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## English language skills for disciplinary purposes: What practices are used to prepare student teachers?

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In the study reported on in this article, we explored the preparation practices used to prepare student teachers to use English language skills in disciplinary content teaching. Despite studies which emphasise generic academic literacy where language is a subset of this field discourse, there is a dearth of research studies on the use of English in the specific context of disciplines in initial teacher education (ITE), which is addressed here. Guided by social constructivism, we collected data from 102 purposively selected student teachers from 3 universities. A qualitative multiple case study design was used as the methodological tool, and data from focus group discussions and document analysis were collected, documented and analysed. The results of the analysis show that the student teachers were prepared using structured and unstructured English Across the Curriculum (EAC) pedagogical activities. Structured activities are content-oriented learning processes that are largely rigid and prescriptive, while unstructured activities are rooted in the academic values and identity that are held in the institution. Although drawn from a relatively small sample, these findings may assist ITE institutions to develop a curriculum that attends to multiple strategies for developing student teachers' strategic competence in EAC.

**Keywords:** English across the curriculum (EAC); English for specific purposes; initial teacher education curriculum; pedagogical activities; student teachers

### Introduction

Language has an important role to play in the discovery, identification and storage of disciplinary knowledge. However, the importance of language as an interpretive disciplinary tool in knowledge construction and communication is cautiously understood in the literature. In understanding this situation, Renzl (2007:45) notes that "language provides contexts within which we are able to know" but is rarely understood as such. That is, while the notion that knowledge is socially constructed has been well embraced in the current literature, there is little emphasis on how knowledge is constructed, sustained and communicated in academic disciplines using the Language of Learning and Teaching (LoLT). According to Beacco, Fleming, Goullier, Thürmann, Vollmer and Sheils (2016:19), language is important even if it is not the primary means of communicating disciplinary knowledge. For example, mathematics "make[s] little use of language per se: mathematical writing, symbols, formulae, statistics, maps, diagrams, photos etc. The codes in these systems are self-contained, but they need to be verbalised for purposes of discussion, commentary or teaching." This means that language makes the articulation of thought, knowledge and experience possible. This process does not happen in a vacuum but in an interactive relationship between disciplinary orientation and in verbal experiences. This relationship shapes the reality we hold but more importantly, provides us with epistemological understanding of the world and membership of a disciplinary community (Hernandez Corsen, 2009).

Thus, the purpose of this study was to explore the preparation practices that were used to prepare student teachers to use English language skills in disciplinary teaching. Traditionally, education systems in which English is used as a LoLT employ two preparation approaches, namely, English for General Purposes (EGP) or EAC (referred to as English for Specific Purposes in other studies) to structure language learning across the curriculum. According to Woodrow (2018), EGP is designed to include courses and learning materials meant to develop students' general LoLT proficiency. On the other hand, EAC refers to activities meant to align students' specific language skills to their professional needs. EAC is a strategy for strengthening the use of English language skills to meet students' disciplinary linguistic needs. The focus of this study was on EAC, which is a branch of English teaching that emphasises preparing students for communicative disciplinary environments. EAC makes use of the activities of the discipline it serves to develop students' use of the language skills required of them to construct and communicate knowledge of the subject. That is, language skills such as grammar, lexis discourse and genre are carefully selected to meet the discipline language demands (Clark, 2019; Wette, 2018). The main function of EAC is utilitarian in that the student is expected to use language skills to perform in the discipline.

In South Africa, 11 official languages are recognised. The official languages are Afrikaans, English, isiXhosa, isiZulu, Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga and isiNdebele. The South African government also recognised South African Sign language as one of the languages in the education system (Posel & Zeller, 2016). In South Africa, the term LoLT is used to refer to the language that is used in the education system for instruction. In most cases, the LoLT is either English or Afrikaans but the focus of this study was only on the former. Hurst (2016) notes that students who are competent in the LoLT have an obvious advantage over

their counterparts. In perhaps the grimmest explanation, a participant in Kaiper's (2018:737) study describes lack of proficiency in English language as "[i]f you don't have English, you're just as good as a dead person." To signal the importance of English language competence in the education system, the Department of Higher Education and Training (DHET), in its National Qualifications Framework Act 67 of 2008: Revised Policy on the Minimum Requirements for Teacher Education Qualifications (2015), requires that graduates have a language proficiency endorsement for the LoLT on graduation. The language proficiency endorsement is that "all teachers who successfully complete an initial professional qualification should be proficient in the use of at least one official South African language as a LoLT, and partially proficient (i.e. sufficient for purposes of basic conversation) in at least one other official African language, or in South African Sign Language, as language of conversational competence (LoCC)" (DHET, 2015:13). This quotation is not specific to English language in the discipline but to the language as a generic tool for learning and teaching.

To highlight the complicated case of EAC in second language environments, Turkan, De Oliveira, Lee and Phelps (2014:1) state that "... the current research on teacher knowledge and teacher accountability falls short on information about what teacher knowledge base could guide preparation and accountability of the mainstream teachers for meeting the academic needs of ELLs [English Language Learners]." In addition, not all curriculum specialists agree that there is a need to pay attention to how language is used in different disciplines. In fact, Heitmann, Hecht, Scherer and Schwanedel (2017) highlight that the focus on language within the discipline has often been wrongly understood as distracting from the central role of content teaching. Richards (2017) explains that students' competence in the English language of the subject deepens their disciplinary knowledge comprehension. The differences in how students read emphasise that there are specific ways of knowing, meaning making and communicating in disciplines. That is, disciplines are organised differently in the way they approach inquiry and guide students in acquiring content knowledge (Shanahan & Shanahan, 2012). For teachers, this suggests that there is a need not only to know the discipline content, but also how to teach the language of the subject. Yet, Lucas and Villegas (2010) state that most disciplinary teachers have not been prepared to use the language of the subject. In most cases, ITE institutions have provided generic language skills under the academic literacy programme with little or no emphasis on the language of the discipline. Against this background, this study explored the pedagogical activities that are used by universities to prepare student teachers in the "[e]pistemic practices [that] ... socially

organized and interactionally accomplished ways that members of a group propose, communicate, assess, and legitimize knowledge claims" (Kelly & Licona, 2018:139) in their discipline.

#### Teacher Education in South Africa

In South Africa, teacher preparation is regulated by the National Qualifications Framework Act (No. 67 of 2008) and the Revised Policy on the Minimum Requirements for Teacher Education Qualifications. The policy provides the knowledge mixes, level descriptors, competences and credit values that should be used to structure a Bachelor of Education qualification. South African ITE institutions prepare the following teachers: Foundation Phase (FP) teachers who will teach Grades R to 3, Intermediate Phase (IP) teachers to teach Grades 4 to 6, Senior Phase (SP) teachers for Grades 7 to 9, and Further Education and Training Phase (FET) teachers for Grades 10 to 12. According to the Department of Education ([DoE], 1998), schooling in South Africa begins at Grade R when the child is aged 4 turning 5 by 30 June in the year of admission.

The basic competences for a beginner teacher in any of the phases above are the following: subject knowledge, curriculum knowledge, pedagogical content knowledge, knowledge of educational contexts, knowledge of learners, knowledge of educational values, knowledge of assessment and knowledge of reflective practice. Realising the importance of language in teaching and learning, the DBE, Republic of South Africa (RSA) (2014) further emphasises the need for beginner teachers to have knowledge to meet the learner language demands and support across the curriculum. However, there is limited understanding in the literature on how ITE prepares student teachers to meet the language demands in disciplinary subject, which was addressed in this study.

#### Theoretical Perspectives

The theoretical insights that anchored this inquiry were drawn from the Vygotskian view of social constructivism. This theory rejects the naïve realism of the positivists, the critical realism of the post-positivists and the historical realism of the critical theorists, as it upholds the multiple constructions drawn from social actors (Creswell & Poth, 2017). By positioning this study in social constructivism, we sought to understand the descriptions and meanings that student teachers assign to their world using the language of the discipline both as a discourse tool and a social artefact. That is, language provides a framework that individuals use to construct, communicate and understand reality embedded in context.

By embracing social constructivism as our theoretical mooring, we sought to understand student teachers' development in their use of English language skills within their sociocultural

environment, where they are active in the construction of their own competences (Richter, Kunter, Klusmann, Lüdtke & Baumert 2014). This orientation was appropriate for this study as we explored EAC as an institutional, social and historical construction which we understood from multiple participants' meanings. Hence, we were interested in having the participants describe the subjective meanings they attached to their development as trainee EAC practitioners (Hoekstra, Brekelmans, Beijaard & Korthagen 2009). Also, we were interested in understanding the meanings embedded in both the participants' verbal and textual accounts, as drawn from the focus group discussions and the institutional documents. In line with Denzin and Lincoln (2008:29) we sought to

... gaze filtered through the lenses of language ... There are no objective observations, only observations socially situated in the worlds of- and between the observer and the observed. Subjects, or individuals, are seldom able to give full explanations of their actions or intentions; all they can offer are accounts or stories about what they did and why.

The function of EAC is thus to ascertain how members of disciplines use discourse to develop, sustain and change the knowledge in the discipline (Clark, 2019; Shanahan & Shanahan, 2012). In addition, EAC pays attention to communicative practices embedded in the institutional culture and how these social processes shape student teachers' access to the language of the subject (Folkestad, 2006). Relating these theoretical insights of social constructivism to disciplinary knowledge construction, we hold that language is constructed in social practice and is also a construct of social reality. This theoretical orientation allowed us to question the normative nature of the current discourse in generic English as a Second Language (ESL) programmes in ITE by providing an account of the student teachers' interactions and experiences in their 4-year journey as disciplinary neophytes.

### Research Design

In order to achieve the aim of the study, qualitative research was conducted. Using this methodological approach, we sought to ascertain the way that the student teacher participants in the study made sense of and interpreted their preparation as EAC novices. Qualitative research enables the participants to draw from their historical, interactional, introspective life stories and personal experience to describe the activities that have been used to prepare them as EAC practitioners in their discipline (Creswell & Poth, 2017). The knowledge that we sought to answer the research problem was not "out there" but embedded in the perceptions and interpretations of the student teachers. This social construction of reality enabled the participants to provide thick, in-depth and rich descriptions of their social contexts and settings that accounted for the learning activities

which were favoured as nurturing embodiments for EAC preparation.

In line with the qualitative orientation of the study, a case study design was employed to understand and illuminate the practices used to prepare disciplinary teachers for EAC. According to Yin (2017), case studies explore phenomena in their real-life context. Thus, case studies are useful in understanding the boundedness that exists between a phenomenon and its context; that is, understanding the EAC knowledge that the student teachers construct because of their institutional practices.

Different authors have explained the purposes of case studies. For example, Eisenhardt (1989) states that there are three purposes of case studies, namely, theory generation, theory testing and description, while Yin (2017) notes explanation, exploration and description as the functions of case studies. Since the aim of this study was to describe the EAC preparation practices of disciplinary student teachers bound to the context, a descriptive case study was carried out. Stake (2005) explains that there are three types of case studies – intrinsic, instrumental and multiple. Multiple case studies are conducted when many cases are studied simultaneously but each case is described independently (Stake, 2005). Since the focus of this study was to describe the context of EAC as a socially constructed reality bound to the institutional practices by providing a rich description and an in-depth account, a multiple case study was conducted.

In undertaking this research, we collected data from 102 student teachers from three universities in South Africa. The participants were selected using purposive sampling. This type of sampling is used in qualitative studies to select information-rich participants who have experience of the phenomena under study (Creswell & Poth, 2017). The following criteria were used to select the participants: (i) fourth-year Bachelor of Education students; (ii) different disciplinary majors in all phases; (iii) learning through the medium of English; and (iv) planning to teach through the medium of English. We collected data using focus group discussions and document analysis. Focus group discussions are used in qualitative research to bring individuals with similar experiences and backgrounds on a topic together (Creswell & Poth, 2017). The fourth-year student teachers who formed part of this study were considered to have critical information that we required to answer the research question. Three focus group discussions were conducted at the participants' respective universities. The duration of each focus group discussion was 91 minutes at University A; 71 minutes at University B and 79 minutes at University C. When the point of saturation was reached, the discussion was concluded. Saunders, Sim, Kingstone, Baker, Waterfield, Bartlam, Burroughs and Jinks (2018) explain that the point of

saturation is reached when participants can no longer provide new information on a topic. The focus group discussions were documented using audio recordings and transcripts. We also used document analysis to collect data in this study. O’Leary (2014) highlights that this type of data collection instrument is used when researchers interpret documents in order to understand historical experiences captured in textual form. We analysed the rule books and module guides of the three universities that were part of our study to understand the student teachers’ intended curriculum. We analysed the data using thematic analysis.

Thematic analysis is a type of analysis in qualitative research that focuses on identifying and recording patterns from raw data (Creswell & Poth, 2017). We conducted an inductive thematic analysis. This type of exploration is used when themes that result from the analysis are closely linked to data, that is, the process of identifying patterns from data without a pre-existing framework (Braun & Clarke, 2012). We followed the analysis framework provided by Braun and Clarke (2006:87–93): (i) becoming familiar with the data; (ii) generating initial codes; (iii) searching for themes; (iv) reviewing the themes; (v) defining and naming the themes; and (v) writing the findings. We consciously adhered to the following strategies to enhance the trustworthiness of the study: credibility, dependability; authenticity; transferability and confirmability.

#### Description of the Cases

Owing to the anonymity and confidentiality guaranteed to the participating universities and participants, the description of the cases was generic rather than specific. Although generic, the case description is enough to provide the reader with a rich portrayal of the institutional culture and values in order to understand the academic environment in which EAC was developed and practised at each university. The description of the cases was drawn from existing literature. The universities were referred to using alphabetic pseudonyms A, B and C.

#### University A

University A was a comprehensive university. According to Schneider and Deane (2015), a comprehensive university is an institution of higher education with diverse programmes in teaching and research. University A was one of the South African universities currently referred to as historically Black universities (HBUs). According to Ilorah (2006:79), HBUs in South Africa catered for Black students who were “banned from attending segregated White only universities” before independence in 1994. In 1994, when South Africa gained her democracy, the segregated higher education system was abolished but HBUs have

remained poorly resourced and financed (Ilorah, 2006). The legacies of the social inequalities of the apartheid era are still entrenched in the HBU systems (Badat, 2010) and they still attract “students comprising mostly those from financially disadvantaged and rural backgrounds. These students can hardly afford to buy textbooks and they lack the study habits necessary for university education” (Ilorah, 2006:79). We interviewed 32 student teachers who were drawn from across the ITE curriculum.

#### University A – EAC preparation practices

University A prepared the student teachers in EAC using a module called academic literacy. The module had two components, language and computer literacy. In language, the academic literacy module aimed to develop student teachers in communicative competence, reading and writing at university. This module was a generic course that all first-year students took to develop the academic language skills required to transition into academia. Although realising the need for this module as the initial step to their development of using language in subject content and for personal growth, two student teachers noted as follows:

*I am a FP teacher and I am talking about my teaching experience. It was difficult for me to teach English in the FP because I am from a rural area and the learners do not understand English. And my mentor teachers from that school they do not care about that they just teach until learners grow up without understanding English, you know. (University A:13)*

*In Life Science, we have terms like monoecious sugar but how do I explain that to a learner? It is a language of Life Science, but we also need a language of an English language so you can just put all these words together so it can make sense to a learner. This module helped us have that vocabulary. (University A:4)*

We noticed that the student teachers from University A understood their inability to teach in English as some form of deficiency. In fact, one of the participants said: “... because we are lacking somewhere, somehow in terms of speaking the correct English and we cannot explain some of the concepts in maths. We struggle a lot as teachers to use English ... and I end up using Zulu” (University A:4). The student teachers did not regard the use of Zulu as an empowering learning opportunity for both themselves and the learners but rather as a disturbance to the learning environment.

According to the participants it also appeared difficult to use other pedagogical practices to develop disciplinary language skills due to high student enrolment. A participant said: “... you see the problem is that we are too many students in core modules (content), you can never have presentations in them” (University A:19). Although presentations were only just one of the many ways of communicating about disciplinary knowledge, they

did offer the student teachers an opportunity to structure their thoughts about what they were learning. What was worrying was that, in reflecting on this situation, the student teachers had also unconsciously adopted this way of teaching their learners. A participant said: “... *but what is lacking are the lecturers that allow us to participate in the content delivery. In teaching practice, I also noticed, that I was not allowing learners to interact, it's bad ...*” (University A:20).

#### University B

University B was also a comprehensive university but was one of the historically White universities (HWUs). Bunting (2006) states that HWUs refers to universities that were funded to educate White only students in pre-democracy South Africa. In South Africa, HWUs fall into two categories depending on the medium of instruction that was used. According to Bunting (2006), HWUs were either historically White Afrikaans-medium universities or historically White English-medium universities. Post-1994, University B, which previously enrolled advantaged White students only, began recruiting middle-class and rural Black students. At University B, we interviewed 30 Bachelors in Education (BE) students from across the curriculum.

#### University B – EAC preparation practices

The student teachers at University B were prepared for EAC using modules, microteaching and teaching practice. University B allowed students to choose between two languages of instruction, namely, Afrikaans and English. Student teachers who selected English as the medium for teaching enrolled for a module called academic English. One participant described this module as: “*we have Academic English, and then we have methodology. Academic English is generally your linguistics module, it was basically about phonetics and literature ...*” (University B:21). These modules developed student teachers’ knowledge of English language phonology, morphology, syntax, semantics and pragmatics. This means that the student teachers were prepared to teach for example, English and visual art; English and business studies; English and life orientation; English and mathematics; English and life sciences; and English and engineering graphic design. To develop their English proficiency, the student teachers studied language as a content area alongside a second major. On graduating, University B students could teach both English as a subject and another major.

The student teachers were further prepared for disciplinary language skills, for example language skills for life orientation. One participant provided a summary of how this was done at University B: “... *you have English as a first subject, your main subject but you integrate it with your second subject, in my case life orientation*” (University B:6).

Throughout their 4 years, various activities were used to develop their knowledge of the language demands and to support their second major subject. In another example, a student teacher in mathematics indicated that: “*I teach mathematics, other than English, so I use English skills to teach important concepts of mathematics ...*” (University B:11). As all student teachers at University B were language teachers, they were also attentive to the multilingual nature of the South African classroom. The use of translanguaging, which was a multilingual learning tool where learners had access to different languages in order to improve knowledge construction and communication, was an indication of the student teachers’ professional knowledge of current teaching methods in ESL.

At University B, lesson planning was also used as a pedagogical activity for EAC. To explain this, one participant said: “... *we had to create a lesson plan for our content subject and infuse language. Then we literally had to sit with the lecturers and present it and they gave us feedback...*” (University B:7).

Additionally, student teachers at University B had contact sessions in their micro-teaching module, where disciplinary language skills and content were deliberately used in practice. During these sessions, an experienced disciplinary lecturer demonstrated and offered support and resources for the student teachers. One student teacher said: “[w]e attend contact sessions on a regular basis with our lecturers. They ... help us and or complete our teaching assignments and some of our assessments” (University B:10).

Also, during teaching practice, the mentor teachers provided modelling for the participant. One participant described her history mentor teacher as a passionate EAC practitioner but on reflection realised that she still could improve her practice: “... *she includes a lot of words; she is very passionate. She gives them [learners] difficult words and everything, guides them through it and everything, but I still think she can improve by giving word bank ...*” (University B:17).

But for most of the student teachers, the EAC practice was not the norm for their mentor teachers in schools. One participant said: “*most of the mathematics teachers who were my mentors were 20 to 30 years already in education, so they did not see the importance of language skills in the subject*” (University B:18). In such situations, student teachers used their knowledge of EAC to bridge the gap.

#### University C

University C was a post-apartheid institution of higher learning. Unlike Universities A and B, which were characterised as either HBU or HWU, University C did not have these monikers. The post-apartheid universities were established in 2014 as a

government initiative to deal with growing enrolment numbers at traditional universities such as A and B. In addition, Murugan and SAnews (2013) state that post-apartheid universities are a strategic goal of the government to ensure that each province has a centre for higher education to spearhead provincial problem solutions. University C was a comprehensive university that, during the time of data collection, only presented undergraduate programmes. Most students at University C were from the School of Education and we interviewed 40 BEd student teachers.

#### University C – EAC preparation practices

At University C, student teachers were prepared as EAC practitioners using one module in the fourth year. A document analysis of the module dedicated to EAC revealed that its aim was to “build knowledge in guiding learners to acquire language skills that will develop their thought processes in subject specific content” (University C Module Guide, 2018:4). An analysis of the module content indicated that its focus was on student teachers’ knowledge of generic language skills – speaking, listening, reading and writing. The module also surveyed the South African English language areas of listening and speaking; reading and viewing; writing and presenting; and language structures and conventions. The module did not focus on specific disciplinary language skills like the ones described in DBE, RSA (2014), in terms of which student teachers are expected to have knowledge of the language demands of and support for various subjects, including geography, history, life orientation, life sciences and physical science, mathematics/mathematical literacy, services subjects and technology and technical subjects. The student teachers at University C indicated that although they saw the need for specific disciplinary language skills, the module that the university assigned for this purpose was seemingly not adequate for that purpose. Participants from University C remarked as follows: “*One module is not enough for us. Besides, we are learning general language skills not those required in mathematics ... it’s a challenge*” (University C:7). Besides highlighting the broad aim of the module, the student teachers at University C also indicated that there was a need for a module offered earlier than the fourth year. One participant explained:

*I have absolutely nothing against the module, I just felt the timing was a bit off. I wish it was offered in our second year or the third year connected with lesson plans and micro teaching. I have already learnt bad habits, and I am not sure I want to let them go, it is like part of me.* (University C:10)

The need to have the EAC module offered earlier was important for the participants. In addition, the student teachers highlighted that the attention to disciplinary language skills should be included both in micro teaching and lesson planning. As

exemplified by the quotation below, the participants mentioned the need to have the EAC module focus on disciplinary language skills:

*We need this module taught in the specific disciplines. For example, in mathematics when you do break things down, into say the roots of the word, the Latin meaning of the word. Algebra was discovered by, was formalised by the Ottomans, which is why we use ‘X,’ because ‘X’ was the closest Greek letter that could depict the unknown, and something they used to use in Phoenician. When you do it in a classroom and you talk about Cowademie, you naming people’s names, it is a story for them and they then become engaged in the subject because you have made it a lot more interesting.* (University C:18)

We found the storytelling motif very interesting in the example above. Besides being a personal pedagogical strategy of this student teacher (storytelling was not one of the methods surveyed in the teaching of mathematics), it was a literary skill that, although not commonly used in the discipline, had contextual worth in South African classrooms. Although the module was the only pedagogical practice that the student teachers had in their preparation as EAC practitioners, they reflected on how the module could have been structured to better prepare them for the language demands and support of their discipline.

#### Discussion

The discussion that follows concerns the cross analyses of the three cases above in terms of the theoretical viewpoint embraced in the study. With regards to our purpose to explore the practices used by universities to prepare student teachers to be EAC practitioners, the findings confirm two practices that fall into two themes, namely structured and unstructured.

##### Structured EAC Preparation Practices

Structured preparation practices and experiences are used to instruct student teachers in the use of disciplinary language skills in content teaching. Richter et al. (2014) state that in teacher education institutions, structured preparation activities are formal and organised in terms of the goals of and support for the development of student teachers’ abilities to acquire professional competences for teaching. The three universities used structured preparation practices such as module teaching, microteaching, teaching practice and observation to develop their knowledge of EAC. The module aims and content of the EAC and how it unfolds in complementary activities differed from one university to the next. The diverse nature in which EAC is understood in contexts is programmed into the student teachers’ curriculum but we did note that this differed from what was indicated by the DBE, RSA (2014). Like Shanahan and Shanahan (2012), the DBE, RSA (2014) envisioned EAC as a disciplinary approach but the teacher preparation for

this competence was fragmented and only presented chance connections to content teaching.

#### Unstructured EAC Preparation Practices

The student teachers had some unstructured preparation experiences in EAC. These unstructured EAC practices refer to informal experiences that are characterised by unclear learning objectives, planning and support. According to Hoekstra et al. (2009), EAC preparation practices are spontaneous, unintentional, unpredictable, unconscious and not restricted to any contexts. In the context of this study, the student teachers referred to the values that they placed on developing their competencies for EAC. These practices are entrenched in the cultural and contextual spaces of institutions and serve to either enhance or inhibit the student teachers' knowledge construction in EAC.

Drawn from social constructivism which was our theoretical viewpoint, the cross analysis of cases indicated student teachers' social, collaborative and contextual construction of EAC knowledge. Firstly, the participants highlighted the need for multiple constructions in developing knowledge for EAC. Additionally, although the universities that were part of the study seemed to privilege structured, the student teachers held for a dual focused orientation, where language is developed using normative, transformative and creative pedagogical practices across the curriculum. Secondly, we were able to understand through the student teachers' descriptions of the process that they underwent to become EAC practitioners, the meanings they attached to the pedagogical practices used in their institutions. These descriptions and meanings were important as contextual analysis tools that they used to make sense and master both the theoretical and pedagogical practices linked to disciplinary language skills. Lastly, this process was influenced by the existing members of the disciplinary community such as university lecturers and mentor teachers during teaching practicum. These existing members modelled and mentored the student teachers in the actual practices of embedding language skills in disciplinary teaching. The embeddedness approach to EAC is a critical illustration of how contextualising language learning is a creative, messy, complex and yet a rewarding pedagogical practice for disciplinary learning.

#### Conclusion

In this study we sought to explore how student teachers in different disciplines were prepared to use EAC at three South African universities. The student teachers in this study indicated, like Clark (2019) and DBE, RSA (2014), the need to identify and use pedagogic disciplinary grammar embedded in the multiplicity of activities in their ITE curriculum. That is, the registers and genres required to speak,

read and write in EAC. We found that for student teachers across all ITE programmes to achieve this strategic competence in EAC as future facilitators, they required knowledge representations embedded in the interaction between structured and unstructured preparation activities. In summary, the structured and unstructured EAC preparation practices should not be "regarded as a dichotomy, but rather as the two poles of a continuum; in most learning situations, both these aspects of learning are in various degrees present and interacting" (Folkestad, 2006:135). The fluidity between structured and unstructured EAC preparation practices provides an understanding of the complex nature of EAC, which by its nature is experimental, tacit, contextual and yet structured. Although drawn from a relatively small sample size, these findings might assist ITE institutions to develop an EAC curriculum that is attentive to disciplinary language skills.

It is also important to note the limitation of this study. The study drew from a small number of fourth-year students from three South African universities. Despite the limited number of participants, the use of in-depth focus group discussions and document analysis provided rich descriptions which might be a guide in transferability into contexts.

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#### Authors' Contributions

NM and MCM co-wrote the manuscript. NM and MCM conducted data collection and analysis. Both authors reviewed the final manuscript.

#### Notes

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