas are: (1) content or subject-matter knowledge (CK); (2) pedagogical content knowledge (PCK); and (3) general pedagogical knowledge (GPK). The authors note that “language teachers are also required to develop a high level of language awareness, language learning awareness, and of intercultural competencies” (König et al., 2016, p. 322). Johnson (2009, 2016) adds that another area to include in IELTE foundations is teacher educators' teaching practices in the courses they lead as student-teachers may demand congruence between what teacher educators preach and do in the classroom.

CK refers to “the knowledge of the specific subject and related to the content teachers are required to teach” (König et al., 2016, p. 321). In the case of English language teachers, CK involves: (1) explicit and metalinguistic knowledge about English as a system, and (2) their communicative competence in English, also understood as English language

proficiency (ELP) (Richards, 2015). In IELTS, CK can be realised in modules on linguistics, grammar, discourse analysis, sociolinguistics, and phonology among others. SFG may be included in CK in modules which focus on textual grammar or aspects such as coherence or cohesion (e.g., Anglada, 2020).

It may be concurred that CK plays a critical role in language teacher education (Banegas, 2020b). For example, in a study of Norwegian teachers' perceptions of the relevance of content of their programme, Vold (2017) found that the participants acknowledged the impact of their knowledge of the language itself and its use and their own communicative competence in English. Similarly, in a study carried out with pre-service and novice EFL teachers in Argentina, Amez and Dobboletta (2017) note that the participants assessed content knowledge as decisive dimensions in their personal knowledge base. With foreign languages other than English, English language proficiency, a central CK component particularly for teachers whose dominant language is not English, has been found to have an impact on teachers' practices. In a study carried out in New Zealand, Richards et al. (2013) observed that those teachers with higher proficiency in the L2 offered learners lessons with varied teaching strategies, more communicative opportunities, instances of natural language and overall effective practices. These studies coincide in showing that linguistic knowledge seems to determine language teachers' professionalism and their situated practices.

On the other hand, pedagogical content knowledge includes "subject-specific knowledge for the purpose of teaching" (König et al., 2016, p. 321) and it refers to teachers' knowledge of their context, their students, and the specific didactics to transform knowledge generated by society at large into school knowledge, sometimes referred to as didactic transposition (Chevallard & Bosch, 2014). Therefore, CK, the know-what of teaching, and PCK, the know-how of teaching, are intertwined as the nature of CK before and during IELTS shapes and is shaped by PCK as it shows how CK can be taught and learnt.

CK and PCK share common territory in IELTS since one consistent feature of IELTS is that the L2, in this study English, is often the object and medium through which CK and PCK in the knowledge base are approached (Bale, 2016). This feature is often realised in the adoption of content and language integrated learning (CLIL) as the teaching approach of CK and PCK-related modules. CLIL can be succinctly defined as an educational approach through which content classes are taught through an additional language and it implies organic pedagogies which facilitate the integration of content learning through other languages across educational levels (Morton & Llinares, 2017; Nikula et al., 2016; Siqueira et al., 2018). In this study, SFG is the content taught through English to a group of English language student-teachers, i.e., students who study to become teachers of English as a foreign language.

The presence of SFG in language teacher education has received support from various scholars. Dewerianka and Jones (2010) encourage the inclusion of SFG in teacher education as it takes teachers "beyond the study of structure to real-world applications in supporting students' language and literacy development" (p. 13). From a similar stance, Yasuda (2017) makes the case for SFG to illuminate the shared territory between language learning and writing development among students given its dynamic notions of choice, genre, meaning-making and register. The three studies reviewed below substantiate the mutualism between CK, PCK and SFG.

In a qualitative study with TESOL master's degree candidates, Gebhard et al. (2013) investigated the extent to which SFG grammar and SFG-related metalanguage could support teachers' professional development and L2 students' academic literacy. The authors found that functional grammar concepts enabled teachers and their students to analyse language functions and improve information and thematic structures by drawing on given/new and theme/rheme notions (see Bloor & Bloor, 2004, pp. 64–80) to make their discourse coherent.

The two following studies shed light on the role of grammar as CK in language teachers and its relationship with PCK. Myhill et al. (2013) investigated a group of English teachers through lesson observations and interviews to understand language teachers' metalinguistic knowledge (MLK) as central to respond to students' needs. According to the authors, MLK includes three dimensions: (1) teachers' knowledge about the language; (2) teachers' explicit knowledge of grammar and subject-specific terminology to describe grammar and language (metalanguage); and (3) teachers' knowledge of how to teach language and how and when to teach grammar to help meet their students'

needs. They conclude that teachers' grammatical knowledge and metalanguage needs to be more substantive as it can help them to guide their learners with literacy development, particularly with writing. With the same focus on metalanguage, Klingelhofer and Schleppegrell (2016) examined the role of functional grammar metalanguage to scaffold learning with English language learners at a US elementary school. Through a descriptive-exploratory case study, the authors suggest that metalanguage goes beyond linguistic terminology as it is a semiotic tool to connect language with meaning to raise awareness of language choices and the meaning potential language has.

The studies reviewed above illustrate the presence of SFG only at MA level or with experienced teachers. Nonetheless, there exists a research gap in understanding the role of SFG in IELTE; thus, this study is an attempt to narrow the gap by reporting on a small-scale study carried out with a group of student-teachers in Argentina. Against this backdrop, two questions guided this study:

- Research question 1: Does SFG enhance student-teachers' content knowledge in an IELTE programme?
- Research question 2: What are student-teachers' perceptions of SFG in relation to their future professional practices?

3 | METHODOLOGY

Configured within qualitative educational research, this study is positioned in teacher research (Burns et al., 2017; Dikilitaş & Mumford, 2019), i.e., research carried out by teachers for teachers to improve their professional practices and their learners' experiences. An ecological perspective to research was adopted in particular (Arcidiacono et al., 2009; Stelma & Fay, 2014) as the data collected came from my regular Grammar II teaching practices.

3.1 | Context

IELTE programmes in Argentina instantiate not only the dual role of language as object and medium of instruction (Bale, 2016) but also CLIL. The study reported in this article was carried out at an IELTE programme which prepares EFL teachers for kindergarten, primary, and secondary education. The module under investigation is Grammar II, taught in the second year of the programme and it follows Grammar I. While Grammar I adopts a descriptive view on word classes and structure at clause level, Grammar II incorporates an SFG approach taking the text and its context of use as its unit of analysis. Tutors who lead this module as well as others in the programme are encouraged to embrace CLIL as a teaching approach in IELTE (Banegas, 2020a) so that student-teachers develop CK, i.e., English functional grammar and language proficiency, holistically.

Grammar II was a two-term module (March–November 2018). The cohort of Year 2 student-teachers who participated in this study had two 80-minute lessons a week over 32 weeks. The aims were to raise student-teachers' language awareness and combine SFG with pedagogical grammar to inform professional practice modules.

The core contents in the syllabus were:

- Unit 1. Knowledge of/about the language. Language improvement (self-study). Morphology. Clauses: coordination and subordination.
- Unit 2. SFG. Meaning and function. Structure of the clause. Information and thematic structure. Thematic progression. Coherence and cohesion. Discourse markers. Ellipsis and substitution.
- Unit 3. Process and participants. Embedded clauses. Clause complexes.
- Unit 4. SFG: applications and historical perspectives. From functional grammar to pedagogical grammar. Language awareness from a textual perspective. Applying functional grammar in ELT.

3.2 | The participants

Enrolled in the IELTE programme described above at a tertiary institution in southern Argentina, the participants were 22 student-teachers, who shared Spanish as their L1. The research took place between 2018 and 2019: while they were in Year 2 of the programme in 2018 and when they progressed to Year 3 in 2019. Based on in-house exams and following the Common European Framework of Reference for Languages (CEFR), their level of English language proficiency was B2–C1. Although this was a pre-service programme, six of the participants had between one and three years of experience as EFL teachers in primary and secondary schools.

3.3 | Data collection

Data were obtained from the regular teaching and learning practices of leading the Grammar II module. All the students participated voluntarily and signed a consent form which explained their rights. Anonymity and confidentiality were ensured. As I had the dual role of tutor and researcher, issues associated to coercion were discussed with the cohort and the programme leader. It was agreed that the student-teachers could withdraw from the study (not from the classes) and meet with the programme leader if they experienced discomfort or pressure.

Data were collected through four sources:

- Student-teachers' written in-progress module evaluations. At the end of each unit in the syllabus, an hour-and-twenty-minute lesson (three lessons in total over the course of the experience) was devoted to module evaluation as required by the institution. Individually, the student-teachers had to answer in writing, in either Spanish or English, three questions: What topics did you find meaningful? How did you find the assigned readings and activities? To what extent do you think that the topics covered will help you as a teacher? We agreed that their evaluations could be anonymised; however, the student-teachers always wrote their names in the evaluations submitted at the end of these module evaluation lessons. Of the 22 student-teachers, 20 submitted three evaluations and 2 submitted only their evaluation of Unit 3. By the end of the academic year, I had collected a total of 62 student-teacher module evaluations.
- Student-teachers' summary of one group discussion. At the end of Unit 4, one lesson was devoted to the following task: the student-teachers were asked to discuss in groups of three or four the following questions: What has been the impact of Grammar II in your development as a language user? How would you describe the impact of the module on your practicum experiences in the programme? The task was completed in one hour and 20 minutes. At the end of the lesson, each of the seven groups submitted one text in English or Spanish which summarised their views. On average, each text contained 702 words.
- Whole class discussion. For probing the student-teachers' views, the last lesson of the module was devoted to the group's perceptions. In this lesson I shared with them the preliminary findings of the data collected through the two sources described above. On this occasion, I asked them: In what ways have you benefited from this module with a focus on SFG? The discussion, carried out in English, lasted for one hour and twenty minutes, and was audio-recorded using my mobile phone and orthographically transcribed.
- Samples of student-teachers' work (collected in 2019). As a result of 16 student-teachers' perceptions about the impact of SFG on their writing skills, these 16 student-teachers were invited to submit pieces which showed their improvement in writing skills before and after studying SFG. I collected 32 samples: 16 samples from English II, a module completed before Grammar II, 12 samples from Sociolinguistics in Year 3, and four samples which were essays submitted to another module called Literature and Culture, both modules taken in 2019, i.e., after Grammar II.

3.4 | Data analysis

Thematic analysis (Clarke & Braun, 2016) was employed for the analysis of the 66 student-teachers' evaluations, seven student-teachers' summaries of the group discussion, and the transcription of the whole class discussion carried out at the end of the module. Data were approached through an inductive and iterative process for the generation of open codes (Terry, 2016). These codes were data, as well as analyst-driven, since my reading and understanding of the data under the guidance of my research questions produced codes which were later organised, through axial coding, around four interrelated domains: topics, reading material, activities, and student-teachers' practices (See Section 4). Two randomly selected student-teachers and one colleague acted as inter-raters for transparency, confirmability, and trustworthiness purposes. Based on an agreed code book, we carried out cross-analysis, re-reading, and discussion until we reached an inter-rater agreement of 87%, a figure we considered acceptable.

Samples of student-teachers' work were analysed to identify improvements in ELP. Following (Ruiz-Funes, 2015), syntactic complexity (length of sentences and number of clauses in a sentence) and accuracy (lexical and grammatical errors) were measured through descriptive statistics (mean and standard deviation). I counted the number of words in each sentence and the number of clauses in each sentence (parataxis and hypotaxis). Similarly, I counted the number of errors in lexis and grammar. It should be acknowledged that the measure described in this paragraph has been questioned by SFG-based studies on complexity in L2 writing since the measure is indicative of only some levels of language proficiency. Instead, Ryshina-Pankova (2015) proposes a meaning-based approach which considers grammatical metaphors realised in nominalisations as indicators of L2 writing complexity given their semantic richness. Despite this reservation, I utilised syntactic complexity and accuracy as measures since I was not interested in each participant's ELP or differences in language proficiency across the participants. My main interest was measuring overall class proficiency in terms of form rather than meaning.

4 | FINDINGS

Thematic analysis of the different data sources is organised around four interrelated domains which signal the impact of SFG on student-teachers' CK and PCK: topics, reading material, activities, and student-teachers' practices. While most excerpts included below were originally said/written in English, excerpts 8, 9 and 14 were originally in Spanish, which I translated into English for this report.

4.1 | Topics

From the student-teachers' evaluations, summaries and whole class discussion, I identified the topics which had been meaningful to them in Grammar II (Table 1).

Student-teachers' main concern was cohesion and texture, i.e., the management of grammatical components which make a text look like one. Such topics may indicate student-teachers' interest in expanding their CK and exploring texts beyond sentence level and working on longer texts instead.

When I drew student-teachers' attention to the results obtained in this question in the whole class discussion, one student-teacher commented:

When we started analysing clauses in more detail, life got complicated! It was too much information to process, too many details. I had trouble with identifying clause types and types of processes or participants and everything and I thought that wasn't useful for me as a future teacher. I think I learnt more from the general picture rather than whatever is inside a clause. (Perla, Excerpt 1).

TABLE 1 Meaningful topics in Grammar II

Topics	Frequency (N = 22)
Discourse markers	22
Cohesion	22
Coherence	20
Information structure	20
Thematic progression	20
Theme-Rheme	18
Clause relationships	17
Clause types	17
Clause structure	17
Ellipsis and substitution	15
Morphology	14

TABLE 2 Meaningful readings in Grammar II

Unit	Reading	Frequency (N = 22)	Most frequent reasons (N = 22)
1	Parrot (2010, chapters 25–30)	9	Simple rules (5) Clear organisation (4)
	Vince (2008)	20	Easy for self-study (16) Varied activities (14)
	McGregor (2009, chapter 3)	13	Examples from languages other than English (6) Clear explanations (6) Clear examples (6)
2	Bloor and Bloor (2004, chapters 1–5)	22	Clear explanations (22) Clear examples (21) Challenging (12)
3	Bloor and Bloor (2004, chapters 6, 8, 9 and 10)	20	
4	Bloor and Bloor (2004, chapters 11 and 12)	18	
	Richards (2015, chapter 9)	14	Links with professional practice (9) Instances for reflection (5)

4.2 | Reading material

Table 2 shows student-teachers' assessment of readings and the frequency of student-teachers who selected them. Some student-teachers provided more than one reason.

According to the student-teachers' perceptions, Bloor and Bloor (2004) and Vince (2008) were the most welcomed texts due to the reasons indicated in Table 2. Special consideration should be given to Bloor and Bloor (2004) as it received varied evaluations and because it represented a textbook that introduced SFG in the module. The extracts below illustrate the reasons included in Table 2.

2. Let's now look at cohesion. Read Chapter 5 (Bloor & Bloor, 2004) and complete the mind map below. Add examples from books you have read this year.

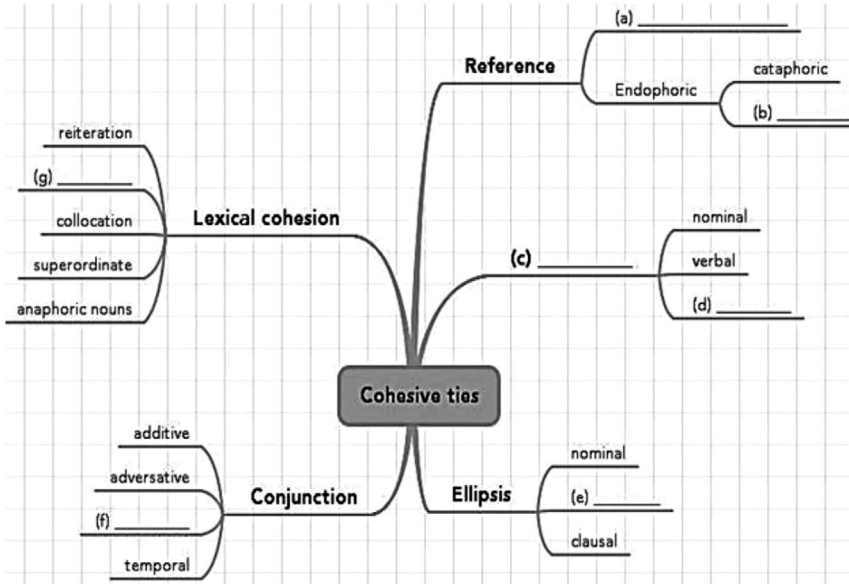


FIGURE 1 Sample activity

It's clear and with helpful examples. It makes me reflect on language a lot and how we can teach grammar more meaningfully. We are so much used to structures and forms, and here we see that although structures are still necessary, we care more about what we mean and if the function we want to achieve through language is OK. (Marcos, E2)

Hard but manageable. I had to read and reread but then I see the purpose and meaning. (Lita, E3)

Accessible, but too theoretical at times. I like the examples and the introductions but then there are so many details. (Romina, E4)

Challenging in a positive way! I had to relearn many concepts. That was a bit unnerving, but then I saw the purpose behind these new categories, for example, the concepts of processes and participants. The book is very clear about them. (Fabiana, E5)

In contrast, Parrot (2010) was generally viewed as the least helpful with only 10 student-teachers choosing it. When asked about the drawbacks this title seemed to have, 12 student-teachers assessed it as "difficult to follow, and the activities were even more difficult."

4.3 | Activities

With reference to the activities completed, the student-teachers (frequency of responses in brackets) selected the following as the most relevant: (1) group presentations on a topic (20); (2) identifying-based activities on topics related to dyslexia and autism or ELT (18); (3) completing graphic organisers (Figure 1) (17); and (4) finding examples of different clause types in books (15).

In relation to group presentations, 20 students favoured them due to the opportunity for collaborative work and deeper understanding. As an example of such a positive perception, one student-teacher wrote:

I liked our presentations. They helped me work with others, study harder and look for examples myself! Giving presentations help us organise our notes, study in more depth, look for examples, discuss the PowerPoint, and so in the end you remember and understand a lot better. (Maru, E6)

When the student-teachers started working with activities which integrated content and learning, they had already been introduced to CLIL in another module (ELT Didactics) in the programme, so they easily identified such activities as CLIL. For example, to introduce information and thematic structure, I selected a YouTube video on dyslexia¹ as the main text. First, comprehension questions were completed, and then we worked on clauses extracted from the video to identify theme and rheme. These types of activities were perceived by 19 student-teachers as opportunities for learning integration (E7); notwithstanding, three assessed them as difficult given their content and lexical load (E8):

I liked them because we learnt through them. We learnt about dyslexia and then we concentrated on new grammar knowledge, but all the activities like identifying types of themes, or changing the themes in clauses were always related to the topic of dyslexia, so in the end we were doing two things at the same time: learning about dyslexia and learning about given and new, theme and rheme. (Stefi, E7)

I didn't like the texts about other topics. It was hard for me because I had to know more specific vocabulary, so I lost concentration. (Marcos, E8)

In contrast, activities which asked student-teachers to classify and analyse clauses or rewrite texts produced by former student-teachers to improve their cohesion were the least popular since only two student-teachers favoured them (E9).

I'm NOT going to teach parataxis or hypotaxis, only the words are incomprehensible enough. Understanding clauses is very difficult for me because it's like mathematics. I don't think it helps me. (Pepa, E9)

Further scrutiny of Pepa's view (E9) shows that student-teachers may see the impact of the activities and contents (e.g., parataxis or hypotaxis) in relation to their imagined teaching practices. In the case of Pepa, she may seem to disregard those contents and activities which have no direct correlation or materialisation on the EFL curriculum for primary and secondary education in southern Argentina. In other words, her view exposes the tensions and differences between CK and teachers' situated professional practices after graduation.

4.4 | Student-teachers' practices

The perceptions and experiences of the 22 student-teachers were understood under three interrelated categories: (1) SFG impact on ELP as part of content knowledge, (2) SFG impact on the practicum, and (3) imagined SFG impact on professional practice

When considering SFG impact on ELP, 17 student-teachers perceived improvement (E10 and 11) in their ELP in terms of writing awareness and writing processes.

This module is helping me with my own writing and speaking when I need to give a presentation or submit an assignment for other modules. I am more aware now of how I connect my ideas and how I explain myself so that others understand me, and pay attention to how writers structure their texts so I can imitate them. (Donna, E10)

TABLE 3 Comparison of syntactic complexity and accuracy

ELP	Measures	Before Grammar II (16 sample texts)	After Grammar II (16 sample texts)
Syntactic complexity	Length of sentence (mean number of words)	M: 14.02 SD: 2.24	M: 21.06 SD: 1.68
	Mean number of clauses per sentence	M: 1.62 SD: 0.34	M: 2.46 SD: 1.06
Accuracy	Mean number of lexical errors per sentence	M: 0.08 SD: 0.33	M: 0.06 SD: 0.72
	Mean number of grammatical errors per sentence	M: 0.64 SD: 0.72	M: 0.48 SD: 0.32

Note: M: mean; SD: standard deviation

Learning about types of themes and variations in the clause helped me with my own essay writing. I've also started copying sentence beginning from texts we read to use in my own writing and I can see how writers play with order in a clause. (Ema, E11)

Notwithstanding, five student-teachers expressed that they did not perceive changes which they could explain as being the product of knowledge of SFG. For example, Felpu noted:

I think I'm getting better out of so much exposure, from all the modules we're doing in English. I think I could see changes without SFG because we would be studying grammar anyways. (Felpu, E12)

Furthermore, examination of syntactic complexity and accuracy (Ruiz Funes, 2015) on their 32 samples of work, before and after taking Grammar II, yielded results (Table 3) that may support the 22 student-teachers' perception that their ELP had improved (E10–11). However, such positive results may not only be attributed to SFG since the student-teachers were taking other English-medium modules together with Grammar II and therefore, continuous exposure to English may also explain these results (E12).

Concerning the impact of SFG on the practicum, 11 student-teachers indicated that knowledge of SFG had helped them not only with designing their lesson plans for the practicum but also for materials development. Extracts 13 and 14 reinforce the impact that specific SFG contents had on them: context, texture, and discourse markers (E13), and thematic progression (E14).

In my practicum lessons I became more aware of helping students notice certain grammatical structures. I didn't give them sentences in isolation, but in context, in a larger text, as we did in Grammar II. For example, in a lesson we worked on a short story and we made them notice present simple in the story and linkers. (Alicia, E13)

It's been excellent for choosing what texts to work on and what activities we could design around an entire text. We worked with texts which had linear progression because it'd be easier for younger learners. And it worked! (Daniel, E14)

Last, 18 student-teachers recognised that SFG could become a tool to strengthen their future teaching practices. The student-teachers' imagined SFG impact on their professional practices as future teachers was related to their own professional knowledge and strategies for feedback with future learners' writing. Excerpts 15 and 16 below illustrate these two aspects:

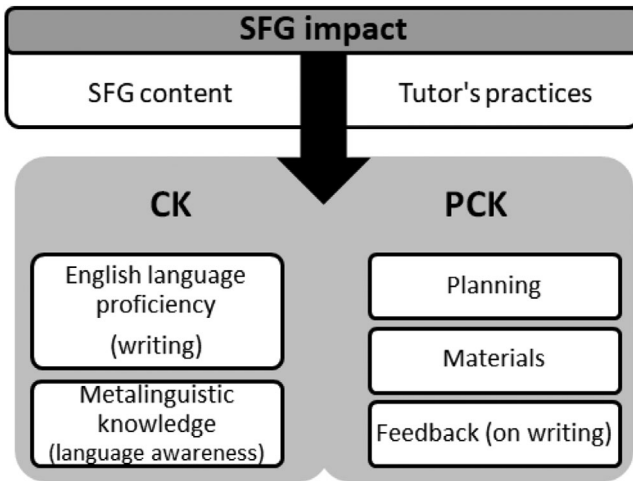


FIGURE 2 SFG impact in IELTE

I can't still see how it can influence my future teaching. But I see that it will help me with my professional knowledge of how people use language. I won't teach them of course, not explicitly, and I don't think I'll need all these words, but they will be useful for understanding what lies beneath what I'll teach. (Mauro, E15)

I won't tell them this is theme and that is rheme, but I will have more tools for guiding their ways of organising ideas, of making them write coherent and cohesive texts that help them show their ideas clearly. (Alicia, E16)

While E15 and E16 show the positive impact of SFG on student-teachers' future practices particularly for scaffolding learners' writing, they also show the logical distance that student-teachers perceive between SFG in their programme and how SFG may appear in primary and secondary EFL lessons as noted by Pepa (E9). Student-teachers' awareness of the differences between their own education as teachers and Subject EFL at schools is noteworthy because it reveals that teacher preparation should exceed the curriculum in the education system.

Overall, analysis of data included above helped me recognise that the majority of the student-teachers noticed an impact of SFG, which was part of their CK education, not only in their English language proficiency, but also in their understanding of how English teaching could be maximised and improved, i.e., their PCK.

5 | DISCUSSION

While the first research question is concerned with CK, the second question is related to PCK. This section problematises the research questions by means of a thematic network (Figure 2) which condenses the experience of teaching and learning functional grammar in initial English language teacher education.

Overall, the student-teachers found relevance in SFG because of two organic constituents within the module: (1) SFG itself, shown in the data by the choice of relevant contents (Table 1) and related reading materials (Table 2), aspects which were beyond my control as they were determined by the IELTE curriculum; and (2) my practices (tutor's practices) particularly in my choice of topics, activities, and CLIL approach.

The first constituent, SFG content, was viewed by the student-teachers as a source of motivation (Table 1) where topics such as discourse markers, cohesion, or thematic progression were perceived as meaningful in their development as future teachers. However, the meaningfulness assigned to such topics was anchored in how I approached them

through CLIL. A CLIL approach provided the context through which SFG was explored as a tool to understand language use, lexical choices, and information organisation at clausal and textual levels with an emphasis on meaning-making. SFG aided in the integration of form, meaning, and content in the student-teachers' own development as language users and teachers. These findings explain the steady expansion of SFG in language teacher education programmes (Chappell, 2020) as it is found motivating because it contributes to language teachers' professional development in the area of linguistic knowledge.

The second constituent, tutor's practices, i.e., my practices, was a source of motivation, with some reservations (E8), due to my framing some of the lessons in a CLIL approach through which the student-teachers learnt about autism or dyslexia (E7) together with a focus on SFG. In relation to my CLIL-driven practices, two elements emerged as sources of motivation: readings and activities. The book by Bloor and Bloor (2004) received positive comments (E2 and E5) as it allowed them to concentrate on the meaning-making potential of language and how the concepts and contents covered contributed to language awareness. Concerning activities, student-teachers' preferences for group presentations (E6) indicated that collaboration, and by extension, a socioconstructivist approach to learning, was visible in the module and therefore coherent with the programme expectations and rationale. Student-teachers' perceptions of my practices confirm authors' (Johnson, 2009; Johnson & Golombek, 2020) belief that tutors' practices in IELTE are vital in the dynamic construction of student-teachers' learning and professional biographies.

The two major constituents discussed above, i.e., SFG content and tutor's practices, exercised a positive impact on student-teachers' CK and PCK. With the discussion presented, the guiding research questions will be addressed below. The first research question was about the positive impact of SFG on student-teachers' CK. As Figure 2 shows, SFG was perceived to enhance student-teachers' CK, which includes: (1) English language proficiency; and (2) knowledge about English as the subject-matter of their professional development. Such aspects show that, on the one hand, a CLIL approach to teaching SFG contributed to certain extent in the development of subject-matter knowledge of English together with their ELP particularly at syntactic complexity level (Table 3). Notwithstanding, ELP improvement was not exclusively due to the impact of SFG as it could also have been due to exposure to English (E12). On the other hand, they reveal that SFG became a resource for the production and understanding of language (Chappell, 2020; Macken-Horarik et al., 2015). SFG was found particularly relevant for some student-teachers' own writing and speaking development (E10, E11, but see E12). This perception is aligned with Yasuda's (2017) observation that functional grammar, and functional linguistics as a whole, provides a "nexus point between language learning and writing development" (p. 578), in this case with future teachers.

One critical aspect which surfaced in the perception of CK enhancement as language users and future teachers was that of language awareness. The data indicate that SFG helped with the understanding of language as a semiotic system from users' point of view (E10, E13, E14), a fact that confirms Amez and Dobboletta's (2017) findings at another institution in Argentina. Nevertheless, these students were ambivalent about SFG metalanguage (E9, E15, E16). While the student-teachers did acknowledge functional grammar support in their professional trajectories, metalinguistic knowledge appears to acquire a different structure in IELTE (Gebhard et al., 2013). Should we follow Myhill et al.'s (2013) study on MLK, it could be concluded that in this group of student-teachers, in their Year 2, "under construction" MLK included knowledge about the language but did not fully include explicit knowledge of grammar or metalanguage. Knowledge about how to teach language was at an embryonic stage as the student-teachers noticed the potential that SFG could have with teaching writing.

The second research question about SFG impact on student-teachers' present and future professional practices bears direct correspondence with PCK and with the link that SFG can create between CK and PCK (Klingelhofer & Schleppegrell, 2016). In line with such a position, findings show that through SFG the student-teachers could develop informed decisions on three core dimensions of their practicum experience: planning, materials, and feedback.

SFG contributed to student-teachers' awareness of presenting language in context (E13). Furthermore, SFG supported student-teachers in their text choices as their informed decisions on which texts to use with younger learners were guided by the concept of linear thematic progression (E14). These two contributions show that SFG helped on

issues around planning and materials. Lessons, according to the student-teachers' account, became text-driven, which materialises the relationships constructed in student-teachers' trajectories when CK and PCK are aligned.

This study yielded insights into the impact of SFG in student-teachers' perceptions on feedback in their future professional practices. A parallel could be drawn between the impact of SFG on student-teachers' ELP, predominantly in their writing development (Table 3), and their perceptions of SFG as an aid in providing feedback on future learners' writing. Alicia's excerpt (E16) illustrated the belief shared by almost everyone in the group: SFG provided tools for helping learners' develop coherent and cohesive texts. Therefore, concepts around textual organisation proved to be more meaningful than concepts at clause level. In this regard, student-teachers' comments (E13, 14 and 16) may indicate that in the same way that they focused on texts for planning and materials selection, a perspective on textual grammar and the text as a unit of meaning-making also informed their feedback strategies for writing. Such perceptions confirm Gebhard et al.'s (2013) conclusions on the importance of teachers' knowledge of SFG to support learners' literacy development, and the role that SFG as a semiotic tool can play on PCK.

6 | CONCLUSION

The experience reported in this paper suggests that knowledge of SFG does not need to be confined to master's level in English language teaching programmes for teachers. Albeit with limitations such as the small number of the participants, this study suggests that SFG may enhance CK and PCK at undergraduate level. SFG impact with the student-teachers under investigation should be understood as the symbiotic relationship between two organic constituents: (1) SFG content in itself; and (2) the tutor's practices. Both constituents operated as motivational forces in the architecture of the learning experience reported above.

More significantly, this study problematises that, while SFG may be framed as a module or a course within a programme, internal congruent practices across modules should be sought by lecturers or teacher-educators. In so doing, SFG does not remain circumscribed to CK but it is integrated in the knowledge base from a holistic position. This entails that SFG can be offered to lecturers as an in-service course with the aim of providing sophisticated tools for scaffolding learning through attention to language. In language teacher education programmes, all modules are delivered through language, and that includes grammar (Macken-Horarik et al., 2015); therefore student-teachers and lecturers could profit from a macro-scheme of work in which language becomes a mediating tool approached from an SFG perspective where language is a resource for meaning making.

As a way of responding to the transformation of teacher cognition in relation to grammar (Sanchez & Borg, 2014), student-teachers' conceptions of grammar can be developed through the enrichment of their learning biographies not only from declarative knowledge but also through the personal exploration of SFG in professional coursework in higher education. Should such a perspective be adopted, CK and PCK may influence each other as informed decisions on teaching practices may increase teachers' opportunities to reflect on language use and, consequently, deepen their metalinguistic knowledge. Learners whose teachers have been educated in an SFG tradition may receive more appropriate scaffolding that will allow them to focus on meaning through language forms beyond word and phrase levels without overlooking accuracy. As Gleason (2014, p. 478) rightly reasons, emphasising form within a meaning-oriented language pedagogy extends users' "resources for making meaning in context." Such an orientation creates awareness at the levels of genre, text and functions, identity, and the power of grammar as a semiotic tool to convey and negotiate meanings.

Future research, probably based on ecological methodologies and longitudinal research frameworks, is necessary to understand the extent to which such positive perceptions on the influence of SFG in student-teachers' language proficiency can be traced in their oral and written productions over time in pre-service teacher education and after graduation as these student-teachers become novice teachers and face the realities of real classrooms (Farrell, 2015; Freeman, 2020). As acknowledged above, teacher educators could examine complexity in student-teachers' L2 writing by measuring complex nominal groups and grammatical metaphor as proposed in Ryshina-Pankova (2015).

DATA AVAILABILITY STATEMENT

Research data are not shared.

PEER REVIEW

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NOTE

¹ What is dyslexia? <https://www.youtube.com/watch?v=zafiGBrFkRM&pbjreload=10>

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