



What counts as disciplinary literacy instructional approaches in teacher education?



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Drawing on the literature, this article examines approaches for developing disciplinary literacy in teacher education. Findings from different researchers indicate that most university entrants are underprepared for the academic literacy required to thrive in this system. While the focus of such research is critical, the generic approach that most researchers have taken in this area is largely questioned. Building on this dissatisfaction, there is a growing number of studies that promote distinctive, epistemological and discursive practices of disciplinary literacy. However, limited studies have sought to understand the approaches used in disciplinary literacy instruction in teacher education. Thus, this study explored through a literature study the approaches used by initial teacher education to prepare pre-service student teachers as disciplinary literacy facilitators. Through this focus, this article contributes to this knowledge gap by accounting for the approaches used in teacher education to develop disciplinary literacy instruction. To achieve the purpose of the article, we framed our argument from a social constructivism perspective. Based on an analysis of literature, we motivate for the need for understanding disciplinary literacy as a phenomenon that is embedded in social practice, fluidity, human interaction, and institutional and historical artefacts, but that also requires regulation.

Keywords: disciplinary literacy; normative approach; social constructivism; teacher education; transformative approach.

Introduction

The history of colonialism in Africa has left a legacy of students in the education system who must learn in a language that differs from their mother tongue (Wolff 2017). In such education systems, higher education institutions have raised concerns that university entrants have limited academic literacy to engage at the cognitive level required for them (Butler 2013). To mitigate this situation, most higher education institutions have academic literacy programmes to develop students' language skills. According to Weideman (2018), academic literacy is the ability for students to comprehend and interpret a variety of academic vocabulary. It is also the competent use of language to communicate, express, argue, apply and infer in academic contexts. Because of the importance of language in learning, students' competencies in it have been pointed out as a contributory factor in university students' low academic success (Ralarala, Pineteh & Mchiza 2016). As an intervention, most education systems have devised various strategies to mitigate and support student academic literacy (Butler 2013). In contrast to Kress (1997), who states that:

[I]f we assume that language is dynamic because it is constantly being remade by its users in response to the demands of their social environment, we do not then have a need to invent a plurality of literacies. (p. 115)

However, in line with Airey (2012) and Lillis and Scott (2007), we embrace the fluidity of academic literacy within sociocultural contexts as both practised and lived contexts. Thus, the term literacy is used in this article to signal our epistemological orientation to academic communication as plural rather than singular (Boughey & McKenna 2016). This position is elaborated in subsequent sections of the article.

Realising the nuanced nature of literacy, academia has in recent years refocused the debate on academic literacy from being a mere medium of communication to an emphasis on dialogic classroom activities performed using discursive practices specific to the target knowledge area so that students are provided with the most effective platform for constructing meaning (Clarence & McKenna 2017; Jacobs 2016). Boughey and McKenna (2016) indicate that language is a debatable issue in institutions of higher learning. Despite this disputed space, there is an urgent call for the recasting of our understanding of the use of language in the academia. For example, Petrová (2013) argues that:

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[T]he role of language in developing higher psychological functions cannot be discussed without discussing the role of cultural tools because language is assumed to be a unique cultural tool with the special potential to restructure the cognitive behaviour of individuals. (p. 239)

In addition, we embrace the geo-historical debate and how it shapes academic communication by (Lillis & Scott 2007:5):

[Recognising] the location of 'academic literacies' at the juncture of theory and application as this accounts, in part, for the ways in which it is adopted and co-opted for use in many settings, often with a range of meanings – sometimes confusing and contradictory – and sometimes strategic.

This perspective allows researchers to highlight the students' epistemological access rather than formal access. Epistemological access is the understanding of the students' cultural and historical contexts as resources for shaping the type of support they require to gain access to the institutional knowledge forms and structures (Muller 2014). By reorganising this debate in this article and drawing from transdisciplinary viewpoint, we give prominence to the understanding of language as a disciplinary artefact – a social context of learning not only facilitating (or impeding) the learning process but also changing what can be learnt (Clarance & McKenna 2017).

Strands in academic language literacy research

The concept of academic literacy has currency in most second-language contexts as evidenced by the burgeoning research output in the field. However, its definition, tenets and how they are implemented in different disciplines are fiercely debated (Lillis et al. 2016). Traditionally, it referred to the students' ability to communicate through reading and writing as evidence of being able to engage with academic content (McGowan 2018). In this strand, the focus is on guiding students to master the academic language skills, as these are a strong determinant of academic achievement. In hindsight, researchers acknowledge the limited view of a skill-based orientation to academic literacy (McGowan 2018). Butler (2013) cautions that an understanding of academic literacy as a skill fragments its interrelatedness with disciplinary literacy. Also, in second-language learning, there has been a realisation that 'supporting the reading comprehension and content knowledge acquisition of English language learners (ELs) requires instructional practices that continue beyond developing the foundational skills of reading' (Vaughn et al. 2017:22). In responding to this inadequacy, Boughey and McKenna (2016:2) explain that academic literacy has '...a great deal to do with the mastery of a "way of being" required of students as they engage with higher education...' rather than a narrow sense of good command of grammar and ability to write essays.

This dissatisfaction led to a shift in second-language learning contexts where academic literacy is currently understood as a sociocultural process (Cummins 2008) and a social justice

practice (Angu 2019) by which students utilise disciplinary discourses to negotiate meaning and being in the world (Boughey & McKenna 2016). Drawn from an orientation in New Literacy Studies, academic literacy has come to be understood as including language skills, culture, social and cultural practices (Butler 2013). This world view is critical as it provides the foundation for viewing academic literacy as embracing linguistic standards, epistemological norms and transformative assumptions. This approach undergirds the rootedness of academic literacy in how language skills are reconstructed as concepts of identity and being in their academia (Boughey & McKenna 2016). This means that academic literacy is understood within a particular context and embedded in the rhetorical realities of a context (e.g. a disciplinary community of practice) (Angu 2019; Boughey & McKenna 2016). To add credence to this viewpoint, Cummins (2008) highlights that there is a need to understand academic language literacy as socialisation into disciplinary communities by offering students opportunities to interact, share and collaborate with experienced members in the field of study. This shift indicates that each field of study has its disciplinary literacy that highlights 'the use of reading, reasoning, investigating, speaking, and writing required to learn and form complex content knowledge appropriate to a particular discipline' (McConachie & Petrosky 2010:16).

In the literature, disciplinary literacy is also referred to as content area literacy (Draper 2008) or curriculum-specific literacy (Morgan 2013). Disciplinary literacies refer to the ontological and epistemological ways in which knowledge is thought about, generated and communicated within the boundaries of the content area (Draper 2008; Shanahan & Shanahan 2012). Fang's (2014) view is that:

[L]iteracy instruction in the content areas should aim to promote the development of students' ability to engage in social, semiotic, and cognitive practices compatible with those undertaken by disciplinary experts. (p. 444)

Although holding this view, we are aware that the development of disciplinary literacies does not happen by chance, as Moje (2008:103) argues that it requires 'scaffolding and mediation by teachers who know the content well and understand the role that language and literate practice play in producing knowledge within it'. Thus, well-prepared teachers provide guidance to their learners by modelling, immersing and apprenticing them to the knowledge modes and practices as they develop as citizens in the social cultural community of the discipline (Gee 1996).

While the locus of this study is teacher education, we have purposefully explored disciplinary literacy from a wider range of studies for two reasons. First, notwithstanding the nuanced research sites that have been studied in previous research, the issues of disciplinary literacies, especially in second-language contexts, have been generic. In other words, such studies have explored the implementation of disciplinary literacy and how institutional practices and learner factors enhance or limit individuals' competencies in the medium of

instruction. While this research focus has merit it has proverbially placed the cart before the horse, as the teacher and how they are prepared to develop disciplinary literacies for professional use has not featured prominently in the current literature. Second, as a result, there is limited research output emanating from initial teacher education that seeks to understand the approaches used to undergird the preparation of student teachers in disciplinary literacies. To recast the study of disciplinary literacy and minimise the knowledge gap discussed above, this study gleans approaches from the current literature that have been described as possible instructional strategies for developing student teachers' disciplinary literacies. This shift in focus moves away from explaining the value of generic academic literacies to identifying models of disciplinary literacy in the preparation of student teachers for both practice and lifelong learning (Alvermann et al. 2011).

The article is organised into three sections. In the first part of the article, we argue for the intentional inclusion of academic literacies in institutions that use a second language as a medium of instruction. We signal the discontent among researchers with the incomplete and traditional perspective of referring to academic literacy as a singular phenomenon for supporting students to read and write by giving prominence to disciplinary literacy (also called content area literary or curriculum-specific literacy). In the second part of the article, we provide theoretical foundations for positioning the disciplinary literacy within a social constructivist orientation. In the third section of the article, we examine the approaches for disciplinary literacy and evaluate their theoretical logic in guiding students to gather, organise and interpret knowledge and discourses in the content area.

Social constructivism view of disciplinary literacy

The study is located within a social constructivism orientation. It brings together insights from distinct but complementary theoretical disciplines in its analysis of the empirical data. Its theoretical outlining comes initially from second-language academic literacy, which is then embedded in disciplinary literacies drawn from the work of Gee (1991), Bernstein (1999) and Airey (2012). Gee (1996) argues that there is a:

[S]ocially accepted association among ways of using language, other symbolic expressions, and artefacts, of thinking, feeling, believing, valuing and acting that can be used to identify oneself as a member of a socially meaningful group or 'social network' linguistic and social aspects. (p. 131)

Accordingly, Gee suggests that there is a disciplinary discourse that forms a way of being and identification for members that belong to a certain group. The way Gee (1996) uses the word 'discourse' is beyond the sociolinguistic orientation as it includes an understanding of the intersection of the use of language, social identity, social relationships and contexts. This way of thinking about disciplinary discourses shifts from focusing only on the development of language skills for

academic use to include sociocultural patterns that individuals in a social context employ to construct and reconstruct their knowledge of the world. Discourses are fluid as they are constantly negotiated in the use of language, identity, context and the way of being in the world. For student teachers, the fluidity of their disciplinary literacies is a result of the multidisciplinary nature of learning how to teach.

Human beings participate in multiple discourses. Gee (1996) claims that there are two types of discourse, namely primary and secondary. The primary discourse is the phonological (oral) component of language that is internalised from birth, while the secondary discourses are communicative practices that are situated in contexts and sites. As no individual functions in one discourse, there is a need to acquire both. In arguing for the fluid nature of secondary discourses, Airey (2012) states that secondary discourses are developed in three distinct sites, namely society, academy and workplace. The language demands of each site differ, as distinct skills for using the language are required, in what Greenleaf et al. (2010) refer to as specialised language. This means that the language used in disciplinary interaction has different rules in terms of the vocabulary and syntax used depending on the context. Thus, belonging to a discourse means being able to know and use its grammatical and lexical features.

Similarly, Mercer (1995) explains that discourse refers to the language in its social context that is used as a conduit for expressing the knowledge and meaning of social and intellectual communities, for example, being able to use the social language of biologists, linguists and anthropologists if you claim membership of the discipline. As no one functions within one discourse – and such discourses cannot be internalised through intentional instruction – there is a need to develop covert ways of acquiring them as cultural tools and artefacts of knowing in a discipline (Petrová 2013; Vygotsky 1981). Such an understanding develops the functional view of language as an epistemological resource for meaning – as the essential condition for experiencing knowledge (Halliday 1984).

There are three ways of acquiring disciplinary discourses, namely socialisation, apprenticeship and modelling (Gee 2001). Arguing this viewpoint, Airey (2012) states that disciplinary differences exist in the use of language in the academy, as each discipline differs in its use of the language of instruction. Airey (2012) based his reasoning on Bernstein's (1999) disciplinary knowledge structures. Bernstein (1999) postulates that each discipline has its own ontological and epistemological assumptions based on a disciplinary knowledge structure that demands that students develop an agreed discourse (hierarchical knowledge) or introduce a new discourse (horizontal knowledge). The distinction that Bernstein (1999) draws between disciplinary knowledge structures makes a case for specialised discourses for each discipline and connects to the Vygotskian view that emphasises sociocultural cognitive development, that is, providing student teachers with opportunities to develop an awareness of specific

discourses that induct them into the world of being in their discipline (Boughey & McKenna 2016; Gee 2008).

It is likewise apparent from the insights of the theorists discussed above that there is a symbiotic interplay in the use of language and disciplinary identity, socialisation and context. This relationship is beyond mere verbal utterances that are recognised by members of the same community, as they embed a sociocultural disposition that births belonging, social affinity and identity (Angu 2019; Boughey & McKenna 2016). Each discipline has agreed conventions, practices and modes that give guidance on the way knowledge is constructed, critiqued and communicated (Airey 2012; Shanahan & Shanahan 2012). The overarching definition by Airey (2012), which states that disciplinary literacies are challenging the notion that there is a single approach to reading across the curriculum, is the one we embraced in this study. This definition calls attention to the view expressed by Shanahan and Shanahan (2012:9) that disciplinary literacies 'differ extensively in their fundamental purposes, specialized genres, symbolic artefacts, traditions of communication, evaluation standards of quality and precision, and use of language'. Through disciplinary literacies instruction, student teachers are carefully apprenticed in their content area to be active recipients of knowledge (Draper 2008). As active participants in their disciplinary field, student teachers are able to challenge the agreed knowledge modes, practices, arguments and reasoning.

However, researchers have indicated that teachers are not always prepared to internalise or facilitate disciplinary literacies. For example, Johnson et al. (2011:102) found that, in practice, teachers experienced a 'disconnection between content disciplines, teaching methods, and literacy education', while Hart and Bennett (2013:222) suggest that there is a need to focus on 'secondary content area disciplines [that] represent separate communities of practice, with unique discourses – shared repertoires of language, tools, routines, gesture, symbols, actions, and ways of being'. The section below draws from the literature to highlight approaches for disciplinary literacy instruction in initial teacher education. In addition, Fang (2014) states that the focus on disciplinary literacies has led to a recognition that teachers as facilitators of their learners' content development require adequate preparation that allows for a 'deep understanding of both discipline content and disciplinary habits of mind' (Fang 2014:444).

Approaches to disciplinary literacies instruction

There are two approaches to disciplinary literacy instruction, namely normative and transformative (Jacobs 2016). From the literature, it would appear that the approaches are rarely applied in understanding the preparation practices of student teachers for disciplinary literacies instruction.

Normative approach to disciplinary literacy instruction in teacher education

The normative point of view states that practices and patterns that individuals hold in society are regulated by norms that

are agreed upon. This perspective relates to the idea of a standard or correct way of doing things. Applied to disciplinary literacies, the notion of normative highlights that there are regulated norms and patterns that insiders use to construct and communicate knowledge (Shanahan & Shanahan 2012). This means that 'disciplinary texts are unique and contain highly specialized language and text structures' (Gabriel & Wenz 2017:1). Following this view, Shanahan and Shanahan (2012:43–44) explain a three-category progression that ought to develop learners' literacies, namely basic literacy (general ability to decode words), intermediate literacy (ability to comprehend text and fluency) and disciplinary literacy (high-level content literacy skills). Furthermore, in their study, Shanahan and Shanahan (2012) found that teacher educators and high school teachers in chemistry, history and mathematics, who were part of their study, approached their texts differently. They found 'educationally relevant differences in literacy use among three subject-matter disciplines – history, chemistry, and mathematics' (Shanahan, Shanahan & Misischia 2011:393).

Admittedly, it must be pointed out that disciplinary literacy normativity follows a gradual release model that emphasises the teacher modelling the disciplinary discourses gradually for the students. This view categorises levels of disciplinary literacies in a progressive pattern. In following this view, pre-service teachers are prepared using developmental courses and activities from the time they begin as students to when they graduate.

Transformative approach to disciplinary literacy instruction in teacher education

The rethinking of disciplinary literacy also demands an exploration of additional normative understandings. The transformative approach provides a useful epistemological context to alternative strategies for framing disciplinary literacy. Jacobs (2016) states that there is a need to reorient the discussion on literacies from a focus on the mere academic socialisation of students to a transformative approach 'where the literacy practices of disciplines might be critiqued and contested'. (140). Likewise, Moje (2007:4) sees the transformative approach to disciplinary literacies as 'opportunities to learn [and] must not only provide access to mainstream knowledge and practices but also provide opportunities to question, challenge, and reconstruct knowledge'. This approach allows us to see literacies development as a dialogic interplay of content, students, cultural norms, social practices and institutional ethos. This means that there is a need to understand the institutional discourses and how they are moulded and interpreted through transforming the situated ways of knowing (Jacobs 2016). This suggests that disciplinary literacies cannot be thought of as a phenomenon that is fixed; rather, they should be regarded as unstable as a result of what students bring to the learning environment and how they interact and reconstruct valued forms of knowledge in their field. Arguing this point, Moje (2007) insists that a disciplinary literacies curriculum should not provide prescriptive guidelines for

framing instruction. The students' development of disciplinary literacies is not a once-off activity but rather a sociocultural, situated, nuanced and ongoing process that is embedded in the pragmatic nature of academia.

From a transformative approach, disciplinary literacies have a sociocultural orientation, as they are 'shaped, distributed and acquired in relation to community contexts and larger social institutions, discourse formations and ideological interests' (Luke 1997:143). Transforming disciplinary literacies requires social and political willpower to reorder, reframe, reorganise and reconstitute the teaching and learning environment to allow student teachers to have epistemological access to their disciplinary knowledge. As noted from largely South African studies, the transformative agenda in education is both challenging and uncomfortable as it dismantles hegemonic academic practices (see Kelly-Laubscher, Muna & Van der Merwe 2017; Paxton & Frith 2016). In calling for this intellectual discomfort, Wingate and Tribble (2012) note that holding to one approach to literacy development has missed a critical point, such that:

[A]cademic discipline is not a purely linguistic matter that can be fixed outside the discipline, but involves an understanding of how knowledge in the discipline is presented, debated and constructed. (p. 481)

By reclaiming this multiplicity, we strategically motivate for disciplinary literacies that place the student teachers at the centre of the use of sociocultural resources for distributing, interpreting and meaning-making.

Discussion

Our description of the two approaches on which the theoretical foundations of disciplinary literacies are grounded is not an attempt to draw parallels between them but rather to gain insights on how this process unfolds in teacher education. In fact, our argument questions the superficial divide that exists in the literacy literature. Our stance is, therefore, *binary* and convergent as we favour an integrated approach to disciplinary literacies instruction in teacher education. In reframing this argument, we acknowledge that there is a need to have guidelines for the social and cultural normative pedagogy in developing the disciplinary curriculum. In line with Lillis et al. (2016), we uphold the notion that a:

[N]ormative stance is the default position in much practice in academia (pedagogy and policy) and a necessary stance in order to participate (and enable participation) successfully in academic institutions as currently configured. (p. 10)

However, we are cognisant of the fact that the exclusive focus on approaching literacies instruction from a normative approach is an incomplete and fragmented conceptualisation. To connect the 'full range of semiotic practices to intellectual labour' (Lillis et al. 2016:10) and provide opportunities for student teachers to decontextualise familiarity by drawing from pluralistic knowledge construction, a transformative approach to disciplinary literacies is critical.

In following this integrated approach to disciplinary literacies, we acknowledge that a normative approach is required that favours a structured and pre-programmed way of learning disciplinary literacies for student teachers. By bringing in a transformative approach, we situate the student teachers as knowers who build upon their experiences to consciously construct disciplinary literacies. In support, Alvermann et al. (2011:52) state that the aim of the:

[T]eacher education course should not be to settle anyone's identity within a particular [D]iscourse [sic], but rather to support teacher's experimentation with different identities—sometimes being more focused and other times being more content focused. (p. 52)

Further, drawing on the Vygotskian viewpoint, a transformative perspective allows for an understanding of a sociocultural interplay of language, artefacts and context, providing a frame of reference for the student teacher to develop knowledge of disciplinary literacies. This transformative approach emphasises teachers as agents of change and is an empowering aspect that identifies awareness of situational factors and how they enable meaning-making.

From the discussion in this section, the traditional definition of literacy as the ability to read and write is inadequate to account for the disciplinary literacies required in teacher education. To answer research question, in the article title, we asked whether disciplinary literacies instruction in teacher education is normative, transformative or cognitive and whether it is situated and enshrined in the social practices of the discipline and in the multidisciplinary nature of academia. By drawing from this standpoint, we accounted for disciplinary literacies in teacher education, first, as a *regulated* and social *practice* that is situated in the context of the institution and moulded in the way individuals interact with the text. Second, disciplinary literacies in teacher education are embedded in *human interaction patterns* and the historical artefacts of the institution and the broader societal goals and practices. Lastly, disciplinary literacies are *fluid and unstable in nature*, assuming expressions in sociocultural situations from multifaceted and overlapping identities that student teachers continuously develop as lifelong learners.

Implications

From this literature study, there appears to be a need to advocate for literacy learning approaches that blur the normative-transformative dichotomy. This argument is founded on the idea that developing student teachers' disciplinary literacy is a social act – a way by which they have access or are inhibited from being active participants in the academia. Such collaborative practices develop pedagogies aimed at supporting student teachers' disciplinary literacy. This position embraces the notion that disciplinary literacies are social constructs that are field-specific and located in the dialogic process of knowledge generation. This orientation is beyond having students use language skills (writing, reading, speaking and listening) in disciplinary learning by embedding the use of language in

their being, identity, values and skills as a strategy of inducting them into the disciplinary community of practice. This stance allows for a twofold pedagogical synergy. First, it will foster a closer collaboration between content and language specialists in developing disciplinary literacy programmes that are both generic and yet specific to the subject field. Second, an integrated approach to disciplinary literacy allows for both normative and transformative practices to be implemented that by default overcome the content–subject dichotomy that seems to currently beseech the academia. Hence, future research in this area should focus on developing an approach that incorporates both implicit and explicit disciplinary practices.

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Authors' contributions

All authors contributed equally to this work.

Ethical consideration

This article followed all ethical standards for carrying out research without direct contact with human or animal subjects.

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Disclaimer

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