Exploring Autonomography: The Development of a Self-directed Writing Self-rating Scale

Jako Olivier [a, *]

[a] *North-West University, South Africa*

A B S T R A C T

Writing involves a number of skills and being self-directed in the process would contribute to greater effectivity. The concept of autonomography, or being self-directed in terms of writing, draws from the literature on self-directed learning and specifically self-directed writing, where concepts such as self-regulation and learner autonomy are relevant in the language learning process. This study entailed the development of a self-directed writing questionnaire through a thorough overview of the pertinent literature and a consultative process with language experts in order to explore the nature of autonomography among a selected Afrikaans-speaking university student population. The statistical factor analyses confirm that autonomography involves a writer's self-directedness, voice and self-involvement, self-assessment and problem-solving, preference for own and expressive language, sensitivity towards other languages and language varieties, metacognitive skills, approach to self-directed writing on computer as well as editing and problem-solving on computer. These factors provide measures but also key areas of development in writing instruction. In addition, the level of autonomography was also explored in terms of preference for creative writing as opposed to a more functional writing.

Keywords: autonomography; self-directed writing; self-directed learning; self-directed language learning; learner autonomy

© Urmia University Press

* Corresponding author: Faculty of Education, North-West University, South Africa
Email address: jako.olivier@nwu.ac.za

Introduction

Within the South African context, it is evident that university students experience problems in expressing themselves proficiently in terms of writing, and this condition is often blamed on the schooling system (Drennan, 2017; L. Olivier, 2016; Scholtz, 2016). In this context, university-level supplementary instruction for writing is often handled by means of so-called academic literacy courses (L. Olivier, 2016; Pfeiffer & Van Der Walt, 2016) and the use of writing centres (Drennan, 2017; Mckay & Simpson, 2013; L. Olivier, 2016). Very little has, however, been written about self-directed writing in the South African context and specifically self-directed writing among Afrikaans-speaking university students. Furthermore, there is no single instrument that provides an adequate overview of the nature of self-directed writing in educational settings. To determine the nature of self-directed writing in this study, an instrument was developed to address this gap. This article reports on the instrument and findings of the process and proposes that a self-directed writing instrument can be used to inform teaching practices.

A theoretical framework will be drawn from the key literature on self-directed learning as well as works on self-directed writing or autonomography. Thereafter, the development of the self-directed writing questionnaire, the participants, context as well as the data collection and ethical considerations will be discussed. The elements of self-directed writing as identified factors from the questionnaire will be explained. Next, the statistical analyses and results will be provided, after which some concluding remarks will be made.

Theoretical framework

Self-directed learning

From the literature, *self-directed learning* (Bolhuis, 2003; Guglielmino, 2008; Guglielmino & Guglielmino, 2001; Knowles, 1975; Wood, 1975) can be considered a process, an approach, or even a personality construct. The concept of self-directed learning is defined by Knowles (1975, p. 18) as "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes". Similarly, Garrison (1997) defines self-directed learning as "an approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes" (p. 18). Furthermore, Brockett and Hiemstra (1991) consider self-directed learning as a "personality construct" (p. 23). In this article, self-direction is regarded as a variable state that students can possess and they therefore show independent or collaborative initiative in taking charge of their own learning process and resources.

Self-directed learning is, however, dependent on external influences and networks established between people. Bolhuis (2003) states that, "self-direction requires both the acquisition of relevant competence, and the position to assert self-direction" (p. 335). Garrison (1997) proposes a model of self-directed learning with the integration of "external management (contextual control), internal monitoring (cognitive responsibility), and motivational (entering and task) issues associated with learning in an educational context" (p. 18). Hence, through external management, teaching can be orientated towards fostering self-directed learning, while it is acknowledged that this is an internal process that requires internal monitoring by the student with sufficient motivation to learn. In line with this reasoning, Brewer (2016) emphasises the interdependent nature of a self-directed learning process where both students and teachers have a role to play.

From the literature, clear links are evident between self-directed and self-regulated learning (Ayyildiz & Tarhan, 2015; Bolhuis, 2003). Loyens, Magda, and Rikers (2008) note the similarities and differences between self-directed learning and self-regulated learning. However, self-directed learning is considered to be a broader concept which, among other things, also involves self-regulated learning. Garrison (1997) asserts the importance of the research around self-regulated learning in "understanding the cognitive and motivational dimensions of self-directed learning" (p. 31). Thus, this study builds further on the context of previous research on self-regulated learning in terms of language teaching and specifically writing (cf. Adaros, 2017). Consequently, it is also necessary to explore the concept of self-directed writing or autonomography.

Self-directed writing as autonomography

This article on self-directed writing or autonomography should also be considered within the wider approach to self-directed learning in terms of language learning in general. The term *autonomography* is used as apart from just focusing on self-directedness in terms of writing. Three concepts are implied here: the self (αὐτός), regulation or law (νόμος), and the writing process (γράφω). In this article, the terms self-directed writing or autonomography are used interchangeably. Yet, in terms of a theoretical foundation, this notion draws from the literature on self-directed learning. Self-directed learning has been associated with language learning in a number of studies (Brewer, 2016; Curry, Mynard, Noguchi, & Watkins, 2017; Riley, 1989) and is therefore also appropriate for a study on writing.

The concept of *writing* also needs to be delineated for the sake of this research. Writing in this article is considered a process (Flower & Hayes, 1977), which aligns with Hacker, Keener and Kircher (2009), defining the phenomenon as the "(a) production of thought, (b) oneself or others, (c) goal-directed metacognitive monitoring and control, and (d) translation of thought into an external symbolic representation" (p. 155). L. Olivier (2016) notes how a process approach to writing and scaffolding can assist students in terms of self-directed learning as well as writing.

Self-directed language learning and related research on *learner autonomy* (cf. Hashemian & Fadaei, 2013) provide an appropriate theoretical context for self-directed writing. Riley (1989) notes that "some degree of self-direction and learner autonomy is a necessary and even defining characteristic of the communicative approach" to language learning (p. 66). The concept of autonomy is therefore also closely linked to self-directed language learning. Cotterall (2000) aptly notes that learner autonomy should be a goal for all learning. This implies that language courses "will incorporate means of transferring responsibility for aspects of the language learning process (such as setting goals, selecting learning strategies, and evaluating progress) from the teacher to the learner" (Cotterall, 2000, p. 110). Furthermore, Cotterall (2017) proposes a model that intends to enhance learner engagement as well as autonomy and presents five affordances: engagement, exploration, personalization, reflection, and support.

The link between writing and self-direction can also be found in the literature on self-regulated learning. In this regard, the concept of self-efficacy (cf. Moafian & Ebrahimi, 2015) has been extensively researched with regard to self-regulation and writing (cf. Zimmerman & Bandura, 1994) and even academic writing (Peeters, 2016). Lewin (1992) notes the change in writing instruction, where there has been a move away from "a teacher-centered, skills-based curriculum" to more "student-centeredness" (p. 586). From the literature and specifically intervention studies, it is clear that self-regulated learning strategies have improved writing skills as well as the quality of writing products (Adaros, 2017) in both L1 and L2 contexts. Other than Berninger, Garcia, and Abbott (2009) who consider self-directed writing to be directed "toward the self to regulate

thinking processes" (p. 20) through journals or classroom notes, in this article, self-directed writing rather refers to the wider phenomenon of writing approached in a self-directed manner.

The identification of learning needs and formulation of goals are essential to self-directed learning and therefore these issues also apply to self-directed writing. Berkenkotter (1982) notes that, "[e]ffective writing is a goal-directed, hierarchically organized, recursive process which requires an awareness of the relationship between subject, purpose, and audience" (p. 34). This formulation of goals and metacognitive awareness by effective writers, also, establishes a clear link between self-directed writing theory and writing. In addition, "towards realising self-directed writing, the purpose of writing should be clear and relevant" (J. Olivier, 2016, p. 33) and to an extent, such purposes are often determined by a "rhetorical problem" (Flower & Hayes, 1981, p. 369) by an external party, such as an assignment, hypothesis or research question. In addition, when it comes to writing outside of the school or academic context, writing tends to be "a highly goal-oriented, intellectual performance" (Flower & Hayes, 1977, p. 449) which may involve "a hierarchical set of subproblems arranged under a goal or set of goals" (Flower & Hayes, 1977, p. 460). Hence the self-directed writer (and specifically students) should be able to formulate a set of goals throughout the writing process and should then choose appropriate resources to reach those goals. As the identification of human as well as material resources is also important within self-directed learning, self-directed writers should also be able to identify resources essential for the writing process. Lovejoy (2009) states that self-directed writing can be "an opportunity for students to draw on their own resources, not only what they know and care about but also how they may choose to say it" (p. 80). In this article, the selection of resources extends from other individuals as resources to more traditional print and electronic resources – all relevant to the writing process.

Furthermore, in the self-directed writing process, some sort of measurement is also involved. Curry *et al.* (2017) state that, "[b]eing able to evaluate one's own linguistic gains ensures success in lifelong learning beyond graduating from university" (p. 31). Therefore, when it comes to self-directed writing, being able to measure one's own progress in terms of writing is essential.

Self-directed writers must be able to implement certain identified strategies. The implementation of writing also relates to "the process of putting ideas into visible language", which also implies a "translation" of ideas into appropriate written language (Flower & Hayes, 1981, p. 373). Even though writing artefacts can be identified in terms of a process, Flower and Hayes (1981) note that "writers are constantly planning (pre-writing) and revising (re-writing) as they compose (write), not in clean-cut stages" (p. 367). As with self-directed learning, when it comes to writing and, ultimately, self-directed writing, a problem-solving process is implied (cf. Berkenkotter, 1982; Flower & Hayes, 1977). When Flower and Hayes (1977) describe writing as a "thinking problem" (p. 450), they also note that certain heuristic procedures or a "codification of a useful technique or cognitive skill" are needed to solve the writing problem.

The process of autonomography involves the elements of self-directed learning (Knowles, 1975) as well as the forces involved in the writing process (Flower & Hayes, 1981, p. 366) and could be summarised as follows:
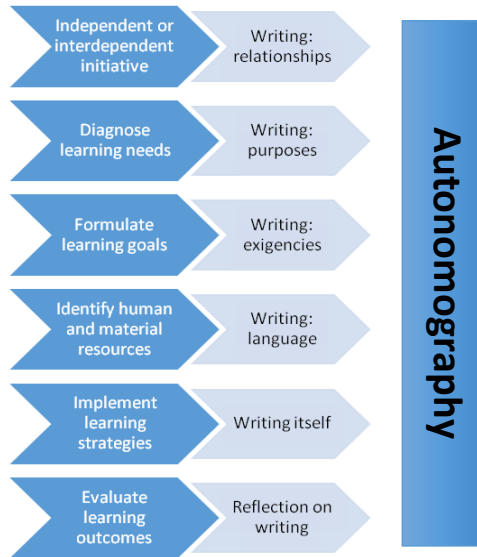
Figure 1: Autonomography: a self-directed writing process

The following section deals with the research method followed in this study and also provides an overview of the context and specifically the elements of self-directed writing as realised factors.

Methodology

The development of the self-directed writing questionnaire

This research is quantitative in nature and can be positioned within a positivist research paradigm. As this study aimed to explore self-directed writing in terms of quantifiable responses, this study ties in with Bakkabulindi's (2015, p. 22) statement:

> Noting that the positivist research paradigm is also termed the quantitative, the traditional, the experimental, or the empiricist paradigm, we can define a quantitative or positivist study as one based on testing a theory, where the theory relates to variables, which variables are measured with numbers, and analysed with statistical procedures.

The first step in the development of the self-directed writing questionnaire involved a literature review in order to determine a list of key attributes of self-directed writing. An overview of this content in terms of the identified constructs is provided in detail in terms of the main sources related to these themes (cf. 3.4). In this process, a number of standard works on self-directed learning as well as self-directed learning instruments (Ayyildiz & Tarhan, 2015; Fisher, King, & Tague, 2001; Williamson, 2007; Wood, 1975) were consulted. However, as none of these instruments related specifically to writing, specific items in the questionnaire had to be drawn from literature on writing and writing instruction in order to cover all the relevant contextual and procedural aspects. Through further refinement and a consultative process with experts in language teaching as well as a statistician, this list was reduced to 30 items.

Participants

A convenience sampling strategy was used in this study and therefore, any conclusions drawn from the data may not be generalisable to Afrikaans-speaking or South African students in general. All the participants (n=175) involved in this study were fourth-year Afrikaans-speaking student-teachers at a South African university. At this university, students study through Afrikaans or English as mediums of instruction.

In terms of the South African context, it is important to note that Afrikaans is a Germanic language, mainly confined to South Africa and Namibia, which has enjoyed institutionalised preferential status in South Africa from 1910 up until 1994. Currently, Afrikaans is the language with the third highest number of speakers in South Africa and it has experienced diminished status along with other African languages – in education, among other contexts – while the status of English has been maintained (cf. Mesthrie, 2002). In addition, historically, a standard variety of Afrikaans has been accepted as the norm at the cost of other varieties (especially based on racial background); however, recently there has been attempts to acknowledge different varieties of Afrikaans and approaching these varieties from a more inclusive, equal level rather than the hierarchical approach followed in the past (Hendricks, 2012). Furthermore, although the Afrikaans-speaking participants in this study had mother-tongue education through the medium of Afrikaans from school up to university level, they can also be regarded as fairly bilingual in terms of Afrikaans and English.

The demographical details of the participants in this study are summarised in Table 1.

Table 1
Profile of the Research Participants

Characteristic	Number	Percentage
Gender		
Female	152	86.9%
Male	23	13.1%
Age		
19	3	1.7%
20	3	1.7%
21	50	28.6%
22	91	52%
23 and older	28	16%
Programme of study		
Foundation Phase teacher (pre-school to grade 3)	98	56%
Intermediate and Senior Phase (grades 4 to 9)	29	16.7%
Senior and Further Education and Training Phase (grades 7 to 12)	41	23.4%
Other	7	4%
Mother tongue		
Afrikaans	162	92.6%
English	2	1.1%
Bilingual Afrikaans and English	11	6.3%

A further variable that was considered was the type of writing the participants preferred. Here, the majority (64.6%) indicated that they preferred creative writing (such as short stories and prose), while the rest (34.3%) preferred functional writing (such as academic essays and reports).

Although this aspect was not explored further, this ties in well with the need for own unique and expressive language as explored under section 3.4.4.

The next section, focuses on the data collection process and the relevant ethical considerations.

Data collection and ethical considerations

Data for this study were collected by means of a group-administered questionnaire (cf. section 3.1) completed during May 2016. Specific ethical considerations were also taken into account. Participation in this study was entirely voluntary and informed consent was obtained from all the participants. Participants were allowed to withdraw from the study at any point. As the author of this article was also a lecturer of the selected participants, an independent person (a colleague from outside the Faculty) obtained informed consent and a student assistant conducted the data collection outside of official class times. The privacy of participants was respected, and confidentiality was ensured throughout the research process. The participants were ensured that participation and non-participation would not have an impact on marks and that the researcher would only have access to the data at the end of the academic semester. Ethical clearance for this research was granted by the North-West University Research Ethics Regulatory Committee (NWU-RERC) as part of a project on self-directed learning.

Elements of self-directed writing as realised factors

A number of factors were identified in terms of self-directed learning through the analysis of the literature and the iterative process of the compilation of the self-directed writing self-rating scale (cf. sections 3 and 4 as well as Appendix A), an overview of the literature study as well as the subsequent factor analysis. These factors will be discussed with regard to the pertinent literature below in support of why the specific areas are relevant for autonomography. As a convenience sample was used, in this study, p-values are reported for the sake of completeness, although no random sampling was done. However, interpretations were made on Cohen's *d* effect sizes. The factors are briefly defined in Table 2:

Table 2
Definitions of Factors

Factor	Definition
Factor 1: Self-directedness	The individual's preference for writing and having an ability to take initiative or be self-managed
Factor 2: Writer's voice and self-involvement	An individual's self-involvement in writing and degree of control over the process.
Factor 3: Self-assessment and problem-solving	Regarding writing as a cognitive process that involves problem-solving
Factor 4: Preference for own and expressive language	Writing without set rules or restrictions using language that is comfortable and natural
Factor 5: Sensitivity towards other languages and language varieties	Showing an interest in writing in languages and language varieties other than their own.
Factor 6: Metacognitive skills	Having inherent knowledge on how to improve writing and being able to systematically improve it.
Factor 7: Self-directed writing on computer	Writing effectively in a self-directed manner by means of a computer.
Factor 8: Editing and problem-solving on computer	Using computers for editing and problem-solving of writing.

Self-directedness

The factor of self-directedness relates to the individual's preference for writing and having an ability to take initiative or be self-managed (Guglielmino & Guglielmino, 2001) in the writing process in terms of a specific topic and even choosing to write outside of formal class or work contexts. With regard to self-directed learning, this aspect emphasises the focus on learner-directed learning as opposed to teacher-directed learning (cf. Knowles, 1975). This aspect also implies self-management through which learning goals are enacted and specific learning resources and support are managed (Garrison, 1997). In writing, self-directedness can also imply student choice in writing topics (Lewin, 1992). Only through this self-directedness can true autonomography be reached.

Writer's voice and self-involvement

As the student's self-involvement is central to a self-directed approach to writing, the focus is also on the students' degree of control over the process. Garrison (1997, p. 24) states that "[i]ncreased learner control through self-management brings with it increased responsibilities, particularly with regard to the learning process itself and the construction of meaning". In this meaning-making process, the writer's voice is evident.

This self-involvement also relates to what Cotterall (2017, p. 104) calls *personalization*, in which "[l]earners need to perceive personal relevance in the issues and activities we invite them to participate in" and as such, a curriculum should be "open-ended and learner-centred". Through this process, there should also be opportunity for *exploration* where learning "must offer learners the opportunity to engage in genuine inquiry and expand their understanding of topics and ideas which matter to them" (Cotterall, 2017). This aspect also has to do with the nature of an individual's unique voice in a specific piece of writing.

The voice of the writer is an aspect that has been covered extensively in literature on writing (cf. Castelló, Iñesta, & Monereo, 2009; Elbow, 1998; Majchrzak, 2018; J. Olivier, 2016). A writer's identity is closely linked to voice. Majchrzak (2018, p. 90) explains the relationship between identity and voice as follows: "While identity is understood in terms of self, voice will be the creation of identity in a given text" (cf. Tang & John, 1999). Pittam, Elander, Lusher, Fox and Payne (2009, p. 154) define authorial identity as "the sense a writer has of themselves as an author and the textual identity they construct in their writing". Matsuda and Tardy (2007) note that voice plays an important role in academic writing and that it is constructed through "reader-writer interaction". Hence the communicative purpose of the writing process should not be ignored.

Despite perceptions of academic writing being neutral and separated from the writer, it is apparent that writers are increasingly intimately involved in their writing, even in academic contexts (Tang & John, 1999). Self-mention is closely associated with self-involvement in texts, and Hyland (2001) makes the following statement in this regard: "The convention of impersonal reporting remains a hallowed concept for many, a cornerstone of the positivist assumption that academic research is purely empirical and objective, and therefore best presented as if human agency was not part of the process". Care must be taken, however, that writing traditions, the discipline or discourse community and the research approach might influence whether greater or less involvement can be expected in a text (cf. Hyland, 2001). In addition, within an academic literacy approach, it is regarded as a "requirement to switch practices between one setting and another, to deploy a repertoire of linguistic practices appropriate to each setting, and to handle the social meanings and identities that each evokes" (Lea & Street, 1998, p. 159).

The use of the personal pronoun is also a surface aspect that relates to self-involvement in a text. Tang and John (1999) note the complex nature of the usage of the personal pronoun in academic writing, especially the importance in terms of how it is used rather than if it is used. Problems regarding the appropriate usage of the personal pronoun in Afrikaans have also been noted by Meintjes (2015). In addition, under this element, the nature of a writer's own opinion and engagement with the text is also explored.

Hence, autonomography implies personalised voice with self-involvement and even self-mention which can, if appropriately used, be realised through surface elements. For the research participants, their relationship to the topic and the written text and, by implication, the related motivational aspects, seem integral.

The process of writing also involves some form of self-assessment and problem-solving.

Self-assessment and problem-solving

Writing has been described as a cognitive process that involves problem-solving. Berkenkotter (1982, p. 33) states that "[a] writer is a problem solver of a particular kind" and that their "solutions will be determined by how they frame their problems, the goals they set for themselves, and the means or plans they adopt for achieving those goals". Therefore, this writing problem-solving act involves a writer being self-directed in terms of setting specific goals. To move from "knowledge telling" to "knowledge transforming" (Scardamalia & Bereiter, 1987), it is posed by Larkin (2009, p. 151) that "[k]nowledge transforming requires the metacognitive skills of problem solving, such as planning, analysis, drawing on knowledge of strategies, evaluating and revising".

In order to determine the nature of problem-solving in terms of autonomography and writing in general, it is firstly important to know whether writers are aware when they have problems in terms of writing and know how to solve these problems. A sensitivity towards the appreciation of one's own writing also relates to this concept. Garrison's (1997) related concept of *self-monitoring* involves "monitoring the repertoire of learning strategies as well as an awareness of and an ability to think about our thinking". This process implies some form of cognitive responsibility through which the learner will "self-monitor the learning process, assess outcomes, and develop new strategies to achieve intended outcomes" (Garrison, 1997, p. 25). Importantly, Mair (2012) notes the importance of scaffolding in aiding problem-solving within the writing process. Furthermore, writers must be positive towards learning about new writing conventions and have a set process when writing.

The observation of writing by others is one avenue towards gaining benefit from a social learning context (Bolhuis, 2003). In this regard, however, it is important for this learning to take place in an interdependent rather than a dependent manner (cf. Guglielmino & Guglielmino, 2001). This aspect links up with Cotterall's (2017) reference to *support* as an affordance in terms of her proposed model on learner autonomy where "given support, learners are capable of achieving more than they can achieve alone" and that teachers should "anticipate the kind of support that learners need in order to achieve tasks that outstrip their current resources". In essence, the interdependence implies academic socialisation (Lea & Street, 1998), of which learning about writing is but an aspect. Peeters (2016) suggests the use of a social networking site, such as Facebook, as an effective collaboration platform for academic writing and specifically developing self-efficacy beliefs. In addition, Warschauer and Liaw (2011) confirm the advantages of technology in facilitating collaborative writing through the use of blogs, webpages and wikis.

The nature of the type of language used, especially in terms of individual and expressive language, in writing towards autonomography is another relevant variable.

Preference for own and expressive language

With this element, the emphasis is on writing without set rules or restrictions – therefore, writing using language that is comfortable and natural (like spoken language) in writing. This is then usually done in the specific language or language variety preferred by the writer. Informal writing used as a step in the writing (or learning) process is sometimes called free writing. For Berkenkotter (1982, p. 36), this is a way to stimulate ideas and "allows one to hold considerations of form at bay and concentrate on getting down as many thoughts as possible". Pfeiffer and Van der Walt (2016, p. 72) also determined the value of expressive writing among students in the South African context, where they concluded that their research participants' writing experience "supports a social view of writing and requires that students use their own experiences to assign a personal view to their writing". In addition, Pfeiffer and Van der Walt (2016, p. 73) found that a focus on students' "ability to write expressively on personal and community topics led to a gradual improvement in sentence and rhetorical structure which has supported their academic writing development". In this study, the research participants showed preference for their own style of writing and complained about the apparent restrictions in terms of writing within the academic context. As an extension of the discussion above, the choice of a specific language or language variety is also pertinent.

Sensitivity towards other languages and language varieties

Writers also show an interest in writing in languages and language varieties other than their own. Extensive literature exists on writing in a second or foreign language (Hyland, 2003; Majchrzak, 2018). Multi- and bilingualism are also prevalent in the South African context – even for Afrikaans-speaking students (Van der Walt & Dornbrack, 2011). In this regard, writers sometimes even perform better in these languages than their own language or variety. Yet, Majchrzak (2018, p. 37) notes that

> writing in L2 requires not only additional skills on the writer's part, such as mastering the second language, but it is also much more cognitively demanding, as it requires the writer to constantly switch between the two linguistic domains – the one in which their experience of creating texts is stored and the one in which they have to produce their compositions.

In addition, the use of self-referencing – as an extension of a personalised language variety – could also be evident. The importance of different language varieties is acknowledged by Lovejoy (2009, p. 79) who notes that self-directedness can be "a way to build a community of diverse writers who share their knowledge and interests, and who strive for clear, effective communication". The process of functioning between different languages and varieties within a person's language repertoire relates to the concept of translanguaging, which can also be employed within an academic writing context (Canagarajah, 2011). Therefore, autonomography can imply some translanguaging if the context requires it.

Maxson (2005, p. 25) refers to contact zone pedagogy, which "should induce students to draw on resources from their home languages and cultures, combining these with resources from school languages and cultures, to perform a critique of the latter". The concept of a contact zone can be traced back to the work by Pratt (1991, p. 34), where it refers to "social spaces where cultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power". By means of contact zone pedagogy, the use of slang of students' own choosing as well as parodies of academic style can successfully be employed in a writing classroom. The aim of an

exercise like this is to "allow students to flex their discursive muscles, trying out their positioning among shifting and complicated domains of literacy" and by implication, become more self-directed writers.

In terms of self-directed learning, the concept of metacognitive skills is important and as such would also be relevant in a writing context.

Metacognitive skills

Hacker *et al.* (2009, p. 160) describe writing as "applied metacognition monitoring and control", and Conner (2007, p. 13) note that "students who used metacognitive strategies to plan and monitor their work produced essays of higher quality". The metacognitive skills involved in this study relate to having inherent knowledge on how to improve writing and being able to systematically improve it. Flavell (1976, p. 232) defines *metacognition* as "one's knowledge concerning one's own cognitive processes and products or anything related to them". According to Larkin (2009, p. 150), "metacognition consists of both metacognitive knowledge and the processes of regulation and control of cognition". This also relates to being able to revise a text repeatedly.

Reflection also relates to metacognition. According to Garrison (1997, p. 25), metacognitive proficiency is "associated with the ability to be reflective and think critically". Mair (2012, p. 148) also links metacognition to reflective practice and states that "[r]eflective practice offers the opportunity for thinking about thinking, learning about learning, self-monitoring and regulation" and, furthermore, "[m]eta-reflection promotes self-monitoring, personal development and learning". In terms of learner autonomy, Cotterall (2017, p. 104) notes the importance of *reflection* as "a dialectical process by which higher-order knowledge is created through the effort to reconcile lower-order elements of knowledge" (cf. Scardamalia, Bereiter, & Steinbach, 1984). Reflection is of importance because "for learning to become established, learners need to reflect on what they have done, achieved and discovered". However, Mair (2012, p. 150) warns that "[a]ssessing reflections can lead to a lack of disclosure of areas for improvement and, moreover, can result in each assessed reflection being seen as a stand-alone piece of work rather than as a stage in development that should be reflected on in future". Consequently, care must be taken in using reflections in classroom contexts.

Finally, writers must also be aware of the way in which they have learned and are still learning to write in order to support autonomography. In this regard, Berkenkotter (1982, p. 43) states that "[w]riting as a problem-solving activity aims to make students self-conscious about the way they conceptualize" and that "[s]elf-consciousness about the way one solves problems (in writing or in other disciplines) leads to more effective conceptualization and, finally, becomes a strategy for solving problems". The reflection and iterative goal-setting process relates to a remark made by Flower and Hayes (1981, p. 386): "if one studies the process by which a writer uses a goal to generate ideas, then consolidates those ideas and uses them to revise or regenerate new, more complex goals, one can see this learning process in action". Therefore, in terms of metacognition, writing within academic settings should also involve writing about writing.

The use of technology is integral to writing within a university context and therefore, self-directedness in terms of using computers is also relevant, especially in a South African context where computer literacy cannot merely be assumed.

Self-directed writing on computer

As writing within a university context is increasingly being done by means of computers and through the aid of other technological devices, these aspects also need to be considered. In this regard, research has already been done in the South African context on the use of the Blackboard software to facilitate the sharing of student perceptions as well as sensitising students regarding the writing process (Brokensha, 2012). The social role technology can play in the writing process is also emphasised by Peeters (2016) – Facebook can be used to prompt collaboration in writing classes. L. Olivier (2016) also notes the potential of technology in supporting cooperative learning as well as self-directed learning within an academic writing context. Warschauer and Liaw (2011, p. 115-116) confirm that technology provides opportunities for autonomous learning and that they "provide flexible means to developed language and literacy skills through authentic communication, collaboration, networking and scaffolding". In terms of writing on computer, Mair (2012, p. 150) states that the "net generation members are likely to welcome technological interventions and therefore be persuaded to develop adaptive learning expertise, including reflective writing skills using these media". Opportunities also exist in terms of accommodating online reflective practices (Mair, 2012). An additional aspect regarding the use of computers is its role in terms of editing and problem-solving.

Editing and problem-solving on computer

As an extension of the previous element, here the focus is on problem-solving by means of a computer or through language editing on a computer, finding information by means of technology and being able to solve problems as they are encountered while working on the computer.

Editing is an integral step in any writing process, where the written content is reviewed and revised as necessary. Ferris (1995, p. 18) defines editing as "finding and correcting grammatical, lexical, and mechanical errors before submitting (or 'publishing') a final written product". In a wider sense, editing also relates to a process in formal written contexts. Butcher, Drake and Leach (2006) distinguish between substantive editing, detailed editing for sense, checking for consistency and clear presentation of the material for the typesetter. The concept of editing, according to Richards and Miller (2006), extends to more than just the correction of grammatical errors: it relates to the clarity and pace of a text and implies personal choices by the writer.

Ferris (1995) emphasises the importance of self-editing on students' own work and especially the development and improvement of self-editing skills in class. Clearly, self-editing is not only a measure of autonomographical involvement, but also an essential element of writing instruction.

A questionnaire was developed to act as a self-directed writing self-rating scale. In the next section, the reliability of the instrument will be determined.

Reliability of measuring instrument

The reliability of the questionnaire (Appendix A) was tested by means of SAS statistical software. Furthermore, construct validity was assessed with regard to the degree to which the scale measured the specific factor. A factor analysis was also done in order to test the construct validity of each factor. It is important to note that this instrument was only administered to one group as the purpose of this research was to validate the instrument for a single population and not reach a standardized instrument. This could form part of future research within this topic.

The factors identified are presented in Table 3 in terms of Cronbach's alpha coefficient and Kaiser's measure of sample adequacy (MSA). The questions associated with each of the factors are listed in square brackets below.

Table 3
Cronbach Alpha Coefficient

Factor	Cronbach α
Factor 1: Self-directedness [1; 7; 13; 19; 25]	0.72
Factor 2: Writer's voice and self-involvement [2; 8; 20]	0.52
Factor 3: Self-assessment and problem-solving [3; 9; 15; 21; 26]	0.63
Factor 4: Preference for own and expressive language [4; 10; 16; 22]	0.58
Factor 5: Sensitivity towards other languages and language varieties [14; 27; 29; 30]	0.70
Factor 6: Metacognitive skills [5; 11; 17; 23]	0.58
Factor 7: Self-directed writing on computer [6; 12]	0.60
Factor 8: Editing and problem-solving on computer [18; 24; 28]	0.66

In all instances, the value was satisfactory, with Cronbach's alpha higher than 0.60 (or close to 60 in the case of factors 2, 4 and 6), which is acceptable for exploratory research (cf. Hair, Black, Babin & Anderson, 2014).

Questionnaire data analysis and results

The developed questionnaire was applied to the selected group of research participants (cf. 3.2). The means of the constructs, as determined by means of SAS, for this population are summarised in Table 4.

Table 4
Means of Factors

Factor	Mean	Standard deviation
Factor 1: Self-directedness [1; 7; 13; 19; 25]	3.01	0.58
Factor 2: Writer's voice and self-involvement [2; 8; 20]	2.96	0.55
Factor 3: Self-assessment and problem-solving [3; 9; 15; 21; 26]	2.63	0.53
Factor 4: Preference for own and expressive language [4; 10; 16; 22]	2.85	0.56
Factor 5: Sensitivity towards other languages and language varieties [14; 27; 29; 30]	2.42	0.72
Factor 6: Metacognitive skills [5; 11; 17; 23]	2.84	0.50
Factor 7: Self-directed writing on computer [6; 12]	2.91	0.85
Factor 8: Editing and problem-solving on computer [18; 24; 28]	3.16	0.61

The responses in terms of the factors are summarised in Figure 1, which provides a clearer sense on how this specific population feels about the different aspects.
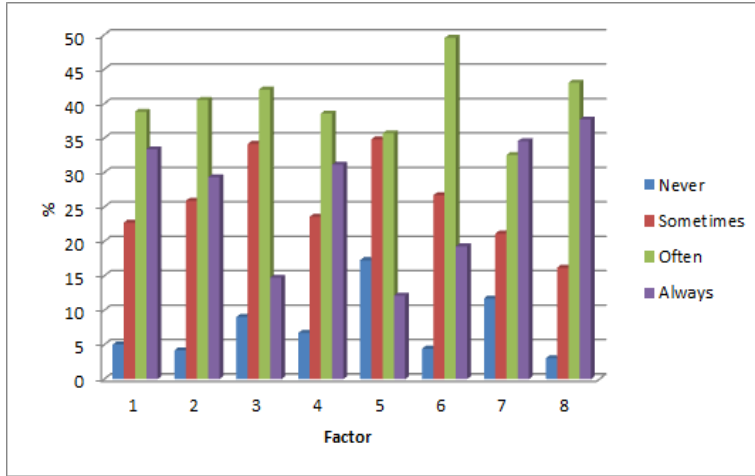

Figure 1. Summary of Responses by Factor

From Figure 1, it is clear that the research participants tend to be more positive towards most of the factors (apart from two). Hence the participants mainly indicated "often" and "always" to the responses linked to their self-directedness, writer's voice and self-involvement, preference for own and expressive language, metacognitive skills, self-directed writing on computer, and especially editing and problem-solving on computer. However, when it comes to self-assessment and problem-solving, sensitivity towards other languages and language varieties, most responses were closer and therefore more undecided with responses like "sometimes" and "often". Only through additional application of this questionnaire would it be possible to determine whether this is a characteristic of this research population or the questionnaire itself. Furthermore, factor analyses were also done.

Table 5
Factor Analyses

Construct	N	MSA	Number of factors	% of variance explained	Communalities vary between
1. Self-directedness [1; 7; 13; 19; 25]	175	0.71	1	47.67	0.40 and 0.60
2. Writer's voice and self-involvement [2; 8; 20]	175	0.61	1	51.29	0.49 and 0.55
3. Self-assessment and problem-solving [3; 9; 15; 21; 26]	175	0.71	1	41.00	0.26 and 0.52
4. Preference for own and expressive language [4; 10; 16; 22]	175	0.60	2	50.01	0.33 and 0.82
5. Sensitivity towards other languages and language varieties [14; 27; 29; 30]					
6. Metacognitive skills [5; 11; 17; 23]	175	0.65	1	44.38	0.33 and 0.58

7. Self-directed writing on computer [6; 12]	175	0.68	2	65.48	0.56 and 0.72
8. Editing and problem-solving on computer [18; 24; 28]					

The value of the measure of sample adequacy (MSA) in Table 5 is acceptable, with values above 0.70 (middling) or in some cases, at least above 0.60 (mediocre) (cf. Hair *et al.*, 2014). Despite factors 4 and 5 as well as factor 7 and 8 being regarded as separate factors in terms of the content, the factor analysis showed that a relationship can be drawn between them. Therefore, additional factor analyses with other populations had been done in order to corroborate this finding.

As was noted under section 3.2, the type of writing the participants preferred was also explored. In this regard, a t-test was used to obtain descriptive statistics and effect sizes on the constructs of self-directed writing in terms of genre preferences. Group 1 refers to individuals who preferred creative writing (such as short stories and prose), while those in group 2 preferred functional writing (such as academic essays and reports).

Table 6
Descriptive Statistics and Effect Sizes of the Constructs of Self-directed Writing in Terms of Genre Preferences

Construct	Group	N	Mean	Standard deviation	p-value (as if random sampling was done)	d-value
1. Self-directedness	1	113	3.11	0.56	<0.05*	~0.5Δ
	2	60	2.83	0.59		
2. Writer's voice and self-involvement	1	113	3.06	0.56	<0.05*	0.53Δ
	2	60	2.76	0.46		
3. Self-assessment and problem-solving	1	113	2.64	0.54	0.67	0.07
	2	60	2.61	0.50		
4. Preference for own and expressive language	1	113	2.97	0.50	<0.05*	0.55Δ
	2	60	2.64	0.61		
5. Sensitivity towards other languages and language varieties	1	113	2.42	0.73	0.83	0.03
	2	60	2.40	0.71		
6. Metacognitive skills	1	113	2.85	0.50	0.73	0.06
	2	60	2.82	0.52		
7. Self-directed writing on computer	1	113	2.73	0.83	<0.05*	0.61Δ
	2	60	3.24	0.79		
8. Editing and problem-solving on computer	1	113	3.13	0.62	0.35	0.14
	2	60	3.22	0.58		
Self-directedness total	1	113	22.92	3.14	0.43	0.13
	2	60	22.52	3.07		

*Statistically significant at 0.05 level according to the t-test results for independent groups
Δ Medium effect in practice

It is, therefore, evident that the research participants who preferred creative writing to more functional writing had a higher level of autonomography, especially in terms of how they viewed their self-directedness, their voice and self-involvement, and obviously, their preference for their own and expressive language. An statistical significant difference was observed in terms of the respondents who preferred functional writing, who scored higher than those who preferred creative writing in terms of using computers. Hence, opportunities should be given in classroom contexts where students can also write not only on computer but also by hand.

Discussion and application

The factor analysis confirmed that certain statements in the constructed self-directed writing self-rating scale would provide information on research participant's views on writer's self-directedness, voice and self-involvement, self-assessment and problem-solving, preference for own and expressive language, sensitivity towards other languages and language varieties, metacognitive skills, approach to self-directed writing on computer, and editing and problem-solving on computer.

For this population the instrument seems to be reliable. The means of the factors show that for this population higher positive tendencies in terms of general self-directedness in writing as well as editing and problem-solving on computer. While the lowest mean indicated a sensitivity towards other languages and language varieties. The means can also fulfil a diagnostic role as a language teacher or lecturer can identify individual and class-wide trends in terms of specific factors. These trends can then inform teaching practices in terms of whether there might be potential issues regarding the use of computers, being able to use unique individual language or even the use of other language varieties.

In addition, the variable of genre preference was also explored in this study. For this population, the respondents who preferred creative writing to more functional writing had a higher level of autonomography, especially in terms of how they viewed their self-directedness, their voice and self-involvement, as well as their preference for their own and expressive language. While the respondents who preferred functional writing scored higher than those who preferred creative writing when using computers. In a classroom situation the implications would be to allow students to write not exclusively on computer but also by hand.

Conclusion

Through the review of the literature and the development of the self-directed writing self-rating scale, it is evident that autonomography is a complex concept that is also dependent on the specific context within which it is measured. It is evident that autonomography involves a writer's self-directedness, voice and self-involvement, self-assessment and problem-solving, preference for own and expressive language, sensitivity towards other languages and language varieties, metacognitive skills, approach to self-directed writing on computer, and editing and problem-solving on computer.

This study had a number of limitations as the research population was not very large or heterogeneous. The population was limited to mother-tongue Afrikaans-speaking university students at a South African university. In addition, the students were all student-teachers, which also would have had an impact on how they viewed certain educational concepts.

Despite the stated limitations, this study reached its aims of exploring autonomography and developing a self-directed writing self-rating scale, which can now be adapted and refined for different contexts as needed. In addition, this article has set out connections between key aspects noted in the literature regarding self-directed learning and elements found within writing research – particularly in terms of the instruction of writing, self-regulation in language learning as well as language learner autonomy.

This research also showed that further related research is clearly needed. It is evident that there is a need for research regarding heuristic strategies (Flower & Hayes, 1977) in order to foster self-directed writing. In order to understand the autonomography process, there is a need for further analysis of the process as it occurs by means of protocol analysis (Flower & Hayes, 1981), for example.

Finally, the identified factors from this research provide possible areas for individualised development of specific skills and sensitising of certain issues in classroom situations based on the results of the self-directed writing questionnaire. In a classroom situation language teachers or lecturers can identify possible areas of development and support for individuals or groups of students. The scaffolding process of writing instruction can also draw from the identified factors from this type of research in order to foster more self-directed writers.

References

Adaros, A. E. A. (2017). The Influence of Self-Regulation, Motivation, Proficiency, and Gender on L2 First-Year Writing Achievement (Doctoral dissertation, Temple University).

Ayyildiz, Y., & Tarhan, L. (2015). Development of the self-directed learning skills scale. *International Journal of Lifelong Education*, *34*(6), 663-679.

Bakkabulindi, F. (2015). Positivism and interpretivism: distinguishing characteristics, criteria and methodology. In C. Okeke & M. van Wyk (Eds.), *Educational research: an African approach* (pp. 19-38). Cape Town: Oxford University Press.

Berkenkotter, C. (1982). Writing and problem solving. In T. Fulwiler & A. Young (Eds.), *Language connections: writing and reading across the curriculum* (pp. 33-44). Urbana: National Council of Teachers of English.

Berninger, V. W., Garcia, N. P., & Abbott, R. D. (2009). Multiple Processes That Matter in Writing Instruction and Assessment. In G. A. Troia (Ed.), *Instruction and Assessment for Struggling Writers: Evidence-Based Practices* (pp. 15-50). New York, NY: Guilford Press.

Bolhuis, S. (2003). Towards process-oriented teaching for self-directed lifelong learning: a multidimensional perspective. *Learning and instruction*, *13*(3), 327-347.

Brewer, S. (2016). Developing self-directed learning in the language classroom: The work of Leni Dam. *International Journal of Self-Directed Learning*, *13*(1), 26-41.

Brokensha, S. (2012). Academic writing in Blackboard: a computer-mediated discourse analytic perspective. *Acta Academica*, 44(4), 81-105.

Brockett, R. G. & Hiemstra, R. (1991). *Self-direction in adult learning: perspectives on theory, research, and practice*. New York: Routledge.

Butcher, J., Drake, C., & Leach, M. (2006). *Butcher's copy-editing: the Cambridge handbook for editors, copy-editors and proofreaders*. Cambridge: Cambridge University Press.

Canagarajah, S. (2011). Codemeshing in academic writing: Identifying teachable strategies of translanguaging. *The Modern Language Journal*, *95*(3), 401-417.

Castelló, M., Iñesta, A., & Monereo, C. (2009). Towards self-regulated academic writing: an exploratory study with graduate students in a situated learning environment. *Electronic Journal of Research in Educational Psychology*, *7*(19), 1107-1130.

Conner, L. N. (2007). Cueing metacognition to improve researching and essay writing in a final year high school biology class. *Research in Science Education*, *37*(1), 1-16.

Cotterall, S. (2000). Promoting learner autonomy through the curriculum: Principles for designing language courses. *ELT journal*, *54*(2), 109-117.

Cotterall, S. (2017). The pedagogy of learner autonomy: Lessons from the classroom.

Studies in Self-Access Learning Journal, *8*(2), 102-115.

Curry, N., Mynard, J., Noguchi, J., & Watkins, S. (2017). Evaluating a self-directed language learning course in a Japanese university. *International Journal of Self-Directed Learning*, 14(1), 17-36.

Drennan, L. M. (2017). Engaging students through writing: a collaborative journey. *South African Journal of Higher Education*, 31(3), 63-81.

Elbow, P. (1998). *Writing with power: Techniques for mastering the writing process*. Oxford: Oxford University Press.

Ferris, D. (1995). Teaching students to self-edit. *TESOL journal*, *4*(4), 18-22.

Fisher, M., King, J., & Tague, G. (2001). Development of a self-directed learning readiness scale for nursing education. *Nurse education today*, *21*(7), 516-525.

Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence* (pp. 231-235). Hillsdale, NJ: Lawrence Erlbaum.

Flower, L. S., & Hayes, J. R. (1977). Problem-solving strategies and the writing process. *College English*, *39*(4), 449-461.

Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College composition and communication*, *32*(4), 365-387.

Guglielmino, L. M. 2008. Why self-directed learning. *International Journal of Self-directed Learning*, *5*(1), 1-14.

Guglielmino, P. J., & Guglielmino, L. M. (2001). Moving toward a distributed learning model based on self-managed learning. *SAM Advanced Management Journal*, *66*(3), 36.

Garrison, D. (1997). Self-directed learning: Toward a comprehensive model. *Adult Education Quarterly*, *48*(1), 18-33.

Hacker, D. J., Keener, M. C., & Kircher, J. C. (2009). Writing is applied metacognition. In Hacker, D. J., Dunlosky, J., & Graesser, A. C. (Eds.), *Handbook of metacognition in education*, (pp. 154-172). New York, NY: Routledge.

Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2014). *Multivariate data analysis* Pearson: Harlow.

Hashemian, M., & Fadaei, B. (2013). Fostering EFL Learners' Autonomy in Light of Portfolio Assessment: Exploring the Potential Impact of Gender. *Iranian Journal of Language Teaching Research*, 1(2), 135-151.

Hendricks, F. (2012). Die potensiële nut van 'n gelykevlakperspektief op die variëteite van Afrikaans. In Prah, K.K. (Ed.). *Veelkantiger Afrikaans: Streeksvariëteite in die standaardvorming* (pp. 64-89). Cape Town: Centre for Advanced Studies of African Society.

Hyland, K. (2001). Humble servants of the discipline? Self-mention in research articles. *English for specific purposes*, 20(3), 207-226.

Hyland, K. (2003). *Second language writing.* Cambridge: Cambridge University Press.

Knowles, M. S. (1975). *Self-Directed Learning: A Guide for Learners and Teachers.* Prentice Hall Regents, Englewood Cliffs, NJ: Cambridge Adult Education.

Larkin, S. (2009). Socially mediated metacognition and learning to write. *Thinking skills and Creativity*, 4(3), 149-159.

Lea, M. R., & Street, B. V. (1998). Student writing in higher education: An academic literacies approach. *Studies in higher education*, 23(2), 157-172.

Lewin, L. (1992). Integrating reading and writing strategies using an alternating teacher-led/student-selected instructional pattern. *The Reading Teacher*, 45(8), 586-591.

Lovejoy, K. B. (2009). Self-directed writing: Giving voice to student writers. *The English Journal*, 98(6), 79-86.

Loyens, S. M. M., Magda, J., & Rikers, R. M. J. P. (2008). Self-Directed Learning in Problem-Based Learning and its Relationships with Self-Regulated Learning. *Educational Psychology Review*, 20(4), 411-427.

Mair, C. (2012) Using technology for enhancing reflective writing, metacognition and learning, *Journal of Further and Higher Education*, 36(2), 147-167,

Majchrzak, O. (2018). *Learner Identity and Learner Beliefs in EFL Writing*. Cham: Springer.

Matsuda, P. K., & Tardy, C. M. (2007). Voice in academic writing: The rhetorical construction of author identity in blind manuscript review. *English for Specific Purposes*, 26(2), 235-249.

Maxson, J. (2005). Government of da peeps, for da peeps, and by da peeps: revisiting the

contact zone. *Journal of Basic Writing (CUNY)*, 24(1), 24-47.

Mckay, T. M. & Simpson, Z. (2013). The space between: pedagogic collaboration between a writing centre and an academic department. *Perspectives in Education*, 31(4), 27-42.

Meintjes, Z. (2015). The use of first-person pronouns in argumentative writing of Afrikaans speaking first-year students: a corpus-based investigation. *Journal for Language Teaching*, 49(2), 33-51.

Mesthrie, R. (2002). South Africa: A sociolinguistic overview. In Mesthrie, R. (Ed.) *Language in South Africa* (pp. 11-26), Cambridge: Cambridge University Press.

Moafian, F., & Ebrahimi, M. R. (2015). An Empirical Examination of the Association between Multiple Intelligences and Language Learning Self-Efficacy among TEFL University Students. *Iranian Journal of Language Teaching Research*, 3(1), 19-36.

Olivier, J. (2016). A journey towards self-directed writing: a longitudinal study of undergraduate language students' writing. *Per Linguam*, 32(3), 28-47.

Olivier, L. (2016). The effect of an academic literacy course on first-year student writing: a case study (Doctoral dissertation, North-West University (South Africa), Potchefstroom).

Peeters, W. (2016). Developing first-year students' self-efficacy beliefs about academic writing through online peer collaboration: the case of Facebook. *Journal for Language Teaching*, 50(2), 79-101.

Pfeiffer, V., & Van der Walt, C. (2016). Improving academic writing through expressive writing. *Journal for Language Teaching*, 50(2), 57-77.

Pittam, G., Elander, J., Lusher, J., Fox, P., & Payne, N. (2009). Student beliefs and attitudes about authorial identity in academic writing. *Studies in Higher Education*, 34(2), 153-170.

Plowright, D. (2011). *Using mixed methods: Frameworks for an integrated methodology*. Los Angeles: Sage.

Pratt, M. L. (1991). Arts of the contact zone. *Profession*, 33-40.

Richards, J. C., & Miller, S. K. (2006). *Doing academic writing in education: Connecting the personal and the professional*. Mahwah, New Jersey: Lawrence Erlbaum.

Riley, P. (1989). Learners' representations of language and language learning. *Mélanges Pédagogiques CRAPEL*, 2, 65-72.

Scardamalia, M., & Bereiter, C. (1987). Knowledge telling and knowledge transforming in written composition. *Advances in Applied Psycholinguistics*, 2, 142-175.

Scardamalia, M., Bereiter, C., & Steinbach, R. (1984). Teachability of reflective processes in written composition. *Cognitive Science*, 8(2), 173-190.

Scholtz, D. (2016). Improving writing practices of students' academic literacy development. *Journal for Language Teaching*, 50(2), 37-55.

Tang, R., & John, S. (1999). The 'I' in identity: Exploring writer identity in student academic writing through the first person pronoun. *English for Specific Purposes*, 18, S23-S39.

Van der Walt, C., & Dornbrack, J. (2011). Academic biliteracy in South African higher education: strategies and practices of successful students. *Language, Culture and Curriculum*, 24(1), 89-104.

Warschauer, M., & Liaw, M. (2011). Emerging technologies for autonomous language learning. *Studies in Self-Access Learning Journal*, 2(3), 107-118.

Williamson, S. N. (2007). Development of a self-rating scale of self-directed learning. *Nurse Researcher*, 14(2), 66-83.

Wood, F. H. (1975). Self-Direction and Achievement: Are They Related? *The High School Journal*, 58(4), 161-169.

Zimmerman, B. J., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal*, 31(4), 845-862.

Acknowledgement

Jako Olivier is the UNESCO Chair holder on Multimodal Learning and Open Educational Resources and is also a professor in multimodal learning in the Faculty of Education of the North-West University, South Africa. He obtained his PhD in 2011 at the NWU in which he researched the accommodation and promotion of multilingualism in schools by means of blended and e-learning. Before he joined the NWU as lecturer in 2010, he was involved in teaching information technology and languages in schools in the United Kingdom and in South Africa. Since 2010 to 2015 he was a lecturer in the School of Languages, Faculty of Arts of the NWU after which he moved to the Faculty of Education as associate professor and was promoted to professor in multimodal learning in 2018. In 2012 he was a guest lecturer at the University of Antwerp, Belgium. He currently holds a Y2 rating (promising young researcher) from the National Research Foundation (NRF) of South Africa. His research, as done within the NWU's Research Focus Area Self-directed Learning, focusses on multimodal blended learning, open educational resources, multiliteracies, e-learning in the language classroom, multilingualism in education, screen translation and macro-sociolinguistics.

Appendix A: Self-directed writing self-rating scale

Scale 1=Never; 2=Sometimes; 3=Often; 4=Always

1	I like to write.
2	My writing shows a unique author's voice.
3	I know which problems I have in terms of writing.
4	I like writing without rules or restrictions.
5	I choose by myself how I can improve my writing.
6	I like writing on a computer.
7	I like to choose topics on which I want to write myself.
8	My writing displays my own opinion.
9	I know how to solve problems regarding my writing.
10	I like using language that is comfortable and natural (like spoken language) in my writing.
11	I know what to do in order to improve the quality of my writing.
12	I can find mistakes easier on the computer than when I am writing.
13	I like writing outside of the classroom or work context.
14	I make use of self-reference (for example 'I' and 'my') in my writing.
15	My writing impresses other people.
16	I like writing in the same language or dialect that I talk in.
17	I revise my writing repeatedly before I hand it in.
18	The computer makes it easy to change and edit texts.
19	I can communicate effectively by writing.
20	I am emotionally involved in my writing.
21	I like learning about new ways of writing (writing conventions).
22	I especially write in the same language I speak.
23	I know how I learned (and still learn) how to write.
24	I know how to look for information on the computer and use it in my writing.
25	I like to write on matters that I care for.
26	I follow a specific process when I write.
27	I like writing in other dialects that I have heard before.
28	I can easily, when writing, solve problems on the computer.
29	I can write well in languages other than my own.
30	I like writing in other languages than my own.