Defensibility and accountability: developing a theoretically justifiable academic writing intervention for students at tertiary level

Laura Maria Drennan

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In the Faculty of Humanities,

Department of English at the University of the Free State

Supervisor: Prof. AJ Weideman

Co-Supervisor: Dr CL Du Plessis

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1.1 Introduction

This study was inspired by the growing concern among academic lecturers that the academic writing skills of students have deteriorated steadily over the past few years. This is particularly the case as students transition from undergraduate to postgraduate studies, where they are expected to produce lengthy, complex academic papers. Why is it that students progress through their undergraduate studies and are not yet able to negotiate academic writing adequately at postgraduate level? How do the writing needs of students entering postgraduate studies compare to those of students at undergraduate level? What is it that makes academic discourse so unique, and how does it differ across fields of study? What constitutes the ability to write academically in specific academic contexts, and how can interdisciplinary collaboration aid in students' acquisition of the disciplinary academic writing skills necessary to make a success of their tertiary studies? These are some of the questions that prompted the current study, as well as other related research, which will be addressed in chapters that follow.

Essentially, the thesis addresses two converging issues: the international trend and quest for greater accountability, resulting in an emphasis on measuring the impact of academic literacy interventions, and how that interfaces with the challenge of the massification of higher education, and the arrival of underprepared students on its threshold.

The sections that follow outline the features of the current South African higher education context that serve to inform the research problem, the respective aims and the methodology of this particular study, together with a related impact assessment research study conducted by the researcher.

1.2 The South African higher education context

Internationalisation and the resultant massification of higher education have resulted in a policy shift towards English-medium instruction at national and international tertiary institutions. Due to its status as *lingua franca*, English enjoys an elevated status in academe, as the ability to function in English influences one's level of symbolic capital for success (De Kadt, 2005; Coetzee-Van Rooy, 2000; Sliwa & Johansson, 2015). As a result, higher education (HE) in South Africa has witnessed an influx of students who speak other South African languages, yet prefer to study in English as a language of learning at university. It should be noted, however, that the shift towards English is not merely a local phenomenon, but an international trend, that is affecting other countries with stable and highly developed academic registers in their national languages (for example the Netherlands) as well. Thus, 'internationalisation' is a key driving force behind the role of English as a "global language" in academe.

The choice of language of instruction in South African higher education (HE) is complicated by its history. Thus, in an effort to remedy the past injustices of Apartheid, HE institutions are obligated to address issues of equitable access to students from previously disadvantaged backgrounds. The majority of these students, however, are underprepared for tertiary studies due to inadequate primary and secondary education (Sebolai & Huff, 2015). Research indicates that a high percentage of students drop out of university before completing their degrees, and few students complete their 3- and 4-year qualifications in regulation time (Wilson-Strydom, 2015). This has severe financial implications for South African higher education institutions, as failure and dropout rates affect university subsidies, given universities are subsidised mainly upon students' completion of their degrees. Again, this is not unique to South Africa, as students entering HE from other parts of the world are also inadequately prepared to make a success of their university studies. Literature on tertiary education in the United States of America, for example, reports on an influx of students from varying educational backgrounds and levels of English language proficiency (Butler, 2013; Kim & Helphenstine, 2017).

Although there are a multitude of factors influencing students' performance at tertiary level, the dual challenge of academic language and English as the primary language of instruction is an important obstacle to student success (Pot & Weideman, 2015; Van Rooy & Coetzee-Van Rooy, 2015). It is argued that students are disadvantaged by the fact that they have to study in a language that is not their mother tongue, or first language. The underlying assumption in discussions concerning language in education is that poor English proficiency serves as a barrier to educational achievement, as it has repercussions for students' ability to read with comprehension, as well as demonstrate their learning in terms of written tests, examinations and academic assignments (Huysamen, 2000; Ncgobo, 2009; Nel & Nel, 2009). As a result, these students will not be able to negotiate typical higher education tasks with the desired measure of success, either theoretically or practically.

Poor English language proficiency therefore has implications for students' academic literacy proficiency. This is evidenced by students' performance on tests of academic literacy such as those of the National Benchmark Test Project (NBTP). The majority of all first-time students entering higher education in South Africa require language development to succeed in their university careers, as demonstrated by their National Benchmark Test (AL) results (cf. Myburgh, 2015; Myburgh-Smit & Weideman, 2017; Pot, 2013; Pot & Weideman, 2015; Sebolai, 2016; Van Rooy & Coetzee-van Rooy, 2015). The high percentage of students in need of support illustrates the scale of the challenge faced by all higher education institutions if they are to meet the educational needs (Van Wyk, 2016:218), and specifically the language needs of their incoming students.

Tertiary institutions are therefore obligated to provide academic literacy proficiency courses and interventions in an effort to address students' English academic literacy inadequacies. The following section provides a brief overview of such support initiatives at the University of the Free State (UFS). The ones that will be discussed, and are the focus of this study, are the academic writing interventions currently

offered by the UFS Write Site, which aim to support students in terms meeting the writing demands of specific academic disciplines.

1.3 Academic literacy development at the UFS Write Site

The Write Site was initiated in 2012 in response to academic lecturers' concerns about the quality of students' writing skills. It began with a pilot intervention with first-year Philosophy students to improve the quality of their essay submissions in the discipline. The results of the pilot were positive; the writing intervention improved students' overall essay quality and decreased the extent to which they plagiarised in their submissions. Thereafter, the demand for similar writing interventions grew steadily, as lecturers from multiple faculties on campus began requesting writing assistance for their students – from first year to honours level. The Write Site now forms part of the Unit for Language Development (ULD), which is situated in the Centre for Teaching and Learning (CTL) at the UFS. The ULD is geared towards developing the literacy skills of students from diverse language backgrounds entering the higher education system. These students are expected to negotiate the academic discourse associated with particular fields of study, which requires the ability to understand and critically analyse and evaluate information towards formulating well-researched arguments in various types of academic texts, and with potentially wide variation in content. The Write Site therefore focuses specifically on addressing students' needs in this regard.

The work of the Write Site is based on the premise that writing is central to students' acquisition of discipline-specific knowledge (Lea & Street, 2006). In order for students to become recognised members of these disciplinary knowledge communities, they must first become familiar with various disciplinary academic writing conventions. This is best achieved by positioning the teaching of writing in the discipline, as writing is part of what students 'do' as situated actors in their respective fields of study (Archer, 2008; Burke, 2008; Gee, 2001; Lea & Street, 2006). The Write Site therefore works collaboratively with academic staff members towards positioning writing interventions in the discipline by making use of

authentic, subject-specific materials as a basis for teaching relevant writing conventions. The development of writing interventions is preceded by detailed discussions with subject experts around the needs of the students, as well as the expectations of content lecturers. These conversations, together with information that is collected on a continuous basis regarding students' perceptions of the writing interventions and feedback from lecturers on the efficacy of interventions, inform the development of carefully scaffolded discipline-specific writing interventions in the form of face-to-face or online writing workshops. Thus, the development of writing interventions is guided by evidence-based research, taking into account the needs and wants of students in terms of their writing development. The online workshops are a fairly recent addition to the services offered, as the demand for writing assistance has grown to such an extent that the Write Site no longer has the resources to meet the demand in terms of face-to-face writing workshops only. The online workshops therefore enable the writing centre to reach larger student cohorts and circumvent issues of staffing and venues. Furthermore, students are able to negotiate the online materials at their own pace (CTL, 2016:24).

The aspects addressed in the online and face-to-face workshops are further elaborated on and applied during individual face-to-face consultations at the Write Site, during which students are engaged in conversations about meaning making. Such discussions are central to "developing students' academic writing skills and facilitating their transition towards autonomy" (CTL, 2016:24). Although workshops and individual sessions aim to help students improve draft assignments due for particular subjects, the primary goal of the writing centre is to develop better writers, not perfect scripts.

1.4 Problem statement

It has already been noted above that in light of the massification of HE in South Africa, there is a growing need to provide support to students to enable the successful completion of their tertiary studies. Part of this success lies in their ability to generate academic texts, since writing is a prominent means – possibly the most prominent - of

assessment at higher education institutions. The widening perception that students' writing skills have steadily deteriorated, that has been referred to above, is often ascribed to their unfamiliarity with the conventions of writing in particular discourses (Butler, 2013; Carstens, 2009). If this is so, it has serious ramifications for student success, since "the formal written academic text is the only language format in which most students have to demonstrate their ability to handle academic discourse" (Weideman, 2013a:14). This is especially true for students entering postgraduate studies that call for the mastery of the academic discourse of particular disciplines. There is no doubt that, as students progress through their undergraduate studies, the academic language demands that they have to deal with become more field-specific. However, expectations regarding the time it takes for students to develop the necessary fluency in these discourses are often unrealistic. Such fluency may take years to master and involves exposing students to multiple opportunities at undergraduate level to practise and develop their writing in contextually appropriate ways in preparation for postgraduate studies.

The question that thus arises is how writing centre practitioners and academic staff can collaborate to address students' writing needs effectively and responsibly. This quest for designing effective and responsible interventions for the development of students' ability in respect of the kinds of interventions offered by the Write Site, and described above, is the central research problem of this thesis. As first steps, this would entail unpacking the students' writing needs and developing writing interventions that effectively address the problem of academic writing in this context, and to do so in a way that relies on what "responsible design" means in this particular instance for the planning of such interventions (also see below, section 1.8). The terms 'defensibility' and 'accountability' in the title of this thesis are therefore merely a shorthand way of referring not only to two, but to a multiplicity of considerations that go into the design of language interventions within our institution.

1.5 Aims of the study

In light of the research problem, the study aims to address the practical problem regarding students' difficulty to generate academic texts that comply with the writing conventions of particular discourses in the academy.

The proposed research questions of the study are as follows:

- What difficulties do students at the University of the Free State face regarding academic writing?
- What can a determination of the academic literacy levels of these students tell us about these difficulties, especially if one defines "academic literacy" functionally, in terms of purpose and cognitive process, instead of in more traditional ways? Are there demonstrable gains, in respect of intervention design, when one employs a functional rather than a skills-based view of developing mastery of academic discourse?
- In addition to the potential gains anticipated by the answers to the previous question, how can the interpretation of not only qualitative but also measurable data potentially provide us with diagnostic information, that may in turn offer further insight into how subsequent language interventions may and should be designed?
- How, in light of the findings of the investigation of the preceding questions, can the writing interventions offered by the UFS writing centre be justified theoretically?
- To what extent are the writing interventions effective in addressing the writing needs of students at the UFS? Are there measurable or non-measurable, but nonetheless demonstrable gains in their ability to handle academic discourse?

In answering the aforementioned questions, the study aims to:

1. propose a model for addressing students' writing skills at the UFS that is both theoretically justifiable and defensible as regards a number of other considerations in designing language interventions of this nature;

2. unpack what aspects, components or dimensions of academic writing students struggle with; and

3. investigate the effectiveness of the writing interventions for students at the UFS.

While the primary population at which the outcomes of this study are aimed is a group of Urban and Regional Planning (URP) honours students who wish to continue their initial postgraduate work, research that was done concurrently with another group of first-year Law students will also be reported on. The latter research formed part of a larger study (Mostert, 2018) conducted by the ULD to assess the impact of various literacy initiatives on offer. One of these initiatives was an essay-writing intervention developed for first-year Law students. Although this group differs from the primary URP population in terms of subject area, the approach taken to the development of the initiatives was similar. This approach was informed by significant practical experience in working with students at the Write Site and using evidence-based research to determine which interventions were most effective in addressing students' writing needs. Thus, the impact study is relevant in terms of answering the current study's research questions, and serving to justify the approach taken by the Write Site to the design and implementation of writing interventions. The inclusion of the first-year group also serves to support a further aim of this study, which is to determine whether the conclusions reached may be applicable to other disciplines, as other studies (e.g. Carstens, 2009) have attempted to show.

1.6 Research methodology

The study adopted a multistage evaluation design (Ivankova, et al., 2016) to measure the potential impact of the writing interventions on the URP and Law students' ability to produce a literature review and legal essay respectively. Such a design forms part of utilitarian pragmatism - a major programme evaluation research paradigm (Greene, 2000). A pragmatic paradigm is concerned with the outcomes of research – identifying applications that work and provides solutions to problems (Creswell & Poth, 2017). Since this paradigm typically involves making use of multiple methods

of data collection towards answering a research question, this study made use of a multistage evaluation design that involved the collection of qualitative and quantitative data to inform the development, testing and refinement of interventions used in a particular cultural context (Ivankova, et al., 2016:321).

The methodology that applies to this study is that of collective (multiple) case study research, since it concerns the investigation of a (language) issue that is explored "through one or more cases within a particular bounded system" (Creswell & Poth, 2017:73). In the case of this study, this involves the academic writing needs of two particular student cohorts in the higher education context. Although case studies are typically qualitative in nature, the mixed method design adopted here allows for the collection and analysis of triangulated data sets that increase the interpretive validity of the findings (Maree & Pietersen, 2016:42). Since qualitative and quantitative data were collected at various stages to triangulate the findings of the study, a convergent parallel mixed methodology applies. Figures 1.1 and 1.2 (Mostert, 2018:70) below illustrate the multistage evaluation designs for the URP and Law interventions respectively.
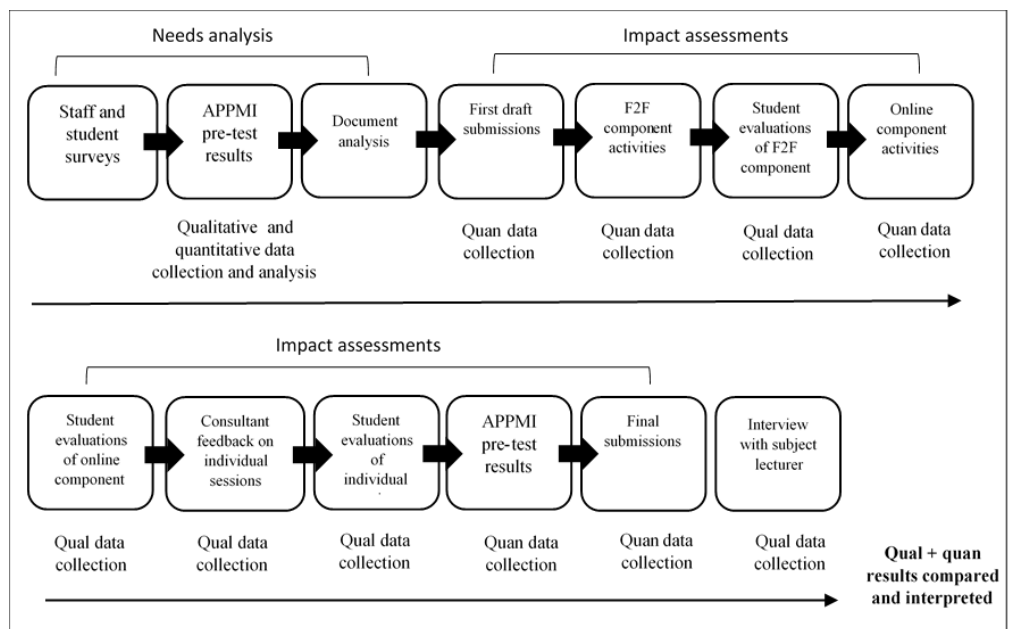
Figure 1.1: Notation system of the multistage evaluation design for URP intervention
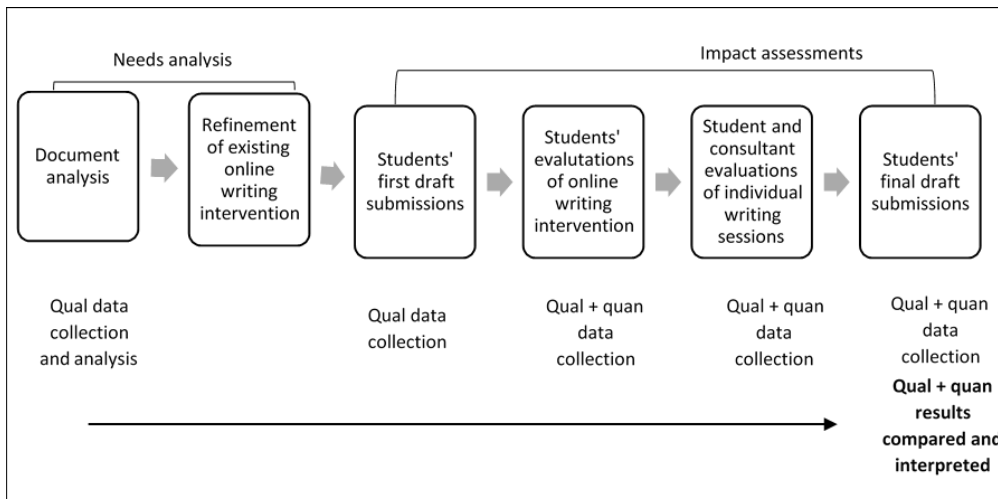
Figure 1.2: Notation system of the multistage evaluation design for Law intervention

As illustrated in the notation systems above, a critical first step in the design process is the *needs analysis*, which plays a pivotal role in the design and delivery of an applied linguistic artefact. The needs analysis serves to inform various stages of the process, namely curriculum/course "design, materials selection, methodology, assessment and evaluation" (Flowerdew, 2013:325). Thus, the needs analysis facilitates the collection of information that serves to support the defensibility of the design of the kinds of applied linguistic artefacts that are relevant to this study.

A needs analysis encapsulates all the activities involved in the collection and assessment of information that will serve as a basis for the development of interventions aimed at addressing the language needs of particular student cohorts. If we consider a writing intervention as an example of one such artefact, the various stages in the materials design are cyclical and interrelated in nature, since the way in which the materials are presented is subject to change once the instructor/designer comes to know more about the target student cohort. This knowledge, in turn, influences the evaluation of the materials and informs any necessary alterations to the intervention. The ongoing, recursive nature of the needs analysis process, in relation to materials design, is illustrated in Figure 1.3 below (Dudley-Evans & St John, 1998:121).
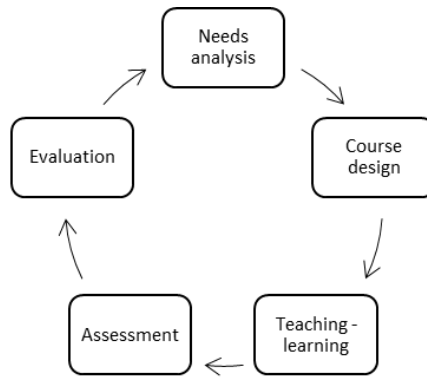
Figure 1.3: Cyclical processes of needs analysis

Essentially, needs encapsulate several aspects such as students' goals and backgrounds; variations in language proficiency; motivation for taking a course, test, or engaging with a language intervention; preferences in terms of teaching and learning; as well as the contexts in which they need to communicate (Hyland, 2006:73). Similarly, other researchers (Dudley-Evans & St John, 1998:125; Hutchinson & Waters, 1987) have proposed that various factors be taken into consideration when conducting a needs analysis. Figure 1.4 presents an integration of these various perspectives that, together, provide a more comprehensive overview of the factors informing the needs analysis process.
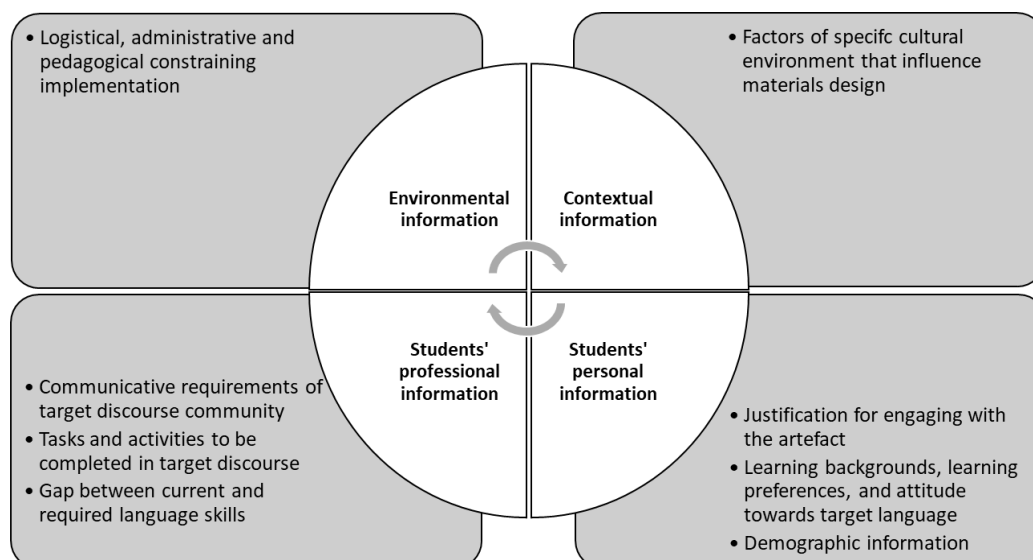
Figure 1.4: Factors informing comprehensive needs analysis

The needs analysis therefore not only informs the scope of the applied linguistic artefact, but also takes into account the relevant stakeholders' needs and perceptions in the formulation thereof. The information provided by the needs analysis should also ensure for suitable and satisfactory differentiation in terms of the language used within specific discourse communities, which, in turn, should ensure the adequate defensibility of the intervention design. Furthermore, the needs analysis serves to ensure that the applied linguistic artefact is tailored to the language needs of a particular cohort in a specific situation/context, thereby ensuring its potential efficiency and usefulness. However, the latter can only be established upon evaluation of the intervention after its implementation. Any shortcomings identified in this regard should feed back into a further needs analysis informing amendments to the initial artefact design, in the way envisaged in Figure 1.3.

Thus, in addition to the review of the relevant literature, Table 1.1 below provides a broad overview of the data collection procedures pertaining to the needs analysis and impact assessment for the current study, and the related impact assessment research. The design and implementation of the various data collection instruments depicted in the notation systems in the table above will be discussed in detail in the chapters that follow.

Table 1.1: Overview of data collection procedure for URP and Law interventions

Instrument	Information collected	Purpose
Staff and student questionnaires	Staff and student perceptions of academic literacy and writing needs at tertiary level	To gain a better understanding of expectations and perceptions around academic writing skills, and how these influence students' academic success
ADLI and APPMI tests	Students' performance on pre and post-tests	To determine potential improvement in students' academic literacy abilities
Document analysis	Students' pre and post-intervention text submissions	Marked according to a set of criteria to determine impact
	Notes taken during information consultation with lecturers	Provide background on the writing task; writing needs of students; and writing aspects to be addressed

	Writing task instructions and prescribed reading materials	Adapted to meet the specified needs of students
	Existing writing intervention materials	
Evaluation forms	Students' evaluation of face-to-face and online learning materials	To determine students' perceptions of their learning
	Consultant feedback on individual sessions at Write Site	To provide an overview of writing issues addressed during sessions
	Student evaluation of individual sessions at Write Site	To determine students' perceptions of their learning
Interview	Staff perceptions of URP writing intervention	To follow up on perceptions of academic writing requirements illuminated in staff questionnaire
Marks lists	Students' final departmental submission scores	To determine the extent to which departmental marks correlated with students' performance in writing intervention
	Students' performance on out-of-class activities following face-to-face sessions	To determine students' ability to apply what they had learned
	Students' performance on online activities	To determine students' ability to apply what they had learned

Relevant statistical analyses were performed on all quantitative data, and certain qualitative data were coded for the purposes of statistical analysis as well. Surveys were generated using Evasys, for which the UFS has a license. Further programmes that were used for analysis included MS Excel, Iteman (version 4.3), TiaPlus, and SPSS.

1.7 Ethical considerations

Surveys conducted with students and academic staff were done anonymously so as to protect the identity of the participants. Students' completion of the student evaluations of writing interventions was anonymous in order to protect their identity,

as well as to elicit more honest responses regarding their perception of the interventions. All student details were omitted when reporting on performance. Further to this, the student evaluation forms at the Write Site requested students' consent to use their feedback for research purposes. Finally, interviews with students and academic staff were conducted on a voluntary basis and all responses were treated confidentially; the completion of the assessment of students' academic literacy levels was also done with their consent. Ethical clearance was sought and obtained for the study by submission of detailed plans and protocols to the relevant intra-institutional bodies.

1.8 Value of the research

Demonstrating the effectiveness of language interventions in a time when accountability has become a watchword in education at all levels is no longer merely a desirable; it has in fact become a virtual necessity. By adopting a focussed but multi-faceted perspective of academic writing issues, by measuring, discussing and probing in as many respects as are warranted and feasible, this investigation aims to arrive at a theoretically defensible answer to how one should go about designing language interventions of this nature.

The theoretical framework for responsible design that informs the study is anticipated to enable the researcher not only to offer a theoretical rationale for such (applied linguistic) designs, but will also to provide her with a reminder of other conditions for responsible design that lie beyond the theoretical. Our intervention designs, and the technological and especially electronic means that we can now employ (in terms of blended workshops, involving computer-based assessments) are never made for their own sake, or even and merely for the sake of efficiency. Instead, our designs are intended to serve others, to show that our students are cared for, are treated with respect and compassion, and have the impact that we have intended for them.

The investigative work to be undertaken for this thesis is intended to discover how sufficient data about the users affected, combined with insight into language intervention design, can achieve a creative, defensible and more sophisticated solution in the design of one set of language interventions. Despite its narrow focus and limitations, a wider application of the findings of the study cannot be ruled out, especially in devising creative and imaginative solutions to broader current language problems in higher education.

1.9 Chapter division

The study comprises nine chapters, each with a particular focus. **Chapter 2** discusses the socially-situated nature of academic discourse, how it differs from other types of discourse, its role in initiating students into specific discourse communities, as well as which approach to writing is most appropriate for facilitating students' initiation in this regard. This is followed by a discussion of what students' acquisition of academic discourse entails in terms of the language skills that combine and interact in order to create academically coherent and appropriate language products in the tertiary context.

Chapter 3 begins by outlining key considerations in the teaching and learning of academic writing with regard to the development of writing interventions for students in the higher education context. The sections that follow provide an overview of various approaches to and best practices in discipline-specific writing instruction, together with computer-assisted language learning as a component of a blended approach to writing instruction. The chapter furthermore discusses current approaches and protocols adopted by the Write Site in developing students' writing abilities at various levels of study.

Chapter 4 concerns the aim of applied linguistic artefacts to solve language problems. The chapter emphasises the importance of accountability for coherence across such artefacts, as well the extent to which developers of applied linguistic artefacts take a responsible approach to the design of language interventions. The

chapter presents a framework of general design principles that serve as a theoretical and practical justification for the responsible design of language policies, assessment measures and course/intervention materials.

Chapter 5 presents the findings of a needs analysis aimed at unpacking staff and student perceptions and expectations of academic writing in the tertiary context. The chapter elaborates on how these findings informed the development of a contextualised assessment measure of academic literacy, as well as discipline-specific writing interventions. This is followed by **Chapter 6** that presents an initial validation argument for the design of an assessment of students' preparedness to produce multimodal information (APPMI), the results of which informed the development of specialised writing interventions. These form the focus of **Chapter 7**, which provides a detailed discussion of the design of two discipline-specific academic writing interventions.

Chapter 8 evaluates the results of the potential impact of the aforementioned writing interventions. The chapter provides an overview of the methodology pertaining to the data gathering and analysis procedures. This is followed by the findings regarding students' performance on various writing activities and assignments, their perceptions of their learning, as well as staff (academic lecturers' and writing centre consultants') perceptions of students' post-intervention writing abilities.

In **Chapter 9**, the conclusions and recommendations are presented, as well as the potential limitations of the study. The chapter also evaluates the extent to which the writing interventions meet the design conditions specified in Chapter 4.

1.10 Conclusion

This chapter has outlined the complex nature of the South African higher education context and the resultant implications for students' academic literacy levels, particularly with regard to their academic writing abilities. The chapter also outlined the specific aim of the study to propose a model for addressing students' writing

skills that is theoretically justifiable, as well as defensible in other respects, by means of investigating the efficacy of current writing interventions offered at the UFS.

The focus of the following chapter is the broader canvas on which language interventions at university level are planned, in considering the distinct, socially-situated nature of academic discourse in the tertiary context, as well as discussing the various language abilities constituting the effective and appropriate negotiation of academic discourse.

Chapter 2: Justifying a discipline-specific approach to the development of academic writing ability

2.1 Introduction

The previous chapter highlighted the implications of massification and English as medium of instruction for the HE context in terms of the influx of underprepared students requiring support to meet the requirements of tertiary studies (Jacobs, 2007; Pineteh, 2014). Inadequate primary and secondary schooling has resulted in these students not being suitably prepared to cope with the "language-of-instruction, academic reading and reasoning" demands (Cliff, 2015:3) of the academic context (Bitchener & Basturkman, 2006; Butler, 2006; Han, 2014; Schultz & Lemmer, 2017; Strauss, 2012). The fact that the origins of that kind of underpreparedness lie much further back in the primary and secondary school system, while noteworthy, is acknowledged here, but will not be discussed or analysed further, since that falls outside the focus of this study (Du Plessis, et al., 2016; Myburgh-Smit & Weideman, 2017; Van der Walt & Mostert, 2018; Weideman, 2019a:32-33). It is clear that students struggle to transition from school to higher education institutions where they are unfamiliar with the academic language and literacy practices, particularly those relating to academic writing, required for the successful completion of their university courses.

Academic writing plays a pivotal role in students' academic success. Viewed negatively, this role is one of gate-keeping, as students' inability to write effectively in their disciplines leads to failure in the academy. Scholarship is transmitted via a range of genres, including whole class lecture and tutorial discussions, academic articles, student textbooks, course guides and handouts, assignments, as well as online learning platforms and social media. One of the main challenges affecting students' successful completion of their studies concerns their ability to engage with the information presented in these genres, process this information, and use it to produce a variety of text types (genres) effectively. Anecdotal evidence suggests that the assumption amongst many academics is that students will naturally acquire the

discourse associated with the academy as they progress in their studies. However, in the case of underprepared students, their successful negotiation of discourse and ability to write effectively is negatively affected by their limited access to print literacy and to the dominant discourses of the academy (Leibowitz, 2005). These students have not mastered the necessary academic writing, research and critical thinking skills, and therefore resort to rote memorisation and regurgitation of information in tests, examinations and academic assignments. This is often a pragmatic reaction to the challenges faced by students as they struggle to become accustomed to the conventions of academic language (Valiente, 2008). In order to master the written discourse associated with their respective fields of study, students require ample opportunity to develop the skills needed to produce extended pieces of academic writing. However, this does not happen automatically, particularly at undergraduate level, where large classes have severe implications for academic lecturers' workloads (Alias, 2014; Rowe, 2011), for the number of writing opportunities afforded to students, as well as for the quality and frequency of feedback provided on written assignments (Archer, 2010; Hornsby & Osman, 2014; Kuh, et al., 2010). Large classes, in this context, involve having to accommodate a greater number of students with no proportionate increase in human, financial, and physical support. This, in turn, directly influences the educational goals and quality of the educational experience of students in such classes (Hornsby & Osman, 2014). Given the prevalence of large classes at the majority of South African universities, it is not surprising that there is a steady increase in complaints amongst academics regarding the academic writing and higher order cognitive skills of students, particularly as they transition into postgraduate studies.

As a result of the aforementioned issues, there is a great need for the provision of academic writing support offered at universities. The Write Site at the UFS has experienced an exponential increase in the demand for academic writing assistance for students across faculties, from first year through to postgraduate studies. Lecturers have expressed their concern regarding students' academic writing skills, although lecturers themselves struggle to identify and convey to students the typical conventions of academic discourse (Lillis & Turner, 2001). Some believe it to be "a

homogenous, easily identifiable phenomenon which can be taught unproblematically by EAP [English for Academic Purposes] support units" (Harwood & Hadley, 2004), or a set of discrete skills that can merely be taught to students and applied in any discipline. Many academics therefore have a vague idea of what constitutes academic discourse, assuming often that problems in this regard can be remedied by merely addressing various surface language features. Others, however, are aware that academic discourse is far more nuanced, and that the communication in a particular field of study is characterised by specific conventions or norms (Boughey, 2002; Butler, 2006; Clarence, 2012; Gee, 1990).

Therefore, in order to understand better how language is used in the academic context, it is important, as a point of departure, to define the notions of "academic discourse" and "discourse community"; what it means to be 'literate' in this discourse; as well as which approaches to writing are most appropriate for facilitating students' socialisation into specific discourse communities in the HE context. In this chapter, these concepts, together with other important converging issues, form the focus of the sections that follow.

2.2 The notion of academic discourse, and academic discourse communities

It is often assumed that language is used primarily to say things and communicate information. In truth, language is used to say something (inform), do something (act), and to 'be' something (Gee, 2015). This implies that in order to understand a speaker or writer fully, we need to understand what they are trying to do, which is determined by the social roles or identities they are trying to portray, and the relationship they have with those they are communicating with in their interaction with them; in this case their (academic) audience/readers. Discourses are therefore "socially determined ways of thinking, feeling, valuing, and using language in different contexts in our day-to-day lives" (Gough, 2000). This constitutes an integrated, 'psycho' and 'social', approach to language: one that emphasises "ways of being in the world … forms of life which integrate words, acts, values, beliefs, attitudes, and social identities as well as gestures, glances, body positions, and clothes" (Gee, 1990;

2001:526). Gee (2001:527) further distinguishes between primary and secondary discourses: the former involve more social, everyday interaction with others that do not require any specialised knowledge or language. These discourses are acquired through being a member of a particular socialising group, such as a family or peer group.

Secondary discourses as defined by Gee (2001), on the other hand, are more specialised and are demanded by public sphere institutions such as schools, organisations, churches and the like. These discourses are further classified into dominant or non-dominant discourses, the former being of particular relevance for this study. In terms of the HE context, dominant discourses would constitute the ways of "saying, doing and being" that are socially appropriate and acceptable, and accepted as such within the academic context. Fluency in these dominant discourses is associated with the acquisition of social 'goods', such as a university degree. However, this involves students' passing 'tests' of fluency which are used as *gates* to exclude 'non-natives', or those who have not yet mastered the dominant secondary discourses, from particular dominant discourse communities, such as an academic institution or particular field of study.

A discourse community constitutes "writers, readers, texts, and social contexts in their natural interaction" (Grabe & Kaplan, 1996:107). Members of such communities produce, read and interpret written texts within these varying social contexts. In terms of academic discourse, text production is central to how members of academic communities negotiate interactive relationships, as well as construct academic identities within these communities. Students are viewed as novice members – their initial academic identities - of specific discourse communities, who have to develop new identities by means of "legitimate peripheral participation" – a process involving the mastery of skills and knowledge required for subsequent full participation in sociocultural community practices (Lave & Wenger, 1999:29). According to this view, students initially assume the social position of 'apprentices' who learn the rules and conventions of academic discourse as they interact with and learn from others who have 'mastered' the discourse practices of specific disciplinary

communities (Flowerdew & Ho Wang, 2015). Flower et al. (1990:222) similarly maintain that students need to learn to master "the textual conventions, the expectations, the habits of mind, and the methods of thought that allow one to operate in an academic conversation".

Having briefly discussed the notion of "academic discourse", I turn in the following section to consider its mastery: the ability to handle such language, often termed "academic literacy", and, in this case, the application of that idea in tertiary education.

2.3 Defining academic literacy

The definition of academic literacy presented in this study is based on the understanding that academic discourse is different from other types of discourse (Cummins, 1984, 1996; Cummins & Swain, 1986; Gee, 1989; Hyland, 2011; Lea & Street, 1998). It can be viewed as a unique lingual sphere – a "distinctly different type of language that is used within a particular social institution" (Patterson & Weideman, 2013a:126). Patterson and Weideman (2013a:108) show that definitions of what academic discourse entails and how it is different from other discourses "are not only easier to engage with critically, but are also potentially more useful". In order to develop responsibly designed practices that truly benefit students' academic literacy skills development, academic literacy should be viewed according to what constitutes knowledge construction in various academic fields. Academic literacy therefore has to do with the use, manipulation and control of "language and cognitive abilities for specific purposes and in specific contexts" (Van Dyk & Van de Poel, 2013:56).

In line with this argument, and according to Kern (2000:16-38), literacy constitutes three overlapping, interdependent dimensions. These include the linguistic (language use), cognitive (active thinking and problem solving), and sociocultural/ psychological (acculturation into specific discourse community conventions)

dimensions. Kern (2000:16-17) postulates that these three dimensions are infused in each of the following principles of literacy:

1. *Interpretation* – writers interpret worldly events, experiences, ideas, etc., and readers interpret writers' interpretations based on their own frameworks of reference;

2. *Collaboration* – writers produce texts based on their understanding of their audience; and readers employ motivation, knowledge and experience to make sense of writers' texts;

3. *Conventions* – texts are read and written according to conventions created by people constituting a particular culture;

4. *Cultural knowledge* – reading and writing function within systems of attitudes, beliefs, customs, ideas and values;

5. *Problem solving* – given the linguistic and situationally-situated nature of words, reading and writing involves deciphering relationships between words, units of meaning, texts, and worlds;

6. *Reflection and self-reflection* – readers and writers relate language to themselves and the word;

7. *Language use* – literacy goes beyond writing systems or grammatical and lexical knowledge; it calls for knowledge of how language is used to create discourse.

As opposed to trying to define academic discourse (see again section 2.2, above), it is perhaps more useful to consider what proficient (literate) readers and writers of academic discourse 'do' in terms of their behaviours and actions. Blanton (1994:6) postulates that these "literate behaviours" involve interpreting texts, agreeing or disagreeing with texts; synthesising texts to build assertions; extrapolating from texts; as well as creating, talking and writing about texts for particular audiences (discourse communities). Blanton (1994) further claims that it is these behaviours that make for successful use of academic language, not in the first instance literacy skills relating to mechanical and formal features such as grammar, vocabulary knowledge and spelling. In order for academically proficient students to speak and

write with authority, they have to have had developed their own opinion by means of critical reflection.

In any event, language skills (i.e. reading, writing, speaking and listening), in the view of Bachman and Palmer (1996:75-76), do not form part of language ability, but rather constitute "the contextualised realisation of the ability to use language in the performance of specific language use tasks". Similarly, Douglas (2000:38) posits that it is more practical to conceptualise these 'abilities' as "the means by which that ability is realised in the performance of tasks in actual language use situations" instead of as discrete constructs that need to be tested.

These various language skills, or abilities, therefore combine and interact in order to create academically coherent and appropriate language products in the tertiary context (Weideman, 2007c). In reality, the negotiation of human interaction involves listening, speaking, reading and writing for communicative purposes in specific contexts. For example, the act of writing in academic settings requires that students employ reading abilities, critical thinking abilities, distinction-making abilities, categorisation and inference-making abilities, and more often than not even speaking and listening abilities before they are able to produce an acceptable product in written form (Weideman, 2013a).

A more functional and potentially more productive approach to writing development should therefore focus on what students are required to 'do' (Blanton, 1994) with language in specific contexts for specific purposes. In examining what students 'do' with language, we may observe that the generation of academic discourse could be characterised by the processes of (1) seeking information, and (2) processing of information, followed by (3) the production of new information (Weideman, 2003a:xi). Moreover, according to Patterson and Weideman (2013a:138), academic discourse is characterised by distinction-making through language, as well as by analytical and logical reasoning which involves "analytical information gathering, processing and production, or what is conventionally conceived of as listening, writing, reading, and speaking … or … cognitive processing" (2013a:138). Similarly, scholars of discourse synthesis (Spivey, 2001; Spivey & King, 1989)

maintain that students engage in three processes in knowledge transformation when they read to write in the disciplines. Proficient readers (writers) are thought to engage in (1) the selection (gathering) of relevant information from a variety of sources; (2) organisation (processing) of information in relation to writing task objectives; (3) and connection (production) of information by creating links between ideas and constructs (Chan, 2018:11).

Constructivist views of reading argue that students' abilities to read and successfully synthesise information are closely related. Readers (writers) create mental representations of texts while they read, and adapt their reading based on task environments, as well as knowledge of the conventions of various text structures. Spivey and King (1989:9) assert that readers (writers) select and organise information according to a macroprocessing strategy based on "how discourse is conventionally organised and how to use text structure to guide their understanding". The conventional organisation of discourse in this study refers in particular to that of academic discourse and within academic discourse as ever-more specific kinds of special discourse associated with particular fields of study, as students progress towards postgraduate study. Proficient readers (writers) make use of their knowledge of topic and textual structure to select information from texts according to important textual or contextual criteria (Van Dijk, 1979). They also understand the relationship between ideas in a text based on their knowledge of textual cues (Frederiksen, 1975), and make inferences across texts based on mental text representations. Discourse production and comprehension are therefore closely related, and the ability to synthesise information is in fact an act of comprehension (Spivey & King, 1989).

Chan (2013; 2018: 11) maintains that there are a variety of actions (sub-processes), in five different cognitive phases, that govern students' writing from sources. Table 2.1 illustrates how these actions are related to the processes of gathering, processing, and producing information.

Table 2.1: Relationship between cognitive phases and processes while reading to write

Cognitive phases	Actions (sub-processes)	Processes
Conceptualisation	Task representation Macro-planning	Gathering and processing
Meaning construction	Global careful reading Selecting relevant ideas Connecting ideas from multiple sources	
Organising ideas	Organising intertextual relationships between ideas Organising ideas in a textual structure	
Monitoring and revising	Monitoring and revising during text production at low-level Monitoring and revising during text production at high-level Monitoring and revising after text production at low-level Monitoring and revising after text production at high-level	Production

According to Weideman (2020), the processes of gathering, processing and production of academic information comprise an intertwinement of listening, writing, speaking, reading, as well as the characteristic cognitive processing akin to academic language ability. Patterson and Weideman (2013a:139-140) offer the following functional definition (construct) of what students are required to 'do' in specific contexts for specific purposes in terms of academic language ability:

- understand and use a range of academic vocabulary as well as content or discipline-specific vocabulary in context;
- interpret the use of metaphor and idiom in academic language, and perceive connotation, word play and ambiguity;
- understand and use specialised or complex grammatical structures correctly, also texts with high lexical diversity, containing formal prestigious expressions, and abstract/technical concepts;
- understand relations between different parts of a text, be aware of the logical development and organisation of an academic text, via introductions to conclusions, and know how to

understand and eventually use language that serves to make the different parts of a text hang together;

- understand the communicative function of various ways of expression in academic language (such as defining, providing examples, inferring, extrapolating, arguing); and

- interpret different kinds of text type (genre), and have a sensitivity for the meaning they convey, as well as the audience they are aimed at;

- interpret, use and produce information presented in graphic or visual format in order to think creatively: devise imaginative and original solutions, methods or ideas through brainstorming, mind-mapping, visualisation, and association;

- distinguish between essential and non-essential information, fact and opinion, propositions and arguments, cause and effect, and classify, categorise and handle data that make comparisons;

- see sequence and order, and do simple numerical estimations and computations that express analytical information, that allow comparisons to be made, and can be applied for the purposes of an argument;

- systematically analyse the use of theoretical paradigms, methods and arguments critically, both in respect of one's own research and that of others;

- interact with texts both in spoken discussion and by noting down relevant information during reading: discuss, question, agree/disagree, evaluate and investigate problems, analyse;

- make meaning of an academic text beyond the level of the sentence; link texts, synthesize and integrate information from a multiplicity of sources with one's own knowledge in order to build new assertions, draw logical conclusions from texts, with a view finally to producing new texts, with an understanding of academic integrity and the risks of plagiarism;

- know what counts as evidence for an argument, extrapolate from information by making inferences, and apply the information or its implications to other cases than the one at hand;

- interpret and adapt one's reading/writing for an analytical or argumentative purpose and in light of one's own experience and insight, in order to produce new academic texts that are authoritative yet appropriate for their intended audience.

Table 2.2 maps the relationship between (1) the cognitive phases and actions (sub-processes) proposed by Chan (2018), (2) the components of academic literacy provided by Weideman (2020) and Patterson and Weideman (2013a), and (3) the three processes of academic discourse generation.

Table 2.2: Alignment of cognitive phases and literacy construct

	Cognitive phases	Sub-processes	Alignment with components of construct
Gathering & processing	Conceptualisation	Task representation Macro-planning	Communicative function Text type (including visual representations) Essential/non-essential information, sequence and numerical distinctions, identifying relevant info for evidence Employment and awareness of method Inference, extrapolation, synthesis of information, and construction of argument
	Meaning construction	Global careful reading Selecting relevant ideas Connecting ideas from multiple sources	Vocabulary and metaphor Complex grammar and text relations Communicative function Text type (including visual representations) Essential/non-essential information, sequence and numerical distinctions, identifying relevant info for evidence Employment and awareness of method Inference, extrapolation, synthesis of information, and construction of argument
	Organising ideas (based on mental task representation)	Organising intertextual relationships between ideas Organising ideas in a textual structure	Vocabulary and metaphor Complex grammar and text relations Text type (including visual representations) Communicative function Employment and awareness of method Inference, extrapolation, synthesis of information, and construction of argument
Production	Monitoring and revising	Monitoring and revising during text production Monitoring and revising after text production	Use of vocabulary and metaphor Use of complex grammar, and text relations Communicative function Text type, including visually presented information Essential/non-essential information, sequence and numerical distinctions, Identifying relevant information and evidence Employment and awareness of method Inference, extrapolation, synthesis of information, and constructing an argument Creative thinking Writing with authority

This particular construct (definition) therefore serves to inform the current study's view of the various abilities associated with academic literacy. It is also argued that students will not be able to produce effective and appropriate academic texts if they have not effectively negotiated the first two processes that precede production – those of gathering and processing information. A further claim is that academic discourse is specialised and varies depending on the specific context (field of study or discipline) in which it is used. Because writing is seen as a form of social action in a specific situational (in this case: institutional) context, learning to write involves socialising students into specific discourse communities. It therefore follows that a more discipline-specific approach to writing instruction in the higher education context might be more appropriate. The section that follows presents a series of arguments from different perspectives in favour of such an approach.

2.4 Justification for a discipline-specific approach to writing instruction

The first argument in favour of a discipline-specific approach to writing is based on the view that specific disciplines are associated with particular language features and communicative practices. Students need to demonstrate competency in these if they are to become accepted members of particular discourse communities (Flowerdew & Peacock, 2001). This view is supported by systemic functional linguistic theory, in its claim that there are linguistic features and communicative practices specific to particular fields. Proponents of this view maintain that there are two interrelated aspects that determine the use of texts – those of context and situation. The former includes values, attitudes, purposes and shared experiences, as well as culture-specific expectations of people within a certain culture. In light of the focus of this study, this can be extended to the discipline-specific ways in which members of a certain academic community use language to "[get] things done" (Paltridge, 2002). The context of the culture therefore determines the 'genre' of the text.

The aspect of situation, on the other hand, refers to the 'register' of a particular text genre that is determined by various situation-specific, extra-linguistic variables. Register refers to the differences in language activity that occur in various contexts.

In other words, language is selected based on how appropriate it is to a particular situation. This includes the use of grammatical patterns and words to construct various text types with specific linguistic structures (Butt, et al., 2000; Paltridge, 2002). Situational differences in texts are determined by the parameters of field, tenor and mode of discourse. Field involves the topic or content of a text; tenor the speaker-hearer or reader-writer relationship; and mode the channel of communication and the ways in which the text hangs together. A change in any one of the parameters results in substantial text variations (Carstens, 2009). For example, there is a significant difference between a report written by a student for assignment purposes and one written by the head of department for funding purposes, and this difference may be occasioned merely by a variation in tenor (audience).

Halliday (1978:143) proposes three meta-functions for language that mirror the situational (context) parameters above. The first is the ideational/experiential function, which communicates the content or subject matter of the text. The second is the interpersonal function expressing the author's attitude and relationship to the reader, while the textual function guides the writers' choices in terms of text organisation and structure. This perspective maintains that language clauses reflect all three meanings – they represent an experience, interaction with someone, and organisation of a message appropriately (Halliday, 1994). Students' knowledge of these three meaning levels facilitates their command of contextually specialised (in our case: discipline-specific) discourses. Ideational grammar knowledge allows students to manage discipline-specific language (Butt, et al., 2000), while interpersonal grammar knowledge provides them with the tools to control their interaction within particular discourse communities in terms of positioning themselves in relation to their audiences and subject matter (Coffin & Hewings, 2004; Martin & Rose, 2007). Textual grammar knowledge, on the other hand, facilitates students' awareness of text organisation in terms of cohesion and coherence across different genres (Halliday, 1994).

Thus, together with developing students' purely linguistic skills, we need to recognise that they need an enculturation into specific discourse communities, or the

community of practice (CoP) in their respective disciplines. Wenger et al. (2002:4) define a CoP in terms of "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this are by interacting on an ongoing basis". The notion of CoP has been applied to multiple disciplines, including second language research. Within this context, knowledge is understood to be constructed through interactions between people participating in the practices of specific socialcultural communities (Haneda, 2006:808). From this perspective, students are perceived as apprentices who are inducted into specific communities by means of the process of "legitimate peripheral participation", that was referred to above. This process involves a novice learner's acquisition of skills, which are critical to a particular CoP, by means of active participation in actual practices. Learning, within the context of education, is therefore viewed as "itself an evolving form of membership" (Lave & Wenger, 1991:53), through which individuals incrementally develop identities of mastery. This induction into a discourse community, or CoP, can be achieved by means of a more discipline-specific approach to writing instruction.

A further point that serves to support a disciplinary approach to writing instruction is informed by cognitive linguistics. This perspective focuses on how people use experience-based cognitive devices, such as schematic representations, to make sense of their world (Lakoff, 1987). These schemas are "hypothetical mental structure[s] [or frameworks] for concepts stored in memory" (Carstens, 2009:53). New experiences are structured according to, and enlivened by previous experiences with people, objects and events. In the case of genre schemas, members of particular discourse communities are confronted with standard or ideal genres which then serve as expected 'templates' that anticipate the use of a range of communicative functions.

There are essentially two types of schemata – content and text-based. The first involves knowledge of a particular topic or field, whereas text-based schemata involve knowledge of particular text genres (Swales, 1990). Hyland (2004:56) prefers to categorise schemata according to knowledge of communicative purpose, reader roles of subject positions, text conventions, content and register, as well as

context. If one thinks of typical academic texts such as research reports, academic essays or dissertations, they all have different purposes. Students' sociocultural schemata help them understand that different genres (or different combinations of genres) serve particular functions within specific discourse communities, and that knowledge of the roles of readers and writers comprising these communities also influences the production of texts (i.e. social purpose). Knowledge of the readers, for example, who constitute a particular discourse community, influences the understanding of how texts are used in such a community for communicative activities, as well as their relationship to similar texts (Fairclough, 1992).

Text genres are also distinguished from one another based on differing textual features. Members of particular discourse communities are *au fait* with the structural and grammatical conventions of specific genres in their fields (Hyland, 2004) and they furthermore possess knowledge of the content relevant to a particular situation, which is also important. However, most content lecturers have neither the time nor the expertise to make explicit to students the textual conventions of the predominant genres in their disciplines. In the South African context, this issue is further compounded by students' prior learning and cultural schemata (in a multicultural context) – specific cultural knowledge and expectations that influence students' comprehension processes (Rice, 1980) – which affects their ability to negotiate content and make appropriate register choices. For these reasons, a discipline-specific approach to writing instruction could lend itself towards collaboration with disciplinary experts (content lecturers), addressing both content and text-based schemas necessary for students' effective and successful negotiation of text genres used in specific discourse communities for particular communicative purposes.

A third argument is grounded in critical discourse analysis, which focuses on the relationship between language use and power within social structures (Wodak, 2001). According to Fairclough (1992), such analysis concerns the links between genre, language learning and use in specific social and political contexts. In terms of the academy, discourses "work to construct, regulate and control knowledge, social relations and institutions" (Hyland, 2011:8). Thus, this approach aims to reinforce

the dominant forms of academic discourse, which is often thought to place students for whom the language of instruction is an additional language at a disadvantage by the "exclusionary *status quo*, which is intolerant of difference and excludes non-native speakers, depriving them of their own voices" (Harwood & Hadley, 2004:6). It is argued that students' ability to write with authority is stifled, since they are expected to conform to the rigidly defined norms of the dominant academic discourses in specific contexts (Butler, 2006).

However, if students are not familiarised with the conventions of the dominant discourses of the academy, their ability to become accepted members of specific discourse communities would be impeded. This has severe ramifications at postgraduate and professional levels, since here the expectation is that members of the academy conform to universal (international) academic standards (Harwood & Hadley, 2004). Advocates of this perspective maintain that by making power relationships explicit, groups can resist social discrimination and transform their lives (Meyer, 2001). This is in keeping with the approach being promoted as "new literacies studies" that associate academic practices within educational institutions with discourse and power. According to this view, student writing is seen as "being concerned with processes of meaning-making and contestation around meaning rather than skills or deficits" (Lea & Street, 1998). Proponents of this perspective maintain that students' struggle to negotiate writing in various discourse communities can be attributed to a disjunction between academic staff and student expectations of academic writing in the disciplines (Cohen, 1993; Lea, 1997), as "academic writing practices vary from discipline to discipline, from department to department, and even from lecturer to lecturer" (Harwood & Hadley, 2004:10). These differences in writing across disciplines in the tertiary context result in students "struggling to get to grips with the writing expectations in several different areas" (Coffin, et al., 2003:45). Again, the collaboration with subject experts to situate writing instruction within the discipline could serve to address this disjunction between lecturer and student expectations regarding writing expectations. Furthermore, students' meaning-making could be facilitated by employing strategies

that ease students' transition from everyday language use to the academic discourses associated with their respective fields of study.

A final argument is therefore one of relevance. Given the specificity of the language used within different subjects or disciplines, writing support needs to be adequate and specific enough to meet the language requirements of specific disciplines. This is especially so in the case of this study, that deals with the language development needs of URP students who are about to embark on their initial postgraduate studies. Their increasing level of specialisation at the beginning of their postgraduate studies indicates the need for much more field-specific support. Support at that point in their academic careers needs to familiarise students with the range of literacies associated with particular fields of study, with a particular focus on the genres that are important in these fields (Carstens, 2009). However, the writing interventions for the URP, as well as the Law group, who had only just begun their academic careers, need to take into consideration the acquisition of academic literacy as "entry into a new discourse community, where the student is intimately bound up with how to read, write and speak about the discipline" (Goodier & Parkinson, 2005:66). The support offered needs to be grounded in the discipline in which students are studying if they are to develop the skills necessary to negotiate the discourses associated with such fields.

Students are certainly more motivated to engage with disciplinary texts and tasks as opposed to generic options that may not be the ideal means of facilitating the necessary skills transfer to the disciplines (Flowerdew, 2016). However, as Carstens (2009) has shown, the results of a generic intervention may still be substantial, even when compared to the (sometimes marginally) more effective results of the specific. There are, in fact, more potential benefits to designing interventions that are relevant to specific disciplines than not doing so. These potential benefits are discussed in the following section, which provides a review of the literature on other discipline-specific language interventions.

2.5 Review of other discipline-specific interventions

Several studies conducted within the context of higher education in South Africa support a discipline-specific approach to academic language interventions. One such study (Parkinson, 2000), which was conducted with science students, emphasises the benefits of a theme-based language course for the sciences. The objective of the course was to use genres that typically feature in the sciences as a basis to "familiarise students with a wide range of literacies in science" (Parkinson, 2000:382-383). The author argues for the use of disciplinary content as a vehicle to address target literacies and relevant genres. Similarly, studies by Goodier and Parkinson (2005) and Van Schalkwyk et al. (2009) also support the notion that language use is socially situated and that needs in this regard should be addressed in the context of the discipline. Goodier and Parkinson's (2005) research considered the value of embedding important genres in academic literacy course materials for Management Studies and Science students. The authors propose that discipline-based academic literacy initiatives are essential to students' acquisition of disciplinary discourse. Although the study does not provide extensive evidence for the latter claim, it does claim that discipline-specific interventions are "likely … more effective than a generic course in facilitating students' access into the discourse community of their disciplines" (Goodier & Parkinson, 2005:66).

As part of a foundational English for Academic Purposes (EAP) literacy course for Humanities students at the University of Witwatersrand, research was done on the use of meta-cognitive reflection to enhance students' learning and development of higher order thinking skills. This study highlighted the value of embedding language support in disciplinary content to facilitate students' transition from "their everyday language use to the academic languages required at the University" (Granville & Dison, 2005:99). Kapp and Bangeni's (2005) research into a genre-based Humanities language course on offer at the University of Cape Town also reported on the importance of using genre to provide students access to disciplinary discourses. The study emphasises the fact that students' acculturation into specific discourse communities is a lengthy process that has to be addressed within a disciplinary

context on a continuous basis. Jacobs (2007, 2010) stresses the importance of collaboration between disciplinary experts and language practitioners when attempting to situate academic literacy interventions within various disciplines. These studies conclude that through sustained collaboration between language lecturers and subject-area specialists, the rules governing specific disciplinary discourses can be made explicit to students in an effort to facilitate their access to the discourse communities to which their lecturers belong. The notion of interdisciplinary collaboration is also supported in Koch and Kriel's (2005) investigation into language as a factor affecting the through-put rates of first-year Accounting students. Although the study does not necessarily view English for Accounting as the answer to students' language-related issues, the authors do advocate "some sort of team teaching that involves both language teachers and subject specialists" (Koch & Kriel, 2005:218).

Although the afore-mentioned studies provide theoretical and empirical justifications for the discipline-specific approaches to language interventions, the success of such interventions lies in their ability to provide evidence of impact on student learning. The report by Parkinson et al. (2008) on the efficacy of an academic literacy course for science students in improving their academic reading and writing skills provides a good example of how impact can be gauged. The objective of the course was to facilitate students' communication in science by means of reading and writing authentic science texts. In terms of evaluating impact, the study reported an improvement in students' performance on standardised tests of academic literacy after having completed the course. Students' evaluation of the course also indicated that they found it "beneficial and relevant" (Parkinson, et al., 2008:23). Van Dyk et al. (2009:342) similarly report tangible successes concerning the impact of a content-based academic literacy intervention on first-year Health Sciences students' writing skills. Students reportedly found the intervention valuable and informative, and lecturers were positive about the growth and development evident in students' work. A further study by Carstens and Fletcher (2009) focused on the impact of a 14-week essay-writing intervention with 2nd-year history students. This intervention had a significant impact on students' writing abilities, particularly with regard to their

ability to handle source materials, to structure and develop their essays, and to make use of appropriate language and style in their writing. Furthermore, students' views concerning the effect of the intervention on their writing abilities were positive.

International studies have, such as the one by Wingate and Andon (2011), have also demonstrated the benefits of embedding the teaching of writing into the curriculum. The study investigated the impact of integrating in-class and online writing tasks and assessment feedback on students' writing development. The findings showed a substantial improvement in the writing of some students, and reported positive student and academic staff perspectives. The study concluded that such an approach to writing instruction could be usefully applied in other HE contexts.

All these studies make statements about the potential benefits of discipline-specific interventions. Some of these benefits include (Butler, 2013:80) making use of authentic materials that engage students in real-life activities and tasks relevant to particular discourse communities; fostering student motivation by engaging them in materials that they find relevant and interesting; basing instruction on genres that are typically prominent in specific disciplines; fostering collaboration between subject specialists and academic literacy practitioners towards unpacking and making explicit the discipline-specific conventions of different disciplines; easing students into discipline-specific academic literacy practices by connecting their prior and current literacy experiences; and facilitating students' meaning-making processes by using their interim literacies.

In summation, the arguments outlined above have attempted to justify the need to take a more discipline-specific approach to writing instruction if we are effectively and purposefully facilitating students' induction into the language practices of specific discourse communities. Of course, the extent to which an intervention meets the language needs of students in particular disciplines is largely dependent on delivery. Thus, the next chapter addresses key aspects that should be considered in the teaching and learning of academic writing within specific disciplines.

Chapter 3: Key considerations in academic writing instruction

3.1 Introduction

One may observe that the main goals of the writing interventions in this study are to facilitate students' awareness of discipline-specific discourse norms and to enable them to develop the necessary literacy abilities required for the production of academic texts in particular discourse communities. Chapter 2 discussed the various abilities associated with knowledge construction in specific disciplines, as well as how these abilities can be categorised in terms of the processes of gathering, processing and producing information. These processes require of students to analyse and interpret information critically, to synthesise different sets of information, to create new information, to formulate and defend arguments, as well as to present and promote research (Grabe & Kaplan, 2014).

This chapter discusses key aspects pertaining to the teaching and learning of academic writing that should be considered when addressing students' discipline-specific writing needs at tertiary level. Essentially, writing instruction should encompass identifying the type of discourse that students are required to negotiate in order to write effectively in the tertiary context (cf. Chapter 2); enhance students' learning and motivation for writing and participating in this context; as well as build on students' existing knowledge and use of language (Coffin, et al., 2003:12). The sections that follow consider various approaches that are relevant to discipline-specific writing instruction, various teaching and learning practices applicable to all levels of writing instruction, as well as options in terms of mode of delivery that are relevant to this study. Specifically, I shall deal with the kinds of support that are being offered in my work environment, the Write Site, and the approaches and protocols being followed there to support writing development particularly at senior undergraduate and the initial postgraduate level.

3.2 Contextualisation of writing instruction

The notions of academic discourse and discourse communities discussed in Chapter 2 have practical implications for writing instruction. As mentioned, students need to be initiated into the discourses associated with particular communities of knowledge. Particularly at postgraduate level (and at senior undergraduate level in certain disciplines), this often involves students producing texts that mirror real-life writing activities carried out by practising professionals, sometimes beyond the scope of higher education. It is therefore important to provide students with writing instruction that focuses on the genres and conventions particular to specific discourse communities (fields or disciplines). Just as there are certain genres and conventions specific to a particular discipline, so too are there those that are common to several disciplines. An example of one such convention is the ability to formulate logical and coherent arguments from multiple sources. The content of the argument will, however, vary in each case, and that variation may make itself felt also in the formats of their presentation. Writing instruction should therefore strive to support students in writing according to the genres and conventions valued by their respective disciplines.

But do students learn these conventions through explicit instruction from 'masters' of academic discourse, or do they acquire fluency in the discourse over time merely by engaging with fluent members of specific discourse communities? The following two sections discuss the distinction between second language acquisition and learning, as well as the roles in students' learning of the notion of the Zone of Proximal Development, and the pedagogical concept of scaffolding.

3.2.1 Distinguishing between language acquisition and language learning

Gee (1990: 146) defines language acquisition as a subconscious process that takes place in natural settings that are both meaningful and functional; the context therefore necessitates meaningful interaction in the target language (Krashen, 1981). In other words, students know that they have to acquire a secondary discourse in order to

function effectively in the higher education context. Gee maintains that language is acquired by means of exposure to "models, a process of trial and error, and practice within social groups, without formal teaching". He does, however, acknowledge that the learning of meta-level knowledge is required if students are to be able to criticise various discourse types; thus both learning and acquisition play a role in students' mastery of a secondary discourse (Gee, 1998:57).

In this latter part of Gee's argument, the process of language learning involves conscious knowledge gained in instructional settings, where whatever it is that has to be learned is broken down into analytic parts and engaged with over time (Gee, 1990; Van Lier, 1996). Learning therefore entails studying and gaining knowledge of the formal properties of the target language, which is necessary if students are to develop a critical awareness of academic discourse. It is argued that such learning plays an important role in the development of students' academic language ability, as it facilitates the internalisation of the rules of the target language by means of building students' awareness of these rules (Ellis, 1986).

Krashen (1982) argues that learning and acquisition are separate and unrelated knowledge types, and that learning is not a prerequisite of acquisition. However, proponents of the interface position are of the opinion that these knowledge types are in fact related, "so that 'learning' (or explicit knowledge) can become 'acquisition' (or implicit knowledge) when it is sufficiently practised" (Ellis, 1986:241). Similarly, Sharwood-Smith (1981) argues that formal instruction facilitates the practice of explicit knowledge until it becomes automatised. He states that "in the course of actually performing in the target language, the learner gains the necessary control over its structures such that he or she can use them quickly without reflection" (1981:166). Such automaticity in language use is related to what in communicative language teaching has been termed fluency, and is an accepted goal of mastering any (primary or secondary) language. What is more, in communicative language teaching it is accepted that we need, as language teachers, to nurture both formal language knowledge and functional language use, and that these go together in allowing language ability to develop.

The notions of learning and acquisition therefore have important implications for the responsible design and instruction of course materials that aim to develop students' mastery of specialised discourses. This requires further discussion of theories pertaining to the promotion of learning by means of learner action and interaction in specific social environments.

3.2.2 The Zone of Proximal Development and scaffolding

In the psychological domain, social constructivism has made a valuable contribution to the field of second language acquisition research. An important idea within this approach is Vygotsky's (1978) Zone of Proximal Development (ZPD). Vygotsky (1978; 1987) posited that sociocultural interactions are critical to learning, and that social and interpersonal activity form the basis for cognitive development (Lantolf & Thorne, 2006). In applying this to education, Vygotsky (1978; 1987) further hypothesised that children who shared roughly similar levels of conceptual development could possibly achieve higher levels of understanding by means of structured support from adults or teachers. A widely accepted definition of the ZPD is "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978:86). Therefore, learning is co-created by participants by means of structured dialogue which enables learners to progress from current to higher levels of ability, and ultimately to autonomy (Barnard & Campbell, 2005). Participants learn more by collaborating with other more advanced or 'able' peers than they do on their own. The ZPD is therefore a critical component of the learning process, "whereby [learners] 'appropriate' knowledge and skills from more expert members of their society" (Fernandez, et al., 2015:55).

The notions of the ZPD and scaffolding are closely aligned. The latter refers to provisional intellectual support offered to learners to help them achieve higher levels of understanding (Wood, et al., 1976). Teachers facilitate students' understanding and completion of a particular task by means of 'scaffolding' their progress and

achievement through a complex task. This is achieved by utilising linguistic "scaffolding tools" in the form of questions, feedback and unpacking the structure of a particular task (Maybin, et al., 1992). The concept of scaffolding features in English for Specific Purposes (ESP), although it is often termed "situated learning", which involves learning on two levels – instructor-assisted learning and collaborative peer learning (Christie, 1985).

Firstly, in terms of discipline-specific genres in the tertiary context, students are expected to produce texts without much assistance. Johns (2002) argues that content lecturers are obligated to initiate students in terms of writing in the disciplines, as they are new to the context and are unfamiliar with the required conventions. In keeping with the view, already referred to previously, that students are 'apprentices' who require guidance and instruction from 'masters' of academic discourse (Flowerdew & Ho Wang, 2015; Lave & Wenger, 1999), tasks should be scaffolded by modelling activities or processes for students so that they can be replicated; managing students' engagement by means of rewards or punishments; providing peer or instructor feedback to students; using guiding questions to help students reach their goals; making use of structured explanation or structured cognitive activities to structure students' cognitive processes; as well as instructing by means of directives (Gallimore & Tharp, 1990). Regarding peer scaffolding, it is assumed that students' processing of information is aided by the sharing and distribution of mental activity amongst peers. Thus, students co-construct texts when working together to complete writing ability development activities (Pea, 1993).

Scaffolding techniques can be classified as either soft or hard scaffolds (Saye & Brush, 2002). Teachers use soft scaffolds to assist learners at specific moments when they have particular needs. For example, while learners are working on a group activity, the teacher might circulate amongst students to question their understanding of the task and provide feedback on their process. Hard scaffolds, on the other hand, are often developed in advance to assist students in areas where the teacher anticipates they might struggle. These scaffolds therefore involve the deliberate planning and use of support where students are known, or are expected to struggle.

An example might be when a teacher develops a scaffold to assist students with what constitutes appropriate support in a particular discipline when developing an argument in academic writing.

Hard scaffolds offer either conceptual or strategic support (Hannafin, et al., 1999). The former involves using hints or cues to guide students' ideas during problem-solving processes. For example, the provision of 'hint' options in online learning materials to assist students with answering particular questions would constitute conceptual support. Strategic support, on the other hand, involves the provision of expert advice to assist students with the analysis and approach to a particular task. An instructional video on the organisation of an introductory paragraph in an academic essay is an example of such support. Research suggests that hard scaffolds assist students with information seeking, problem-solving, reflection, research, identifying task constraints, the integration of concepts, as well as knowledge acquisition (Simons & Klein, 2007:46).

According to Van Lier (1996:196), there are six principles of scaffolding. The first is contextual support which provides a safe, yet challenging environment in which students are free to make errors as part of their learning in a non-threatening environment. Secondly, continuity involves repeating intricate actions over time, governed by routine and variation. The third principle is that of intersubjectivity, which ensures mutual engagement and support. The flow of communication between participants should also occur naturally, without being forced. The principle of contingency requires that scaffolded assistance be adapted, added, repeated or omitted depending on students' reactions. Finally, handover occurs when students are ready to undertake similar tasks unaided.

Wood, Bruner and Ross (1976: 56) propose six functions associated with scaffolding complex activities. These include: focusing the learner's attention on the task at hand; breaking up the task into a series of simplified steps; motivating and directing the learner's activity to achieve a specific goal; identifying key features of the task; minimising the learner's risk of failure; and providing idealised models of required actions. This process allows the teacher to facilitate learners' acquisition of a higher

level of understanding through temporary intellectual support (Bruner, 1978) that allows for learners to "participate in the complex process before they are able to do so unassisted" (Celce-Murcia, 2001:166).

In the context of higher education, students are expected to produce an array of complex academic genres in a language that is often not their mother tongue. The institutionalised, didactic nature of the tertiary context does not typically provide apprenticeship opportunities, through which novice student writers are inducted into the norms and practices of academe (Lave & Wenger, 1991). The relevance of the observations on apprenticeship, mentoring and scaffolding in this section is that responsibly designed writing interventions should take into consideration the expert processes involved in the production of complex, authentic tasks, as well as make use of effective scaffolding strategies so as to provide students with the necessary guidance to negotiate these expert processes effectively. The design principles that are at stake here are those of achieving properly planned, implementable designs, in which the concepts of technical *differentiation* (having a variety of functionally defined tasks) and *organisation* feature prominently. We return to a consideration of these in Chapters 4 and 9; in section 3.4 below, the specific scaffolding techniques employable in the set of interventions currently being investigated are dealt with in more detail, and there are further examples and descriptions in Chapter 7 (section 7.4).

3.3 English second-languages (ESL) writing instruction approaches

In terms of research trends and practices in the teaching and learning of writing, there is some dispute as to which approach to writing instruction is considered most appropriate (Grabe & Kaplan, 1996). This section discusses various approaches to writing instruction, with a particular focus on those that facilitate students' induction into specific discourse communities. The contestation is around how the design principle of technical utility or efficiency should be realized in any particular language intervention, and, in our specific case, the interventions designed for use in the Write Site at the UFS. There are many alternatives: which one will deliver the

best results in the shortest time, and with the least wastage? In the case of the specific academic discourse communities that are involved in this investigation, there is additionally the question of the degree of appropriateness, or technical fit with the interactional environment, that it will demonstrate. I shall return specifically in Chapters 4 and 9 below to an account of how these principles have been met in the current case.

3.3.1 Content-based instruction

Content-based instruction (CBI) is defined as "the concurrent study of language and subject matter, with the form and sequence of language presentation dictated by content material" (Cenoz, 2015:10). Such an approach exposes students to authentic academic learning experiences during which they engage with realistic content that serves as a vehicle for teaching writing. Stoller (2008) points out that CBI is an "umbrella term" for various approaches that focus simultaneously, though not necessarily equally, on language and content. Although there are several ways in which CBI can feature in writing instruction, one of particular relevance to this study involves introducing writing instruction to the content class, as opposed to other options that do the reverse (content into writing courses). This approach corresponds with the notion of Writing Across the Curriculum (WAC) that promotes the inclusion of writing techniques, exercises and activities that are integral to the content curriculum. Proponents of this approach argue that this provides students with the opportunity to engage with meaningful writing activities that are centred on real content across a number of disciplines. Although WAC has the potential to have a big impact on students' writing development, implementing an effective programme is complex, and requires much negotiation, collaboration and coordination. Some institutions have taken to providing "writing intensive" courses that students are required to take in order to graduate, while others offer courses linked to disciplinary content that run parallel to content courses. An option that is more rarely implemented involves the organisation of a series of writing tasks and student support that forms part of the content curriculum from the first year through to the final year of study (Lea et al., 2009). This last option is similar to the collaborative

work being done between the Write Site and certain departments at the UFS. These departments have committed to a more intensive approach to writing development and expose students to numerous writing interventions from their first year all the way through to their final year of study. By being field-specific, these writing interventions are tailor-made to help students successfully negotiate the writing assignments that are due in particular subject areas.

The development of writing interventions that are tailored to the needs of students in specific discourse communities should take into account three interconnected factors, which echo the key writing instruction issues mentioned at the beginning of the chapter (Coffin et al., 2003). The factors in question include: addressing what students need to know about language and how to use it to write successfully in their disciplines; understanding how students acquire the skills necessary for acceptable and effective writing; and how the social, interactive academic context dictates not only the design of writing interventions, but also the accompanying teaching and learning practices (Grabe & Kaplan, 2014). Consideration of these factors is pivotal in deciding on an appropriate approach to writing instruction in specific (academic) contexts. English second-language (ESL) writing instruction, however, has witnessed several paradigm shifts over the years, each with inherent strengths and limitations. The approaches to be discussed here are the product, process, and genre approaches to the teaching of writing.

3.3.2 Product, process and genre approaches

The early 20th century embraced a product-based approach to writing development, with an emphasis on the written product (Nordin & Mohammad, 2017). The focus of this approach is primarily on imitating characteristic vocabulary, syntax and cohesive devices of model texts provided by the teacher (mostly in the form of classic texts drawn from a literary canon), according to which students produce a similar text (Badger & White, 2000; Pincas, 1982). This approach prioritises the identification and practice of key organisational and syntactical features rather than the actual ideas contained within the text (Klimova, 2014; Nordin & Mohammad, 2017). Although

proponents argue that this approach enhances students' writing proficiency with regard to linguistic knowledge of certain text types (Badger & White, 2000), it is criticised for not emphasising the process of writing and students' meaning-making abilities. Its sensitivity to, and fit with context are therefore in doubt: (rhetorical) form comes before individualized content.

This resulted in a shift to a process approach that emphasises the recursive and non-linear nature of writing. This approach advocates the use of multiple drafts that serve a particular function, namely prewriting, composing/drafting, revising, editing and publishing (Tribble, 1996). Writing is therefore viewed as a recursive process during which students rework a text several times based on the feedback they receive from others at various stages of text production (Coffin et al., 2003). A typical representation of the writing process, often referred to as a multiple draft approach, is illustrated by Figure 3.1 below (adapted from Kotecha, 1994:24). The strength of the process approach lies in its facilitation of students' exploration of the topic, as well as its focus on content before form by means of multiple drafts and continuous feedback. However, the criticism here lies in its failure to recognise the myriad of ways in which different writers approach writing, as well as the lack of emphasis on social context and how this determines, not only purpose, audience and message, but genre as well (Barrot, 2015). Its desirable attention to content minimizes the equally desirable attention that should be given to shaping and presenting that in specific and sometimes specialized environments.
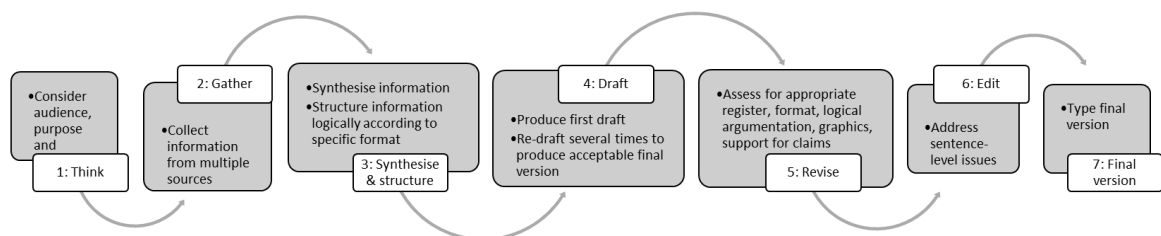
Figure 3.1: Stages of the writing process

To compensate for the shortcomings of the latter approach, the genre-based approach was adopted in the late 1990s. It complements the process approach by acknowledging the role that certain types of texts play in making meaning in a particular sociocultural setting and offers explicit instruction in the function of language in these settings (Kuiper, et al., 2017; Troyan, 2016). As discussed earlier, different academic contexts have characteristic communicative goals, and the genre-based approach allows for the selection of genres most appropriate to achieve the intended communication objectives (Troyan, 2016). Paltridge (2014:303) argues that genres "both respond and contribute to the constitution of social contexts, as well as the socialisation of individuals" and that genres are central to understanding the participation in the actions of a particular community of knowledge. Context-specific texts are thus used to make students aware of differences in structure and form so that they can apply what they have learned to their own writing (Barrot, 2015). According to genre theory, the overall text structure is referred to as "move structure" and the particular purpose of a text is accomplished through a series of 'moves' or 'steps'. Each move, some mandatory and others optional, has a particular purpose and contributes to the overall communicative purpose of a specific genre. Genre analysis aims to develop students' awareness of the rhetorical organisation of these moves in a particular genre, and the linguistic features employed by an author to realise a specific communicative purpose (Ellis & Johnson, 1998). Since social context also influences the features of a genre, it is important to explore fully and analyse the goal, overall structure and linguistic features of a particular genre before it is taught to students (Derewianka, 2012; Kuiper, et al., 2017). Although advocates argue that the genre approach facilitates students' transformation into autonomous writers (Yen, 2015), it has been criticised for being restrictive in terms of students' creative approach to content (Tuyen *et al*., 2016). Consequently, the field saw a shift towards a more integrated approach to writing instruction. The following section presents hybrid approaches that propose such a more integrated approach to writing.

3.3.3 A synthesis of approaches

The three main approaches mentioned above all have their respective benefits and drawbacks. Badger and White (2000:157) postulate that "an effective methodology for writing needs to incorporate the insights of product, process and genre approaches". They therefore propose a process-genre approach to writing instruction that serves to synthesise the strengths (cf. Table 3.1 below) of the three aforementioned approaches to writing development (Badger & White, 2000; Rusinovci, 2015; Tudor, 2017).

Table 3.1: Strengths of product, process and genre-based instruction

Approach	Strengths
Product	Explicit instruction in linguistic features of texts
	Imitation is one way to learn characteristic linguistic features
Process	Acknowledges skills involved in producing written texts
	Values learners' contributions to the writing process
Genre	Understanding that writing is specific to particular social contexts
	Emphasises the role of context in determining purpose of a text
	Acknowledges the role of imitation and analysis in learning to write

Students thus work with authentic, context-specific texts aimed at generating awareness of audience, purpose, message, and organisation of text depending on the social situation in which the writing occurs (Nordin & Mohammad, 2017). Sample texts are used to analyse purpose and register, which according to Halliday (1985/89), refers to the use of language in a particular situation – with situation interpreted "by means of a conceptual framework using the terms 'field', 'tenor' and 'mode'" (1985/89:29,38). Thereafter, students produce several drafts on which they receive feedback, before submitting a similar, finalised product. The use of authentic sample texts provides students with the opportunity to consider "real situations,

readers, and then practise language use (vocabulary and grammar) in a specific genre" (Tuyen, et al., 2016:21).

Students will most often differ in terms of their academic writing development. Some will be familiar with the conventions of a particular genre, as well as the writing process, and will require limited input, whereas others will require input on several levels. Figure 3.2 illustrates Badger and White's (2000: 159) suggestions towards possible input in the process-genre approach; dashes serve to indicate that input is not always a necessity.
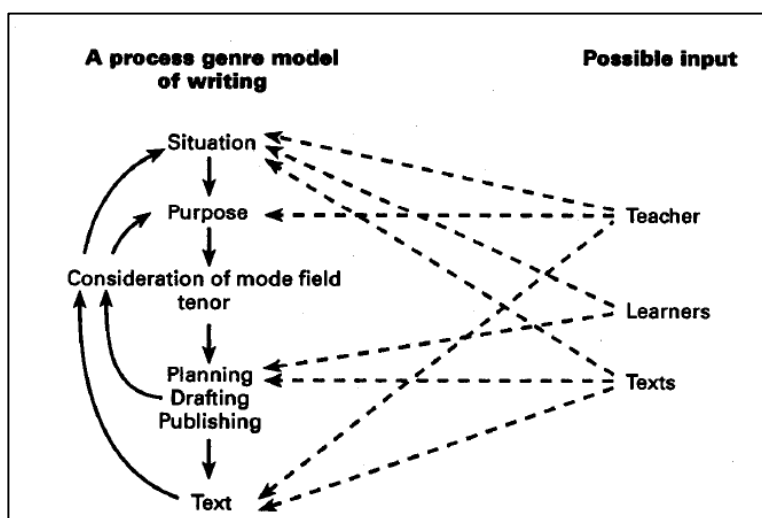
Figure 3.2: A process-genre model of teaching writing

Another hybrid approach that combines process and product is proposed by Boeschoten (2005). This approach supports the notion that students need to understand and adhere to discipline-specific writing conventions (normative aspects) in order to write effectively. In order to formulate sound arguments from multiple authoritative sources, students require several competencies associated with the gathering, processing and production of information, including language, genre, stylistic, rhetorical, and critical reading competencies. Students' final texts (products) furthermore need to adhere to the functional requirements of academic text production, such as argumentation, logical structuring of information, and the like. Figure 3.3 below illustrates the interrelations between process and product in academic writing (adapted from Boeschoten, 2005:5).
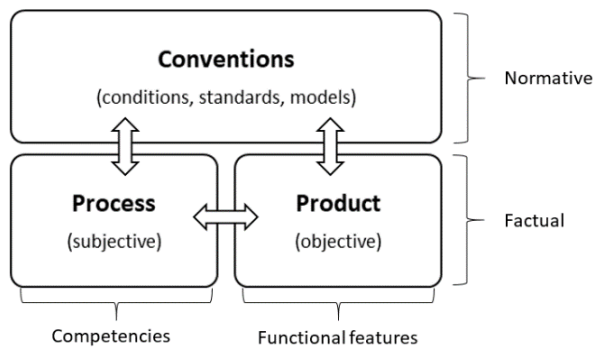
Figure 3.3: Relationship between process and product in academic writing

These proposed hybrid approaches to writing instruction offer potentially more effective, functional and comprehensive ways of addressing students' writing needs in the disciplines. As mentioned earlier, key to students' effective command of academic discourse is their ability to find, analyse and interpret information critically, synthesise different sets of information, create information, formulate and defend arguments, as well as present and promote research (Grabe & Kaplan, 2014). These competencies are required, in varying degrees of complexity, at all levels of tertiary study. The sections that follow therefore discuss further considerations for writing instruction that aim to address students' needs in this regard.

3.3 Engaging critically with disciplinary sources

Writing instruction needs to expose students to models of expert performance, both in terms of process and product. As mentioned earlier, inadequate primary and secondary schooling in South Africa has denied students exposure to the learning experiences necessary to prepare them for the demands of academic discourse. Not only are they unfamiliar with the conventions and norms of academic discourse, but they are also unaccustomed to the various (recursive) processes involved in the successful generation of appropriate academic texts. As participants in the academic process, they therefore need to be made aware explicitly of reader expectations, writing organisation, how to identify important information, as well as differences in writers' perspectives and expectations (Grabe & Kaplan, 2014).

Academic writing at tertiary level involves the extrapolation of complex sets of information from multiple sources. Students are expected to analyse, synthesise and interpret this information for inclusion in their written texts, which is an essential transition that needs to be made on their part if they are to be successful in advanced academic contexts. Writing in most disciplines requires that students engage critically with texts, so it is important that they are provided with sufficient opportunity to work with and write from relevant readings. In addition to being provided with prescribed readings in their disciplines, students are expected to source appropriate and relevant resources from the library and make use of online resources. This is an essential part of the writing process, with which students are often unfamiliar. In any particular writing assignment they need to be able to find and use resources, and include their own analyses and sources in their writing, as well as refer to several different resources. The writing of research-based texts, such as the research report and dissertation at senior undergraduate and postgraduate levels, furthermore requires that students engage in research and collect multiple sets of data for inclusion in their writing. A recent analysis of the students' weaknesses concerning academic writing revealed that they have difficulty understanding textual relations, communicative function and text type. Pot and Weideman (2015) maintain that these components are linked to the students' understanding of the relations between different parts of a text, their ability to distinguish between essential and non-essential information, as well as their understanding of functionally defined forms of expression in academic writing (e.g. defining, providing examples, etc.). Difficulties in these areas result in students' inability to develop logical academic arguments in their texts (Pot & Weideman, 2015).

Engaging critically with a variety of sources is thus something that needs to be taught explicitly. One should not assume that students know how to exploit textual resources to their full potential. Studies such as the one by Pot and Weideman (2015) show that students generally struggle to perceive underlying assumptions guiding texts, or identify intertextual relations in texts. Text interpretation is a complex skill central to successful academic performance. The processes of gathering and processing information require that students draw on multiple interpretative abilities, as

discussed in Chapter 2. Thus, writing instruction should aim to facilitate students' ability to access texts by means of pointing out the logic of complex arguments, how authors refer to theoretical authority to support claims or arguments, the strength and weaknesses of arguments, the relationship of sub-arguments in a text to the overall theoretical position taken by an author, and the like. This can be achieved by exposing them to several resources on similar topics and pointing out the linkages or disjunctions between these texts in terms of a central theme or argument, or – and this is where the complexity shows prominently - opposing views on it.

Text interpretation at this level requires significant expertise, which can only be developed through much practice. It is a kind of expertise that can legitimately be expected to have developed by the time that students find themselves about to enter postgraduate study, as is the case with the main cohort involved in this study. Students should thus be guided, through ample practice, to develop the skills and knowledge that will provide them with the authority and voice to change their writing practices. Guiding discussions can serve as an important resource that can help to change the ways students read and write texts. Persistent (guiding) questioning is one way to alter the ways in which students interpret textual information as well as the way in which they negotiate the writing process. The guidance for critical analysis should include getting students to re-evaluate evidence in sources; examine the logic or arguments in sources as well as in their own writing; examine a theoretical position for consistency; look carefully at interpretative conclusions that can be made from complex data sets or evidence, and show, especially as they are beginning to find their own authority and voice, that they can deal with different or opposing, even contradictory conclusions. Discussions of this nature need to be couched in the content that is relevant to students' field of study. The readings that are used for instruction should therefore be central and relevant to the writing assignments assigned in the disciplines.

Given students' difficulties concerning the formulation and development of sound academic arguments, it is necessary to provide them with structured support that assists them with the logical development of information in their writing. The section

that follows looks at how this can be achieved by means of various 'outlining' activities and raising students' awareness of organisational patterns in academic texts.

3.4 Addressing organisational norms and conventions of academic writing

Experience in working with student writing at the Write Site has shown that the majority of students, at undergraduate and postgraduate levels, struggle with higher-order issues in their writing. These issues constitute organising information according to the structural requirements of specific text types (genres), developing logical arguments, and sequencing information logically. As a result, it is necessary to provide students with outlining and structured overview support in order to help them assemble information and arguments logically. Depending on the individual writing abilities and preferences of students, they could either be encouraged to generate an outline as a preliminary step to writing, or they could develop an outline after having completed a first draft.

Whatever the form of outlining, it cannot be assumed that it can be addressed once off, after which students will employ it effectively. Some sort of outlining activity or support should accompany every writing task to make students aware of the structural and organisational requirements of specific text types. In addition to overall text organisation, further outlining formats might also be necessary to facilitate students' awareness of the logical flow of information within a text. These could include graphic organisers, such as a tree diagram to illustrate classification, or a timeline indicating historical or chronological cause and effect. A flow chart, for example, could be used to illustrate the complexities of interacting processes or concepts more effectively than an outline format.

There are certain organisational patterns common to many forms of expository and argumentative writing. Familiarity with these patterns can assist students in the logical development of information in their writing. Proficient writers of academic discourse are able to manipulate these patterns, because they know how to work with variations to accommodate the reader of a text. Students, on the other hand, first need

to be made aware of how these organisational patterns enable a writer to address different types of issues and concepts. Writers use conventional patterns to structure information that serve to activate reader expectations within specific academic discourse communities. These patterns typically include definitions, descriptions, classification, comparison and contrast, problem and solution, cause and effect, analysis, as well as synthesis. Although these general patterns are not representative of specific text types (genres), they are typical of ways in which information is organised in a number of different text types. These patterns can be made explicit to students by means of model texts (including samples of good student writing), critical readings, and outlines that are relevant to the types of texts students will encounter in their disciplines.

Another important conventional writing format is that of paragraph structure. Not only does the paragraph serve to improve the physical symmetry of a text and facilitate easy reading, it also functions as a unit of textual information. Student writing very often does not meet reader expectations in this regard, as they tend to produce long, convoluted sentences that fail to signal coherent ideas. They are unfamiliar with the typical formulation of a paragraph in terms of its most conventional (though not only) format, in having a topic sentence followed by supporting sentences. Readers generally expect a paragraph to present information in such a way that it can be summarised in a single sentence, which contributes to the organisation of the text as a whole.

Writing instruction should, therefore, by means of model texts and critical readings (featuring relevant and authentic content), make explicit the ways in which successful writers use the paragraph to organise information in a logical fashion. Although paragraph structure might have been addressed superficially at lower levels of writing instruction, students should be made aware of the function and power of the paragraph, and difficulties in this regard should be addressed directly.

Related to paragraph structure is the way in which successful writers start and end writing appropriately. Two areas in which students typically struggle include introductory and concluding paragraph formulation. Not only do they need to be

made aware that an introduction typically contains a thesis statement and an organisation plan, but they also need to be shown how these conventions vary depending on the topic, purpose, genre and audience. Similarly, a typical conclusion serves to leave the reader with a better impression of the text, since it is the last information encountered by the reader. Students need to be made aware of how the conclusion functions to reiterate major issues and goals presented in the text.

In addition to familiarising students with key organisational patterns in academic writing, they also need to know what constitutes a strong academic argument. The next section highlights the importance of teaching students to distinguish fact from opinion, and to select adequate, relevant support accordingly to support claims and arguments made in their writing. The section also elaborates on the importance of providing students with guided support in the form of formative feedback at various stages of text production.

3.5 Assisting and guiding argumentation

Another key focal area of writing instruction involves assisting students with the presentation of effective arguments and positions. Two important issues in this regard include the use of persuasive information and arguments with factual support, examples and illustrative detail; as well as the provision of feedback on student writing that promotes their development as better writers.

Regarding the first issue, successful academic writers make use of a variety of evidence to support the main claims and arguments in their texts. An important aspect of instruction should therefore enable students to identify weak arguments that are supported by opinion rather than factual information. Students need to know that factual evidence, especially in the fields and disciplines that are being used for this study, may constitute information in the form of case studies, surveys and questionnaires accompanied by data collection methodology, reliable and authoritative quantitative data, empirical results accompanied by methodologically driven analyses, information in visual format, and theoretical information from multiple sources. This can be achieved by getting students to reflect on how factual

the information is, in the fields that are relevant here, that they have used in support of the claims and arguments in their own writing in these disciplines. Important, therefore, is building students' awareness of how the type and detail of evidence differs depending on the field of study and genre. For example, legal texts make use of case law and legislation to support and develop arguments, whereas natural scientific texts typically make use of empirical experimental results. Students should therefore be taught to read for the variations in the types of evidence presented in prevalent genres in their disciplines.

Responding to student writing is another key consideration in guiding students' writing development. Research (Hattie & Timperley, 2007:81) on the impact of feedback on learning and achievement suggests that its efficacy is dependent on "the type of feedback and the way it is given". For the feedback to be effective, higher-order issues should be addressed first before feedback is provided on lower-order (e.g. sentence-level) ones. For example, students' first drafts should be evaluated in terms of content and the logical organisation of information. Patchan's et al. (2016) research on how specific feedback features affect the quality of students' written submissions shows that attention to higher-order issues is more likely to improve the quality of students' papers. By focusing on higher-order concerns first, instructors can address fundamental issues in students' writing, such as whether the paper is on topic, whether it adheres to the structural and organisational requirements of a specific genre, whether the claims made support the main thesis of the paper, as well as whether the claims are adequately supported and follow logically. Once again, it is argument construction that lies at the heart of what they must do (Pot & Weideman, 2015). Fundamental issues on these levels would require redrafting; thus, feedback on lower-order issues would be futile at this stage. These issues should rather be addressed in later drafts, once content and organisational issues have been addressed.

Mulliner and Tucker's study (2017) on student and staff perceptions on feedback practices reported that students indicated a preference for individual verbal feedback, although they did not feel they were encouraged to discuss their feedback face-to-face. The value of face-to-face, or verbal feedback was also evidenced in Ali's (2016)

research on the effectiveness of using screencast feedback on students' writing. The results of the study showed that this type of feedback improved students' performance in terms of higher-order concerns, as well as overall writing skills.

Another effective means of feedback that provides students with unique, verbal, and individualised learning opportunities is teacher-student conferencing. It also adheres to Vygotsky's notion of a Zone of Proximal Development in that students (apprentices) are led to perform at levels beyond their current capability by expert (or more able) writers. The support offered by the Write Site can be equated to effective teacher-student conferencing (Grabe & Kaplan, 2014:361) in several ways. Firstly, writing consultants in the Write Site share power relations in their discussions with students. They assume the role of critical (not in a derogatory sense) readers of students' texts and get students to reflect on key issues in their writing by means of guiding questions, not by being directive. Secondly, they provide students with time to consider answers to specific guiding questions. Thirdly, consultants offer assistance that is useful based on their assessment of students' individual writing needs. Consultants also work towards making students feel at ease and building their confidence as writers. Such an environment encourages students to ask questions regarding aspects they find challenging. Consultants furthermore begin sessions by establishing the aspects to be addressed in a particular session, which includes taking into account the students' goals and expectations for the session. Consultants make a point of articulating the value of addressing certain aspects in improving students' draft assignments. These individual sessions help students realise their shared responsibility in this type of interaction, as the responsibility lies with them to take to heart the feedback provided to them and make the necessary alterations to their written texts.

As mentioned earlier, the number of students requiring academic writing support at the UFS has increased exponentially over the last few years, at all levels of study. This is most likely as a result of academic lecturers', as well as students', growing awareness of the importance of writing competence for academic success. This growth, however, has implications for academic support service delivery, as it is not

possible for the Write Site, with its limited human resources, to provide all students with multiple individual consultation sessions per writing assignment. For this reason, the Write Site offers additional writing interventions (workshops) that precede students' visits to the writing centre for individualised writing support. In many instances, due to large class sizes, these interventions are offered online in an effort to work around staffing and venue (availability) issues on campus. Thus, students engage in a combination of online and face-to-face instruction (in the form of individual sessions at the writing centre) which constitutes a blended approach to writing instruction. What is at play here are the compromises that must be struck between the technical effectiveness of the language intervention and its technical efficiency, two design principles that will again engage our attention below, in the discussion of the technical utility of an intervention and its obvious link to the economic sphere. Given limited resources, the plans made for language development in our setting must employ the technical means at our disposal in the most useful ways, despite their scarcity.

The following section provides an overview of the benefits and drawbacks associated with blended learning, followed by a discussion of the Write Site's adoption of this approach to writing instruction for larger student cohorts. It is concerned specifically with the achievement of instructional goals for language development with limited means.

3.6 A blended approach to writing development

The Write Site is not alone in its quest to enhance student learning in light of the increase in student enrolment and diversification. Many HE institutions have resorted to blended learning initiatives to enhance students' language skills and learner autonomy. Blended learning essentially involves combining face-to-face and computer-mediated instruction, which serve to complement one another (Graham, 2006; Poon, 2013). English for Special Purposes (ESP) and EAP (English for Academic Purposes) instruction has taken to integrating the strengths of traditional classroom teaching with online learning to offer students with unique and effective

learning experiences that benefit language learning (Glazer, 2011; Moskal & Cananagh, 2014). Research into student attitudes and achievements suggests that blended learning is directly beneficial to enhancing students' language learning (Banditvilai, 2016; Lam, et al., 2018; Tuomainen, 2016).

Blended learning is argued to be beneficial for students' learning in several ways. The first is that it serves to contribute to improved learning outcomes for students, resulting in a decrease in failure and dropout rates, as well as to improvements in student grades and their understanding of course concepts (Lim & Morris, 2009; Twigg, 2003). A second benefit is that it is more student-centred, and that it increases student access to learning that facilitates their autonomy, reflection and control of personal learning (Larsen, 2012; Poon, 2013). Not only does blended learning enhance students' ability to control their own learning pace, which increases satisfaction and decreases stress (Algahtani, 2011), but it also provides them (including distance-learning students) access to learning materials without having to come to campus (Sharpe, et al., 2006; Smyth, et al., 2012). A third benefit concerns the promotion of student satisfaction. Students tend to be more motivated and involved in the learning process, which, in turn, enhances their commitment and perseverance (Donnelly, 2010; Wang, et al., 2009). A final advantage concerns the cost and resource effectiveness of a blended learning approach. Not only can printing costs be cut by placing instructional materials online, but money can also be saved in terms of staffing. Larger cohorts of students can be reached without having to source venues and pay teachers to present classes.

The use of blended learning also poses various challenges that require consideration. Some studies report that students have unrealistic expectations of blended learning, and assume that fewer classes are indicative of less work. These students struggle with time management and taking responsibility for their own learning (Poon, 2013). These issues are, however, not uncommon to other (more traditional) modes of instruction. Similar to expectations around students' acquisition of academic discourse, academic lecturers often assume that students possess the necessary time management skills to cope effectively with their studies. In reality, students'

ineffective time management has persuasively been linked to perceived stress, underachievement and dropout (Häfner, et al., 2015). Van der Meer, et al. (2010:788) maintain that "[a]lthough it could be argued that students have the ultimate responsibility to plan their time and study in an effective way, we argue that universities have an important role to play in assisting students to develop the required skills". Thus, issues pertaining to time management and ownership of learning are not specific to blended learning instruction.

Two further issues concern the technological difficulties associated with blended learning, as well as the institutional support required for the development and management of blended learning initiatives. Technological issues include poor internet connectivity that results in students' inability to access online materials (and resultant frustration), as well as students' knowledge of, and readiness to use, newly introduced technology. The solution to these issues lies in securing institutional provision of dedicated services and support to assist students and instructors throughout the development and use of blended approaches to learning. In the case of the Write Site, all online interventions are hosted on Blackboard (a learning management system), which students are familiarised with from their first year of study. The majority of content courses use Blackboard to post information, as well as tests, assessments, and additional instructional material on a regular basis. Thus, students are familiar with the functionality of Blackboard by the time they are exposed to online writing interventions. Furthermore, the Write Site has in its employment an online materials developer who assists with the development and running of all online interventions. This includes managing all student and staff queries regarding online components of writing interventions offered by the Write Site.

Despite these challenges, the benefits of blended learning make it a viable option for instructional delivery at the Write Site. This approach is generally adopted when student cohort sizes exceed 100 students, since venues and staffing then become an operational concern. As mentioned, all writing interventions are tailor-made to the writing needs of students in specific fields of study, based on particular writing tasks

due for submission. Each writing intervention therefore forms part of the content course assessment; marks received for participation in and completion of various activities are integrated into students' final assignment mark in the content area. The blended writing initiatives at the Write Site follow an integrated approach to writing instruction (product-process-genre), consisting of a series of stages, as shown in Figure 3.4 below.
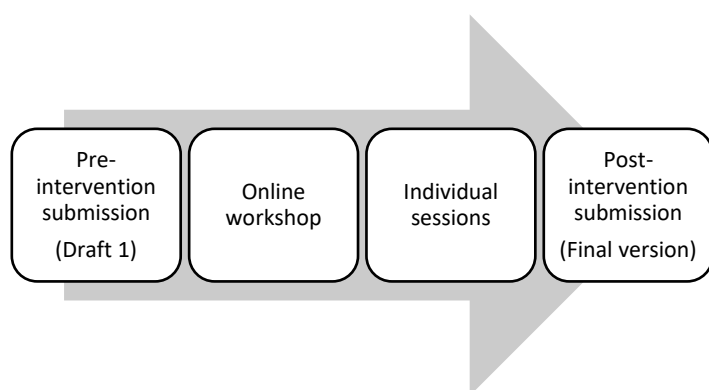
Figure 3.4: Stages of blended writing process

The first stage requires that students produce a first draft of the writing task, before they engage with any further part of the writing intervention. Students thus complete their first draft based on their initial understanding of the assignment prompt/instructions/topic, according to their current knowledge of the academic writing conventions of the genre in question. Students submit this first draft via Turnitin on Blackboard, after which the online workshop materials become available. Students cannot access the online workshop materials unless they have submitted a completed first draft of their writing assignment. This first stage of the process thus requires that students engage with the assignment topic and commit to an initial draft, which generally makes them more receptive to the guidance provided in later stages of the process. Subsequently, students are encouraged to reflect critically on their execution of the writing task on various levels, depending on the information and guidance offered during each stage.

Students then move on to complete the online workshop materials - the second stage of the process. The content of the online materials is determined by the writing needs

identified in collaboration with the subject lecturer. As mentioned earlier in this chapter, students generally struggle with higher-order issues pertaining to organisation and structure, and the logical flow of information in texts. For this reason, the majority of the online workshops feature activities that aim to raise students' awareness of conventions on these levels, specific to their field of study. This is done by means of integrating authentic, context-specific readings and sample writing into workshop materials. The materials therefore constitute several activities that engage students in critical analysis of discipline-specific texts. The online materials are usually made available for a full week and students have up to six hours to complete the materials, although most students complete the workshop between one and two hours. This allows students to complete the materials in their own time, at their own pace. Students have to complete all the activities in the online workshop before the link to the final submission page becomes available. Thus, students who did not complete the online workshop component will not be able to submit their assignment to their content lecturer.

Upon the completion of the online workshop materials, students are encouraged to attend individual sessions at the writing centre. Some lecturers make the attendance of these sessions compulsory, while others incentivise attendance. The individual sessions serve to build on and facilitate students' application of aspects addressed in the online workshop materials. Again, the individual sessions typically focus on higher-order issues before moving on to lower-order ones (at sentence level). This often requires that students visit the Write Site several times per writing assignment, which is not always practically feasible due to time and capacity constraints. For these reasons, students are encouraged to book sessions as early as possible to ensure adequate time to work on multiple drafts before the final submission deadline.

The final stage involves students making the necessary amendments to their initial drafts based on what they have learned from the workshop materials and the feedback provided during individual sessions. A final version of the writing task is then submitted via Turnitin on Blackboard. All final submissions are downloaded by the Write Site administrators and made available to the content lecturers for assessment.

Some lecturers prefer to mark the submissions in Blackboard, while others request that the final versions be downloaded and emailed to them. A great benefit of this drafting system is that lecturers can, upon request, compare students' initial drafts to the final drafts submitted for assessment. In addition to students' final submissions, the Write Site also provides lecturers with a detailed report of the individual sessions, as well as an evaluation report of students' perceptions of the online learning experience. The individual session report includes student details, the writing aspects addressed in each session, a short summary of the session provided by the consultant, as well as the students' score for the session. Given some sessions are incentivised, students are often under the impression that they can merely sign an attendance register at the Write Site which will afford them the additional marks for their final assignments. To curb this, each student is scored on their preparation - whether they brought a draft of their assignment to the session; engagement - whether they engaged with the consultant during the session; and general attitude. Lecturers are encouraged to take these scores into consideration before deciding on the additional marks (incentives) to assign to students' final assignment scores.

The information above provides a brief overview of the blended approach to writing instruction at the Write Site. It is not intended to provide a detailed analysis of the design of the writing intervention materials. This forms the focus of a later chapter, which provides a validation argument for the design of instructional artefacts for two separate student cohorts. Before we move on though, it is important to consider the theoretical underpinnings of the artefact designs in this study, that have been referred to in this chapter in passing, in the various observations on evaluating the language solutions proposed in terms of various applied linguistic design principles. The chapter that follows therefore serves to provide a description of the theoretical context in which this study is positioned.

CHAPTER 4: A foundational framework for applied linguistic artefacts

4.1 Introduction

In the previous chapters, there were various references to the principles for the design of the applied linguistic interventions that have been discussed. The conversation on responsible design begins by reflecting on the theoretical foundations for the design of applied linguistic artefacts. According to Weideman (Weideman, 2017b:1), "[we] cannot as applied linguists propose responsibly designed solutions to language problems if we remain ignorant of our theoretical foundations". According to this view, the role of applied linguistics is to design solutions to language problems, often on a large scale. Those language problems are, furthermore, generally accepted to be pervasive, and resistant to simple solutions.

This is, however, not the only possible view of applied linguistics. The information that follows therefore first provides an overview of the historical development of the field. Several perspectives are surveyed on what, in its relatively short disciplinary history (of around 70 years), has been suggested as constituting applied linguistics, before a number of definitions of the field are critically analysed. That analysis is followed by the consideration of an initial principle of applied linguistic designs, the harmony or alignment of language interventions within an institution, in this case: the University of the Free State. In that discussion, a number of institutional policy and strategy documents are summarized, and the ways in which they present an institutional justification for the language intervention design work of the Write Site are discussed. Such institutional justification, however, still needs a sound theoretical defence, so I shall return several times to how this kind of planned (technical) alignment is achieved, and how the requirement to do so is justifiable with regard to the theoretical framework that is the focus of this chapter. Subsequent to that, there follows a justification for employing Weideman's (2017b) framework of general design principles in this study. This framework is then used as a conceptual basis for making claims about what responsible design means in developing applied linguistic

artefacts. In particular, since the specific language assessment (the Assessment of Preparedness to Present Multimodal Information, or APPMI) employed in this study needs to conform to several requirements conventionally associated with language tests, a number of such principles of language test design will receive prominent further attention. That principles such as reliability and validity are applicable also to other interventions (for example the full set of language development work of the Write Site), will become clear as this discussion of certain specific conditions for responsible design progresses. That provides another justification for employing a framework that is comprehensive, and that can form the basis for this study, that stretches across several types of applied linguistic interventions, from institutional policies and arrangements, across the assessment of language ability, to field-specific language development.

4.2 Perspectives on applied linguistics

The field of applied linguistics has undergone several paradigm shifts after its inception in the 1940s. Table 4.1 provides an overview of the six successive traditions or paradigms constituting the historical development of the field. The initial modernist perspectives of the field were characterised by a 'scientific' approach to solving language problems, since science was regarded "not only [as] the surest knowledge that we have, but the only guarantee of an authoritative solution to a problem" (Weideman, 2007c:593). From this perspective, applied linguistics was viewed merely as an extension, or subfield, of linguistics. The first of these modernist traditions (cf. Table 4.1) gave rise to the audiolingual method – a structuralist/behaviourist approach to language teaching – the only benefits of which were "the apparent scientific credibility, convenience and objectivity in providing the necessary tools to the language learner, without …any idea [of] how to use it" (Roets, 1990:32).

Table 4.1: Six successive traditions of applied linguistics (Weideman, 2007c:592)

	Model/Tradition	Characterised by
(1)	Linguistic/behaviourist	'scientific' approach
(2)	Linguistic 'extended paradigm model'	language is a social phenomenon
(3)	Multi-disciplinary model	attention not only to language, but also to learning theory and pedagogy
(4)	Second language acquisition research	experimental research into how languages are learned
(5)	Constructivism	knowledge of a new language is interactively constructed
(6)	Post-modernism	political relations in teaching; multiplicity of perspectives

As applied linguistic work unfolded, this style of doing designs for language assessment and instruction was followed by a second tradition, which served as an extension of the previous linguistic paradigm in terms of its recognition of language as a social phenomenon. In addition to the phonological, morphological and syntactic scope of linguistic analysis, the 'extended' paradigm model was broadened to include forms of language concerning its use in context, such as is studied in text linguistics and discourse analysis. Proponents of this tradition, in particular Hymes, argued that language, and by extension language education, involved more than "linguistic competence", as Chomsky had claimed. Instead, the notion of "communicative competence", was introduced. That meant that instruction designed to lead to language development should include more than the teaching of grammatical structures and the internalisation of rules (Rajagopalan, 2004). In all, this shift in emphasis gave rise to the development of various communicative approaches to language teaching.

Although the importance of these early developments still holds true, since a language cannot be taught without having been preceded by sound language analysis, they remain "a linguistic conception of applied linguistics" (Weideman, 1999:82). These early conceptions of the communicative approach in language teaching, however, did not yet provide theoretical insight into language learning. As a result, the third tradition of applied linguistics looked to other fields of study in pursuit of a workable solution to language development problems. According to Rajagopalan (2004:410), "researchers … turned to disciplines such as sociology, anthropology … [and] cognitive science … in order to formulate their own theoretical frameworks

suited to their applied goals". Similarly, Weideman (2013c:4482) maintains that "psychology and education became useful resources of knowledge about issues such as how languages are learned and which teaching styles work effectively". This realisation initiated a movement towards a more multidisciplinary view of applied linguistics which would later become characteristic of the variation and diversity that postmodernist perspectives would emphasize.

The full realisation of this multi- and interdisciplinary view was, however, preceded by a paradigm concerned with research into second language acquisition. At this point, "the field saw increasingly sophisticated work on how languages are learned … in the classroom" (Weideman, 2013c:4482). Applied linguistics work at this time was strongly influenced by constructivist learning theory, which proposed that knowledge of language is constructed through communication with others. Not only did constructivism play an important role in language teaching at the time, and develop into the fifth paradigm of doing applied linguistics, but it also provided the communicative approach in language teaching with a learning theory that served as the theoretical foundation for some of the language teaching designs that had grown from that approach.

The aforementioned paradigms paved the way for a turning point in applied linguistics and the rise of postmodernism. This paradigm emphasises the plethora of interdisciplinary and even transdisciplinary angles from which language problems can be approached. This tradition furthermore draws particular attention to the socio-political and ethical aspects of the field in an attempt to call applied linguists to greater accountability for the performance of their designs (Weideman, 2013c:4483).

From such a range of traditions or styles of doing applied linguistics, it follows that we would also encounter a concurrent variety of definitions for the field. I turn to that below.

4.3 Styles of design yield different definitions of the field

Rather than defining applied linguistics as wholly dependent on linguistics and psychology (as those working in the first tradition discussed above would do), or defining it as a multidisciplinary endeavour (as the third style of doing work in the field would), or characterizing it with reference only to second language acquisition research, or constructivism, or postmodernism, one is looking for a definition that can at the same time do justice to the history of the field, and encompass the work being done in it in a credible way. One widely used definition of applied linguistics that may begin to do this is that of Brumfit (1995:27), who defines the field as "the theoretical and empirical investigation of real-world problems in which language is a central issue". Brumfit's definition is not only broad enough to include the research done in the various fields related to applied linguistics, but also serves to demarcate it by emphasising the role of language interventions in solving real-world problems (Simpson, 2011:2). Such a problem-orientated characterisation of applied linguistics features in several other contemporary definitions of the field. For instance, Davies and Elder (2004:1) postulate that the field "is often said to be concerned with solving or at least ameliorating social problems involving language". In a similar vein, others refer to applied linguistics as "using what we know about (a) language, (b) how it is learned and (c) how it is used, in order to achieve some purpose or solve some problem in the real world" (Schmitt & Celce-Murcia, 2010:1).

Other definitions, which highlight the social and political dimensions of the field, distinguish accountability as the defining characteristic of applied linguistic designs (Weideman, 2013c). Thus, language solutions such as those proposed for language teaching and testing are seen not merely as applied linguistic designs, but also as socio-political practices that can be exploited if certain standards are not maintained (Wei, 2011). The relevance of this view for the current investigation is obvious.

There are, thus, both modernist and postmodernist approaches to what should be understood as "applied linguistics", and the directions it should take. Weideman (2007c), however, argues for a theoretical framework that combines both modernist

and postmodernist views of applied linguistics in addressing language-related problems. From this perspective, applied linguistic is seen as a discipline of design that takes into account both the constitutive design conditions generally emphasised by modernist views, as well as those regulative design conditions typically associated with postmodernism. Thus, "for both modernist and postmodernist interpretations of the field, [applied linguistics] is an endeavour that allows the professional to conceive, plan, and develop designs that address language-related problems" (Weideman, 2013c:4480).

The emerging framework to be discussed in this chapter is more comprehensive and, in my opinion, has a broader reach than any other of the definitions or traditions referred to above. There are three reasons that, for this study, explain why employing the framework proposed by Weideman (2017b) is appropriate. In the first instance, Weideman's (2017b) observations refer not only to solutions to language problems, but specifically to their design, which, in that view, stamps these solutions as technically qualified interventions. The emphasis on the design of the plans that are made gives a unique angle to the discussion of the kinds of instruction and assessment that are appropriate in the context of this study, since that is precisely the purpose of the study: to investigate a set of optimally designed language interventions. Secondly, that emphasis means that the designed solutions have to be underpinned by theory and analysis: they are not, and cannot be just any plan, conceived of in the heat of the moment, but must be characterized by a deliberate detour that subjects the designs to analytical scrutiny, a point that will be returned to below. Again, that kind of diligence that involves taking a deliberate detour into scientific analysis aligns with the goals and purposes of this study. Using Weideman's terms, we see that the designs we develop therefore find their qualifying and founding functions respectively in the technical and analytical dimensions of experience. Thirdly, while Weideman's definition of applied linguistics shares many features with other views, both modernist and postmodernist (Weideman, 2018), of what makes up the discipline of applied linguistics (discussed at length in Weideman (2007b; 2007c), it is these two characteristics that distinguish this perspective from other current and from earlier views. The arguments that support it have been widely

published and discussed in a succession of analyses (Weideman, 2003b; 2006; 2007b; 2007c; 2013b; 2017b); and with specific reference to language testing in Weideman's analyses of fundamental applied linguistic concepts and ideas (2009; 2019b and 2019c). Its usefulness is attested by the employment that several studies have made of this framework: recent examples are Pretorius (2015) for curriculum and course design, and Keyser (2017), Van Dyk (2010) and Rambiritch (2012) for language testing. This study is an attempt to take those analyses further, and apply them to the specific set of problems that is the focus of this study.

4.4 The alignment of applied linguistic interventions within an institution

The size of the populations affected by designed applied linguistic artefacts deriving from work within the field is in itself an indication that such designs should be done with the utmost care and diligence: they may affect the lives and well-being of many. According to the aforementioned framework, the sets of artefacts of relevance to this study (cf. Table 4.2) are primarily language courses (or instructional interventions) and language assessments, and to a degree, language policies or language management plans, within the context of higher education. To what extent do we hold ourselves accountable for the coherence of the applied linguistic solutions proposed across these artefacts of the discipline and to what extent do we take a responsible approach to the design of language interventions? In order to answer these questions, Weideman's (2017b) framework of general design principles is discussed as one theory that has been presented and offered as a conceptual basis for making claims about what responsible design means in making language policies, language assessments and language curricula. In short, it presents at least one new and recent articulation of what should inform design work in the discipline of applied linguistics. This conceptual framework has, however, not yet been tested on one set of applied linguistic artefacts, language policies and language management plans. Its claims in that regard still remain to be investigated. It is, therefore, necessary to refer to various institutional policy documents that guide the design and implementation of the interventions under investigation in this study, which will be addressed below.

According to Weideman's framework, the intended aim of a language course is to develop students' language abilities; language tests, in turn, assess students' language abilities; and language policies, and the language management plans and strategies that flow from them, dictate how language issues should be negotiated at institutional level (Weideman, 2017b). Ideally, in order to ensure the desired efficacy of these linguistic artefacts, they should be closely aligned. Not only is a technical, i.e. a designed and planned harmony among language policy, language assessment and language instruction desirable, but a further intentional alignment of the instructional opportunity that is being offered with the way that language learning and development actually takes place, constitutes an additional requirement. The alignment among instruction and learning is thus yet another condition for designing a responsible language intervention.

Table 4.2: Levels of applied linguistic artefacts (Weideman, 2017b:214)

Prior, conditioning artefact (normative dimension)	End-user format of design (factual dimension)
Language curriculum	Language course/intervention
Construct and test specifications	Language test
Language policy	Language management plan

An assessment of the principles underpinning the applied linguistic artefacts in question should consider also the additional levels or dimensions in which they function. From a philosophical perspective, Weideman (2017b:213) argues for a recognition of the normative and factual dimensions of applied linguistic designs. He postulates that "there is a prior, conditional dimension to applied linguistic design [a normative dimension], to which the eventual end product or end-user format of the design is subject [its factual dimension]" (2017b:213).

One example of how such coherence across linguistic artefacts articulates in practice is evident in the tertiary institutional policy regulations that require students' academic literacy abilities to be assessed within an institution of higher education. The results of the test (e.g. the NBTs) are then used to channel students into developmental academic literacy courses, such as the faculty-specific courses offered

by the Unit for Language Development (ULD) at the UFS. These institutional policy regulations, however, also have a direct bearing on the work of the Write Site. For this reason, it is important to expand on the institutional objectives, articulated in various UFS policy documents, that guide the approach taken to writing development at the Write Site.

In the next section, we therefore consider these arrangements in light of the principle of aligning or harmonizing applied linguistic designs across an institution, before returning below to a discussion of further design principles that will be of interest in this study, and how they fit into the theoretical framework that will be elaborated in this chapter.

4.4.1 The alignment of language interventions with UFS language policy

Having referred to the requirement of harmonizing designed language interventions in an institution as a whole, this subsection will briefly describe some of the policy stipulations at the UFS that affect such applied linguistic designs.

As mentioned in the initial chapters of this study, the UFS has adopted English as the language for instruction, as have many other public institutions of higher education in South Africa. The current policy promotes English as the primary medium of 1) instruction at all levels of study, 2) UFS administration, as well as 3) formal student life interaction on campus (UFS, 2016:1). The policy therefore stipulates its commitment to ensuring that language neither hinders students' access to and success in their academic studies, nor serves as a tool for social exclusion. In an effort to follow through on these commitments, the policy promotes the provision of English academic literacy support to all undergraduate students. This provision involves facilitating students' "ability to demonstrate membership of an academic (disciplinary) community by reading, writing and thinking in ways that are congruent with the values and attitudes of that community" by inducting "students into discipline-specific language[s]" (UFS, 2016:1). This supports the notions of discourses and discourse communities presented in Chapter 2, as well as the notion that students require to be socialized into the disciplinary communities they engage

with in their studies. The induction of students into specific discourse communities, or fields of study, indeed requires that they acquire "socially determined ways of thinking, feeling, valuing, and using language in different contexts" (Gough, 2000:44). This institutional language policy is therefore further justification for the discipline-specific approach adopted in this study to students' academic writing development. Socialising students into specific discourse communities requires that the genres valued by these disciplines be used to make explicit the conventions of written communication in these communities, for students as well as for lecturers, and across the disciplines served by the ULD and the Write Site.

4.4.2 Alignment of interventions with UFS Student Success Strategy

Another key institutional document is the UFS Student Success Strategy (UFS-S³), which in turn aligns with the objectives of the UFS Integrated Transformation Plan (ITP) and the UFS Strategic Plan (UFS, 2018b). These documents define student success as "increasing the numbers of students or graduates from diverse backgrounds (while decreasing achievement gaps) participating in high quality learning that results in attributes that are personally, professionally and socially valuable" (UFS, 2017:2). The Student Success document states the institution's objective to develop the graduate attributes necessary to improve students' chances of future employment and contribution to the development of South Africa. The ITP stipulates that this will be achieved by means of ten work streams grouped according to three broad areas; namely the core university functions, university culture, as well as structural and operational issues (cf. Table 4.3).

The two streams of reference to this study are those of *teaching and learning*, and *research, internationalisation, and innovation*. The first stream concerns evidence-based teaching and learning practices that enable students to pursue international standards of excellence. These practices include "foregrounding the role of language, academic literacy, and developing innovative online support platforms [that] … improve the quality of student learning and decrease the achievement gap (particularly between black and white students)" (UFS, 2018a). In keeping with this

first objective, the work of the Write Site involves engaging in conversations with academic lecturers specifically around the role of language in learning, and the importance of developing students' academic writing skills in promoting student success. The significant increase in the demand across all faculties for writing support at undergraduate and postgraduate levels of study suggests that academic staff have begun to realise the need to address students' writing skills from early on if they are to become proficient in the discourses associated with their fields of study.

Table 4.3: The ten work streams of the ITP

Core functions	1	Teaching and learning
	2	Research, Internationalisation, and Innovation
	3	Engaged Scholarship
University culture	4	Student Experience
	5	Staff Experience and Composition
	6	Names, Symbols, and Spaces
	7	Universal Access
Structural issues	8	Financial Framework
	9	Governance, Systems, Policy, and Administration
	10	Multi-campus Model

The second stream of relevance here is *research, internationalisation and innovation*. One of the key objectives of this stream is to increase the number and quality of postgraduate enrolments by developing the research skills of undergraduate students. The aim is to create "research-ready undergraduate students" and "develop postgraduate students who can do research and contribute to society" (UFS, 2018a). In order to be considered 'research-ready', students need to be able to produce appropriate and effective research-based academic texts, such as research proposals, reports, mini-dissertations/long essays and academic articles. This is particularly the case at postgraduate level, where they are required to produce lengthy dissertations and research articles. This is directly aligned with the current research concerning the writing intervention for the URP students. It focuses specifically on the literature review as a component of most academic writing that researchers have to undertake, thereby addressing students' research-based writing needs as they transition from undergraduate to postgraduate studies. The Write Site furthermore

develops tailor-made writing interventions for students at undergraduate and postgraduate levels from various subject areas. These focus on article, research report, literature review, and proposal writing. These initiatives serve to confirm the alignment between the work of the Write Site and the institutional research objectives as formulated in the various institutional policy documents referred to above.

With regard to the graduate attributes alluded to in the Student Success Strategy, the UFS states its commitment to producing "graduates that are employable and work ready" (Strydom & Oosthuizen, 2017:2). Various graduate attributes have been identified for development that will position the institution and its graduates uniquely in both local and international contexts. Figure 4.1 illustrates how these graduate attributes should be "mutually reinforcing and integrated with the development of academic competence in specific disciplines" (Strydom & Oosthuizen, 2017:4).

Figure 4.1: Integrated approach to graduate attribute development (2017:4)

The attributes illustrated above are central to developing students' academic competence, which refers to "the knowledge, skills and attitudes that students develop through their interaction with discipline specific content" (Strydom & Oosthuizen, 2017:4). The attributes that are considered to be directly aligned with the aforementioned core research skills required at undergraduate level include *critical thinking, problem solving, oral communication,* and *written communication.* Once again, the alignment between the work of the Write Site and *written*

communication, which involves learning to work in many genres and styles, and express ideas in writing, is clear. Written communication and oral communication are related in terms of the analytically stamped actions of gathering, processing and producing information (cf. Chapter 2, section 2.3). Just as oral communication requires that students be able to "prepare purposeful presentations designed to increase knowledge, to foster understanding, or promote change in the listeners' attitudes, values, beliefs, or behaviours" (Strydom & Oosthuizen, 2017:4), writing also involves the presentation of logical, convincing arguments that influence or confirm the convictions of readers. The requirement of formal academic writing to think analytically or argumentatively is what links it to critical thinking - "a habit of mind characterised by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusions" (Strydom & Oosthuizen, 2017:4). Similarly, Kurfiss (1988:2) defines critical thinking as "an investigation whose purpose is to explore a situation, phenomenon, question, or problem to arrive at a hypothesis or conclusion about it that integrates all available information and that can therefore be convincingly justified". Thus, in the case of academic writing, students are presented with a problem or question. This, in turn, requires that they formulate a thesis statement – a summary of their argument - that is supported by "a hierarchical structure of reasons and evidence" (Bean, 2011:22).

It is therefore clear from the information above that the Write Site is very intentional in attempting to align the writing support on offer with the various objectives stipulated in institutional language-related policies and plans. The applied linguistic design principle that is at play here, and that will again be referred to below, is that there should be coherence across language assessments and language courses or interventions, in the sense that they must all work in technical (planned) harmony. This alignment is evident in the objective of this study to use the results of an assessment of students' preparedness to produce multimodal information (APPMI) to inform the design of a writing intervention for URP honours students. Although these artefacts will be discussed at length in later chapters, it is important first to discuss prominent general design principles that underpin the design of the artefacts in question. The previous chapter addressed various specific teaching and learning

principles pertaining to writing instruction, so it is now important to consider further general design principles that served as a theoretical basis for the design of the APPMI and the other language interventions in this study that relate to and cohere with it.

4.5 A framework of design principles

This section seeks to provide an outline of the theoretical framework that informs this study. Its first point of departure is to understand applied linguistics as a discipline of design, since it is a field that is concerned with the shaping, planning, forming, arranging or influencing (Schuurman, 1972) of language interventions at each of the three levels (policies and plans; assessments; and courses/instructional interventions that are aimed at developing language ability) referred to before. The nuclear meaning of 'design' relates in this instance to what will be termed in this study the leading or qualifying function of the intervention, the technical. Planning, shaping, forming and similar acts are all technical activities that are constituted by two terminal functions – a technical qualifying function, and an analytical founding function (Weideman, 2017b:220). For the design of an applied linguistic artefact to be defensible, reference must be made to a theory, or a theoretical basis for it that can be found in the discipline. This theoretical foundation, or 'construct', constitutes the analytical basis function of applied linguistic designs. The actual artefact itself, whether it be a language test or language course, is led by the technical function of design, as illustrated by the figure below (Weideman, 2006:72).
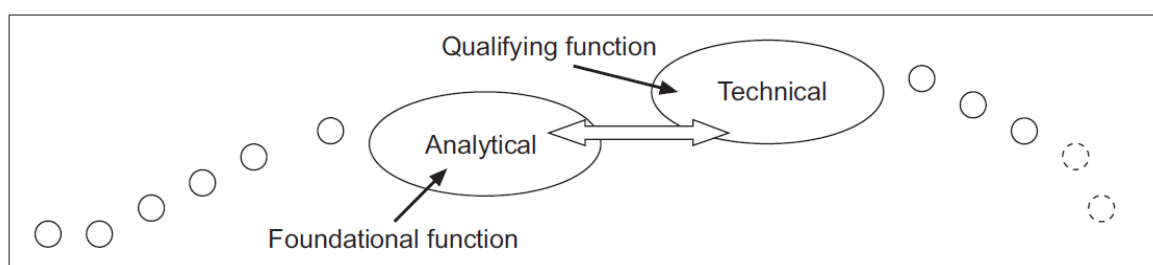
Figure 4.2: Leading and founding functions of applied linguistic designs

These terminal functions are not concrete, as in the case of the three typical artefacts referred to previously, but refer to abstract modes of experience. The link between the technical and analytical dimensions, respectively the characterising or qualifying and the founding or basis function of these interventions, is evident in "the notion of [the applied linguist seeking to provide] a technical rationale for the design of an artefact" (Weideman, 2017b:221).

The leading technical function is connected not only to the analytical, but to all other modes or dimensions of experience. These modes are represented in Figure 4.2 as dots that still need to be identified. As discussed previously, there are general design principles that apply to all applied linguistic artefacts – examples of those are the notions of technical validation, of technical differentiation, and of the desirable technical alignment of language interventions within an institution, as was discussed in the previous section, as well as the principles of transparency and accountability. In the theory to be articulated here, these concepts are evidently linked by the technical mode of experience; in each case the concept refers to an analogical moment of the technical within another sphere. In these analogical moments, applied linguistic concepts are borne. Each analogy is a reflection of another dimension or aspect of experience within the technical. Hence such analogies are also termed 'reflections'. For example, the reference to technical validity originates in the physical analogy or reflection within the technical sphere. It is within the physical dimension where we first encounter the notions of force, of operation, of cause and effect, and of adequacy. Those lead, analogically, to the formation of the concept of technical adequacy or validity, expressing the reflection of the physical within the technical dimension. Similarly, the technical aspect of experience connects with the juridical in concerns with public accountability or defensibility, while the links of the technical to the organic mode of existence place our focus on the issue of differentiation or organisation (Weideman, 2017b:221).

The utility of this theoretical framework lies in what we can do with the analogical technically qualified concepts and ideas that stem from it. Such an understanding of the analogical links between the technical dimension and other modes of experience

might prove beneficial for the formulation of general design conditions for applied linguistic designs, since each analogical link is the source of a fundamental applied linguistic concept or idea, and provides us with a normative moment, a design principle that must then be further specified. In two previous chapters, we have already considered some of the very specific conditions that determine how we design writing instruction, and in the following chapter, yet another highly specific condition, namely probing the needs of students thoroughly, will receive further consideration. The requirements for responsible design that are being considered here, however, relate to more general conditions that comprehensively account for the considerations that go into all the various levels of intervention design identified in Table 4.2 above, and discussed there. In that sense the specific requirements already referred to, and those that will be referred to below and in the next chapter, fit into and are defensible in terms of this general framework.

To illustrate the link between the technical aspect and other dimensions of reality, consider a language test as a practical example (Weideman, 2006). To begin with, the design of a test is accompanied by a plan or blueprint. The fact that a test has a blueprint, a set of detailed specifications that articulate what it should aim to do in each subtest and even at item level, in itself illustrates the link between the technical dimension and the *lingual* (expressive or symbolic) mode of existence. The blueprint is the technical expression or articulation of the plan or design.

The fact that the test is implemented in a particular social context, involving interaction among test designers, test-takers, test administrators, academic lecturers and others, illustrates the further, analogical connection with the *social* dimension of reality. Our technically stamped language plans, as designed interventions, are intended to be implemented, in this case, in interaction among a number of actors, in a variety of socially differentiated roles (e.g. of test designer, test administrator, test taker, test user, and so on). That means that the design must have a certain technical appropriateness, or fit, specifically with those it is intended to affect and benefit.

Moreover, before a test is administered, factors that influence its utility need to be considered carefully, as we observed in the previous chapter. These factors include,

for example, the time it will take test takers to complete the test, as well as the logistics involved in administering the test, which anticipate the *economic* analogies within the technical sphere. They force us to take account of the (always limited or scarce) technical *means* or resources that are required to achieve the desired technical *ends*. In this instance the challenge for the designer of the intervention is to weigh and consider what the right balance will be between means (the technical resources available to administer the test) and the technical ends (the use to which the test results will be put). Such a weighing up of what is desirable and what is possible is, in this instance, not used in its original economic meaning, but in an analogical technical sense: it is the planned or designed utility or usefulness of the applied linguistic design that is the concern.

The attempt of the test developer to harmonise these logistical and administrative factors in order to ensure that the test is fair and defensible evidences the *aesthetic* and *juridical* dimensions within the technical sphere. In the previous section, we considered the harmony or alignment of various language interventions within the institutional environment of the University of the Free State. That, too, provides an illustration of another aesthetic analogy: the technical harmony that originates conceptually in the analogical link between the technical sphere and the aesthetic. The *juridical* analogies are further evidenced by the way that the test might place certain groups or individuals at an unfair disadvantage (e.g. by discriminating against a certain gender, or against a certain cultural or language group). There is a duty on its designers to be publicly accountable for its operation. In considering the various factors at play in the implementation of a test, the test developer therefore ensures that the test is also *ethically* defensible, illustrating the link between the technical and ethical modes of experience. A designed measuring instrument such as a language test must aim to treat those whose ability is being measured fairly, with compassion and with care. Weideman (2006:83-84) summarises these retrocipatory analogies (those referring to modes earlier than the technical) and anticipatory moments (forward-looking references) within the qualifying structure of the leading technical aspect in the table below as follows:

Table 4.4: Constitutive and regulative moments in applied linguistic designs

Applied linguistic design	Aspect/function/ dimension/ mode of experience	Kind of function	Retrocipatory/anticipatory moment
is founded upon	numerical	Constitutive	systematicity
	spatial		limits, range
	kinematic		internal consistency (technical reliability)
	physical		effect/power (validity)
	biotic		differentiation
	sensitive		intuitive appeal (face validity)
	analytical	Foundational	design rationale
is qualified by	technical	Qualifying/leading function (of language intervention design)	
is disclosed by	lingual	Regulative	articulation of design in a blueprint/plan
	social		implementation/administration
	economic		technical utility, frugality
	aesthetic		harmonisation of conflicts, resolving misalignment
	juridical		transparency, defensibility, fairness
	ethical		accountability, care, serve
	belief		reputability and trust

In this scheme, technical concept-formation "is founded upon" those analogies that are constitutive, or 'earlier'. The regulative technical ideas, on the other hand, 'disclose' or open up the meaning of the technical sphere. That disclosure or deepening of meaning is anticipated, as it were, in the analogical links between them and the technical dimension. As has been observed above, each of the constitutive analogical technical concepts (the retrocipatory moments or retrocipations) and regulative ideas (the anticipatory links) gives rise to a normative condition constituting a requirement for responsible design. On the basis of this, Weideman (2013b; 2017b:224-225) proposes the following conditions for the responsible design of applied linguistic interventions:

- Integrate numerous sets of evidence for the justification of the validity of the artefact;

- Specify the scope of the applied linguistic artefact to relevant stakeholders and do so with humility;
- Ensure for consistency in terms of measurement and instructional opportunity;
- Ensure that the design of the artefact is adequately defensible;
- Ensure suitable and satisfactory differentiation in the design;
- Ensure that the artefact is appealing and acceptable;
- Provide a theoretical justification that is current for what is being taught and/or tested;
- Ensure that a test yields meaningful results, and that all aspects of a course are understandable and clear;
- Make the artefact, and all information pertaining to it, available to all relevant stakeholders;
- Ensure efficiency and usefulness of the artefact;
- Ensure the test assesses what is being taught, and align the test and instruction with learning as closely as possible;
- Prepare to report on the purpose and intended goal of the artefact to stakeholders and the public;
- Value the integrity of the artefact; make no compromises of quality that will undermine their status as instruments that are fair to everyone, and that have been designed with care and love; and
- Ensure that the artefact is as trustworthy and reputable as possible.

Although one looks to the foundational analytical function of a linguistic artefact for a rational justification for a design, it is the technical creativity of the designer that initiates and guides innovative solutions to language problems (Weideman, 2006, 2017b). In this view, the technical imagination of the designer of the intervention trumps its theoretical justification; the search for a theoretical defence of the intervention might, however, subsequently effect changes to the design, and positively influence the design by requiring changes to be made to it.

In the discussion and analysis above, a theoretical framework for evaluating responsibly designed language solutions was described, and a number of principles derived from fundamental applied linguistic design concepts and ideas were articulated, for application to such designs. In the next section, I turn to a consideration of several prominent principles of applied linguistic design. Though they have been particularly important in language test design, their general nature as defined in terms of the framework above implies that they may be applicable to other kinds of applied linguistic design, such as language courses and language plans, as well. In addition, given their historical prominence in the assessment of language ability, their discussion also relates to the theory that underlies the language test that will be reported on in Chapter 6 below, and serves as a further justification for that test and its design.

4.6 Principles of design for the assessment of language ability

The general design principles relevant to the assessment of language ability to be discussed here include the notions of validity, test usefulness, and fairness. Although 'assessment' has different meanings in specific subject areas, the field of language testing defines it as "the process of collecting information about a given object of interest according to procedures that are systematic and substantively grounded" (Bachman, 2004:7). The given object in this case refers to an aspect of language ability, otherwise known as a test construct. Procedures are considered 'systematic' when they are explicit and transparent and can be replicated, and "substantively grounded" when they are theoretically justifiable. In terms of the framework described in the previous section, the theoretical justification of the test design derives from the technical-analytical grounding of that design. According to Bachman, measurement involves the quantification of the characteristics of specific aspects of language ability according to overt rules and procedures. These concepts of assessment and measurement are commonly considered to be part of the validation process.

The technical validity of a test, defined above as an analogical physical concept within the technical sphere of test design, is considered a key criterion that has to be met in language testing. Despite it being "the central concept in [language] testing and assessment" (Fulcher & Davidson, 2007:3), there have been many interpretations of the concept of validity in the field of applied linguistics. Chapelle (2012) distinguishes three important conceptions thereof which fall within two paradigms – the traditional and the contemporary. From a traditional perspective, a test is considered valid when it measures what it was designed to measure (Fulcher & Davidson, 2007; McNamara, 2011; Van der Walt & Steyn, 2007). Fulcher and Davidson (2007:4) maintain that validity initially was thought to be constituted by three distinct 'types', namely criterion-related, content and construct validity. Each of these types of validity were related to different kinds of evidence that would render a test valid. For example, in terms of criterion-related validity, if a test produced results that correlated well with another test or criterion, it would be considered valid. Van der Walt and Steyn (2007:139) furthermore maintain that reliability is also a key condition for validity, although for others it may be viewed as a separate criterion. In terms of the framework described above, the technical reliability of a test is indeed a separate issue. It relates to a kinematic analogy within the technical, and yields the design principle of technical (designed) consistency. These earlier notions of validity, however, were later perceived to be limited, since "[t]reating validity as different types invited researchers to select only one type as sufficient to support a particular test use [while] … test-taking processes and strategies, and test consequences were not examined" (Van Dyk, 2013:178).

Current conceptions, however, do not share this segregated view of validity. Instead, construct validity – the theoretical justification or definition of the ability that is being measured - is seen as the central component, while criterion-related and content validity are viewed as aspects thereof (cf. in this regard also Sebolai, 2016). From this view, validity concerns the inferences made about language ability based on test-takers' test scores (McNamara & Roever, 2006:10). That, in the terms used by the theoretical framework developed above, is a reference within the technical to the lingual, yielding the requirement that the test results must be meaningful and

interpretable to users. Contemporary perspectives also take into account the importance of the social dimension in language testing (Cronbach & Meel, 1955; Messick, 1988) and its influence in terms of the "beliefs and values in validity arguments which must link concepts, evidence, social and personal consequences and values" (McNamara & Roever, 2006:11). In addition to the emphasis placed on evidence that supports the interpretation of test scores measuring the proposed construct(s), Messick (1989) stressed the value of judgments that form part of these interpretations, thereby advocating the consequential validity of a test – the social impact of a test on the individual and the community (cf. Table 4.4). Very influential in interpreting Messick's statements on validity has been the matrix setting out his "facets of validity", as in Table 4.4:

Table 4.5: Messick's facets of validity (McNamara & Roever, 2006:13)

	TEST INTERPRETATION	TEST USE
EVIDENTIAL BASIS	Construct validity	Construct validity + Relevance/utility
CONSEQUENTIAL BASIS	Value implications	Social consequences

Several theorists, however, question the operationalisation of Messick's framework, as they claim that "from a pragmatic perspective of getting the validation job done, [his] framework made validation seem unapproachably complex" (Chapelle, 2012:24). Thus, theorists have proposed various interpretations of Messick's approach that attempt to clarify "concepts that can be operationalised and procedures that can actually be accomplished" (Chapelle, 2012:24). One such interpretation is that of McNamara and Roever illustrated in Table 4.5 below, which emphasises the social dimension of language testing, that has been referred to above as the technical appropriateness of the assessment.

Table 4.6: McNamara and Roever's (2006) interpretation of Messick's facets of validity

	WHAT TEST SCORES ARE ASSUMED TO MEAN	WHEN TESTS ARE ACTUALLY USED
USING EVIDENCE IN SUPPORT OF CLAIMS: TEST FAIRNESS	What reasoning and empirical evidence support the claims we wish to make about candidates based on their test performance?	Are these interpretations meaningful, useful and fair in particular contexts?
THE OVERT SOCIAL CONTEXT OF TESTING	What social and cultural values and assumptions underlie test constructs and hence the sense we make of scores?	What happens in our education systems and the larger social context when we use tests?

Another interpretation of test validity can be found in Bachman and Palmer's (1996) notion of test *usefulness*. Their view attempted to align theory and practice by incorporating aspects of validity into a model of test usability, which emphasised two principles essential for language test development. The first concerns the correlation between test performance and actual language use in a non-test situation, and the second stipulates the measurement of test usefulness in terms of various quality control variables. Table 4.6 illustrates these criteria of language tests.

Table 4.7: Bachman and Palmer (1996) exposition of test variables

Usefulness =	Reliability + Construct validity + Authenticity + Interactiveness + Impact + Practicality

In terms of their first principle, the specific features of test performance and non-test language use need to be defined according to a particular conceptual framework, which allows for the identification of suitable texts and task types. Test-taker characteristics that could affect their test interaction also need to be taken into consideration, such as topical knowledge, language ability and "affective schemata", otherwise referred to as *interactiveness* (Bachman & Palmer, 1996:26, 39). Test usefulness, on the other hand, is measured in terms of the combined effect that individual qualities have on a test's usability. Bachman and Palmer (1996) argue that, of these six individual test qualities indicated in Table 4.6, reliability and validity are deemed most essential in making inferences based on test scores.

As we have noted above (and in the previous section), reliability refers to the technical consistency of measurement in terms of test scores across sets of tests and tasks. A test is therefore considered reliable if it provides the same or similar results regarding test-takers' language abilities if the test is administered on two separate occasions in different settings. However, to compensate for possible inconsistencies in test-takers' performance, it is important to determine a minimum acceptable level of reliability. For this, a statistical measure, usually an index of reliability such as the Cronbach alpha of a test, is employed. Although a Cronbach alpha of 0.7 is generally viewed as acceptable for basic testing and research purposes (Hogan, 2007), it should be noted that it is more difficult to obtain an acceptable reliability measurement when the test is based on a complex construct that tests for a range of language abilities. Reliability is therefore an important support of construct validity, which concerns the extent to which a test score serves as "an indicator of the ability or construct" being measured (Bachman & Palmer, 1996:21). An important consideration in terms of construct validity is the extent to which a test-takers' performance on a particular task correlates with their ability to use the target language to perform authentic tasks outside of the testing context. This is what Bachman and Palmer refer to as *authenticity*, which serves as an important variable in determining test usefulness (1996:39). These authors furthermore maintain that validation is a continuous process and that no single interpretation of test scores is absolutely valid, and for all occasions. For this reason it is important, for example, to gather both qualitative and quantitative evidence to support the interpretation of high-stakes test scores.

According to Bachman and Palmer's interpretation, impact and practicality are also key variables in determining test usefulness. They maintain that it is important to provide test-takers with sufficient information about the test procedure to ensure for a positive impact in a testing situation. This, in turn, enhances the authenticity, interactiveness, positive perceptions, as well as test-takers' motivation to perform in a testing situation.

In response to the aforementioned interpretations, Weideman (2012) questions why the many conditions for responsible design are almost without fail all subsumed

under validity. He postulates that "no greater conceptual clarity [is achieved] when we conflate the various design conditions that apply to tests. Far from helping us interpret validity in order to clarify it, such interpretations may instead confuse" (Weideman, 2012:8). Similarly, other theorists argue that, although the notion of test usefulness introduced by Bachman and Palmer (1996) provides an alternative view of validity, "downgrading construct validity to a component of 'usefulness' has not challenged mainstream thinking since Messick" (Fulcher & Davidson, 2007:15). Weideman (2012) furthermore states that when validity is concerned primarily with test result interpretation, as in the current orthodoxy, it may leave the quality of the testing instrument unexamined. This is problematic, since "no amount of interpretation can improve the measurement results (score) obtained from an inadequate instrument that gives a faulty and untrustworthy reading" (Weideman, 2012:4). Although test results are meaningless without human interpretation, subjective interpretations nevertheless need to be based on objective measurements. For this reason, the subjective process of validation (i.e. the validation argument that is generally required to argue for the validity of the language test) should be distinguished from the objective validity of a test. Weideman (2009:240; 2012:5) therefore proposes an alternative interpretation of Messick's framework that highlights two key terms frequently used by Messick: adequacy and appropriateness. These are key concepts in Messick's original claims about validity (cf. Table 4.7).

Table 4.8: The relationship of a selection of fundamental considerations in language testing

	adequacy of	appropriateness of
inferences made from test scores	depends on multiple sources of empirical evidence	relates to impact considerations / consequences of tests
the design decisions derived from the interpretation of empirical evidence	is reflected in the usefulness / utility or (domain) relevance of the test	will enhance and anticipate the social justification and political defensibility of using the test

The matrix above stipulates several sets of claims regarding language testing that may be read as follows (Weideman, 2009:240):

1) The technical adequacy of inferences made from test scores depends on multiple sources of empirical evidence.

2) The appropriateness of inferences made from test scores relates to the detrimental or beneficial impact or consequences that the use of a test will have.

3) The adequacy of the design decisions derived from the interpretation of empirical evidence about the test is reflected in the usefulness, utility, or relevance to actual language use in the domain being tested.

4) The appropriateness of the design decisions derived from the interpretation of empirical evidence about the test will either undermine or enhance the social justification for using the test, and its public or political defensibility.

Weideman (2012:7-8) argues that although the above-mentioned statements "articulate the coherence or systematic fit of a number of concepts relating to language testing … they also articulate some social dimensions of language testing … particularly the social appropriateness, impact, benefits of and public accountability for tests". It is to Messick's credit that the technical fairness of tests continue to be scrutinised: his notion of "consequential validity' or the technical impact of a test on social life bring us face to face with the ethical reflections within test design. However, instead of a unified vision of validity, Weideman proposes the notion of responsible design expressed in a framework of constitutive and regulative design conditions "that will contribute objectively to validity, but in balance with each other and as part of the subjective process of validation" (Van Dyk, 2010:201). It is this framework of responsible design that forms the theoretical basis for the design of artefacts in this study, the principles of which were discussed in the preceding section.

4.7 Conclusion

The way that the theoretical framework outlined above relates to this study is that it will serve as a general set of principles for evaluating intervention designs specifically at the Write Site. The focus of this study is on the interventions developed by the Write Site to address the academic writing abilities of students at different levels of study at the UFS. As we have noted, the design of these interventions is determined by the discourse-specific writing needs of student cohorts

in the disciplines. This domain-specificity, suggested also by Bachman and Palmer's idea of 'authenticity' mentioned above, is justifiable, in terms of the theoretical framework being adopted for this study, by the principle of technical appropriateness, an analogical social moment within the designed language interventions to be provided by the Write Site. Each such specific set of further requirements for the design of our interventions is therefore theoretically and practically defensible against the overall theoretical framework that has been outlined in this chapter. Thus, before we move on to discuss the design the APPMI and the writing interventions for two particular student cohorts, it is important to discuss the needs analysis findings that informed the design of these various artefacts.

Chapter 5: Needs analysis findings and discussion

5.1 Introduction

As previously mentioned, academic staff have expressed concerns about their students' writing abilities. In an effort to understand and address these concerns better, this chapter aims to provide insight into the context in which academic writing occurs. It seeks to discover, in terms of the principles of language intervention design discussed in the previous chapter, what the appropriate 'fit' would be of such an intervention not only with the institution, but specifically with the students and their developmental needs as regards the ability to use academic language. That kind of technical appropriateness finds its grounding in an analogical social moment within the designed intervention: the solution planned must be appropriate. The information presented here thus focuses predominantly on academic staff and students' perceptions of academic literacy skill requirements as students transition from undergraduate to postgraduate studies. More specifically, it elaborates on the expectations and perceptions around academic writing skills, and how these influence students' academic success at this level. An additional issue that merits investigation, as mentioned in the rationale of this study, is the extent to which students' undergraduate degrees prepare them for studies at postgraduate level. Thus, although the main focus of this study is on the work done to address students' writing skills as they transition from undergraduate to postgraduate studies (honours level), this chapter also briefly discusses perceptions regarding expectations of academic literacy needs at undergraduate level.

The incremental increase in requests from staff across all faculties for academic writing support at all levels of study (first year through to honours) needs to be probed further. Thus, to gain a more general impression of staff perceptions of academic writing requirements at postgraduate level, a survey of **staff perceptions of student academic writing requirements** was conducted with several academic staff from varying disciplines, who make use of the Write Site services. The **student academic writing profile** survey was conducted with Urban and Regional Planning

honours students (the primary target group of the study) to determine their perceptions and expectations of academic writing requirements at this level.

The information gathered from these surveys, together with the information obtained regarding academic literacy needs at undergraduate level, informed the design of the two discipline-specific writing interventions in this study.

5.2 Academic writing expectations at postgraduate level

The sections that follow present the findings of the two above-mentioned surveys conducted at the UFS to determine academic staff and students' perceptions and expectations of the academic literacy skills, as well as academic writing requirements, for students transitioning from undergraduate to postgraduate studies.

5.2.1 The survey instrument on staff perceptions

The staff survey was developed with the intention of determining general academic literacy and writing issues, as well as to what extent lecturers perceive language abilities to be specific to particular disciplines. The *staff perceptions of student academic writing requirements* (cf. Appendix A) consisted of five sections that attempted to gather information pertaining to staff members' perceptions of students' academic writing requirements.

The first two sections consisted of six demographic questions, three close-ended and three open-ended concerning the employment status of staff members, their level of experience, and their formal language background. Section 3 constituted eleven questions aimed at gathering information concerning staff members' knowledge of their students' language backgrounds, preferences and academic literacy levels, as well as their perception of the importance of writing for students' academic success. Of the questions in this section, three were multiple-choice; four were a combination of 5-point and 4-point Likert scale questions; and three were open-ended questions. Section four gathered information on staff members' knowledge of their students' specific academic literacy and writing needs by means of eighteen 4-point and ten 5-

point Likert scale questions, one multiple-choice, and two open-ended questions. The last section comprised five multiple-choice, two dichotomous, and three open-ended questions designed to gather information pertaining to feedback and assessment practices concerning student writing.

The staff survey was developed in EvaSys (automated software for organisational surveys), and the link to the online questionnaire was sent to academic staff members from 18 different departments in six faculties, who make use of the Write Site services. Lecturers were given sufficient time to complete the survey, and did so consensually. The survey was administered across departments for the purpose of designing further discipline-specific interventions, since those designs are part of the larger brief of the Write Site. However, they fall beyond the scope of this study, that focuses on two such interventions. Also, there was only one full-time lecturer involved in the Urban and Regional Planning (URP) writing intervention; thus one person's responses to the questionnaire would not have been representative of staff members' perceptions of students' academic writing needs. In total, 14 permanently-employed lecturers from varying disciplines completed the online survey, a copy of which is attached as Addendum A.

Staff members' responses to the first section of the questionnaire indicate a fair amount of experience working with senior students in higher education context. The majority of staff (85.7%) reported that they had been involved in lecturing in a higher education context for a minimum of six years, 57% of whom had, on average, 12 years' lecturing experience. In terms of postgraduate supervision, staff reported having supervised an average of 22 honours, 11 Master's and 2 PhD studies. Only two lecturers had experience teaching at international universities, while the others had local, predominantly UFS (92%), teaching experience. A large percentage (78.6%) also indicated that they had not completed any language course as part of their own studies.

5.2.2 The survey instrument on student perceptions and needs

The *student academic writing profile* (cf. Appendix B) survey was developed to determine the URP students' language backgrounds, their perceptions of their own general academic literacy skills, as well as their academic writing needs. The survey consisted of three sections. The first of these contained six open-ended and seven close-ended demographic questions on students' general and formal language background. Section two gathered information pertaining to students' perceptions of their own academic literacy abilities and the importance of various aspects of writing. This section comprised nineteen 5-point Likert scale questions, three multiple-choice questions, and one dichotomous question. The third section of the questionnaire focused on students' perceptions of their own academic writing needs, their own writing processes, as well as their perceptions of the relevance of academic lecturers' feedback on written assignments. These responses were elicited by means of five multiple-choice, four 5-point Likert scale, nine rating, three dichotomous, and three open-ended questions.

The student survey was also developed in EvaSys, and students completed a hardcopy version of the questionnaire in class after which their responses were captured online. Of the 36 students enrolled for the URP honours course, only 15 were full-time students. The remaining students were distance learners who only came to campus during the block weeks scheduled by the department, and did not necessarily have reliable or regular internet access when not on campus. For these reasons, the survey was administered during students' first scheduled block week in order to inform them of the study and the purpose of the survey, as well as to maximise the number of student responses to the questionnaire. Student responses were essential to obtaining a better understanding of their academic writing requirements as a group, which would later be used to inform the development of the URP writing intervention materials. Thus, all 36 students who completed the survey were allocated sufficient time at the end of their scheduled class time to complete the survey (see Addendum B), and did so consensually.

The student survey did not gather additional demographic information for the URP student cohort; this was covered by the first section of the APPMI test, which will be discussed in the following chapter. The first five questions of the test gathered information pertaining to students' sex, ethnicity, home language, and faculty. Of the 36 students enrolled for the honours course, only 32 students completed the APPMI pre-test, which was administered on a separate day during students' first departmental block week. These results showed that 55% of students were male, and 45% female. In terms of ethnicity, the majority (78%) of students were African, while 9% were Asian, and 12.5% White. In terms of home language, the results were diverse, indicating that 72% of students were either isiZulu, Sesotho, Sepedi, Tshivenda or siSwati (cf. Figure 5.1). It should be noted, though, that two students selected two home languages, which influenced the percentages for isiZulu and siSwati. A possible reason for this diversity could be that many students were distance learners who might have originated from all over South Africa, and not just the Free State.
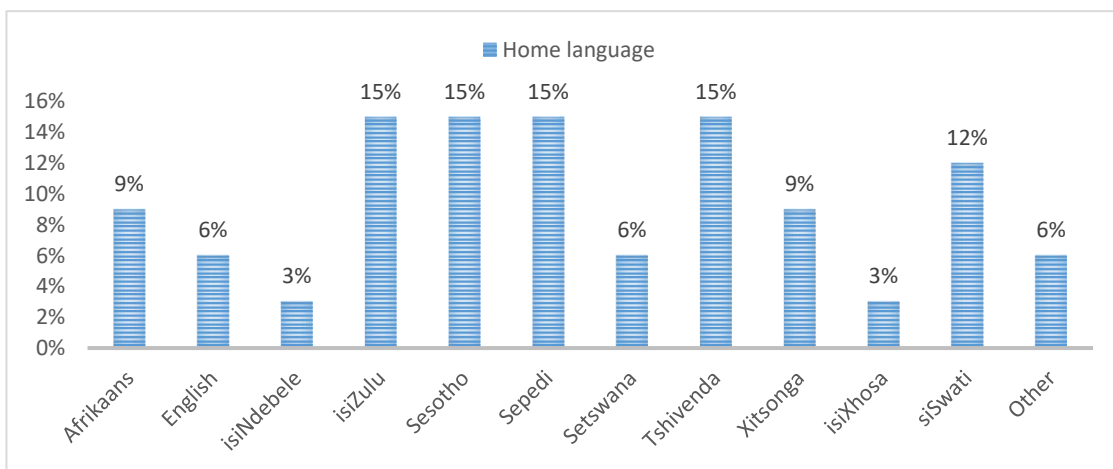
Figure 5.1: Home language of students

A possible reason for the diversity that we see in the student cohort could be the fact that many students were distance learners who might have originated from all over South Africa, and not just the Free State.

5.3 Analysis and discussion of survey results

The sections that follow present the findings of both the staff and the student surveys mentioned above. The intention is to highlight the potential similarities and/or disparities in staff and student perceptions of academic literacy abilities, specifically academic writing requirements of students at honours level.

5.3.1 Language background and institutional processes

The first survey issue concerned the language background of the postgraduate students at the UFS. The majority of staff (85.7%) indicated that their postgraduate students are predominantly second-language speakers of English and that a large percentage of staff (71.4%) feel that their students' academic literacy levels are below standard. This corresponds with the findings of the first section of the APPMI test, which showed that only 6% of students were mother tongue speakers of English. The student survey data further revealed that 63.9% of students indicated that they received additional language support during their undergraduate studies, either in the form of a formal literacy course or additional academic writing assistance. These findings confirm what was mentioned earlier in terms of the profile of students in the South African HE context. Research shows that the majority of students are not mother-tongue speakers of English and, as a result of poor performance on tests of academic literacy (such as the NBT), are required to enrol for compulsory academic literacy courses in order to obtain their undergraduate degrees. However, these courses are typically only taken in the first year of study, and unless students are required to, or voluntarily, make use of the additional support services, such as the Write Site, on a regular basis throughout their studies, they are not provided with sufficient opportunity to develop the necessary academic literacy skills needed at postgraduate level.

This concern was also raised by staff in their open-ended responses to the survey. Some lecturers indicated they did not feel that undergraduate studies adequately prepare students for the academic demands of tertiary studies. It was reported that although students obtained the necessary scores for admission to postgraduate

studies, staff found that "the majority of the students [they] teach have major language issues". Staff felt that undergraduate "performance is not always an indication of academic literacy skills" and that "[t]he undergraduate curriculum does not allow for much scope to practice and test academic literacy skills". Staff responses indicated that only 14.3% strongly agreed that students who fared well in their undergraduate studies possess the necessary academic literacy skills to cope with postgraduate studies in English.

However, students still gain admission to postgraduate studies, despite their not possessing the language abilities to cope with their studies. This leads one to question how effective the selection processes are in various departments. The staff survey showed that 30.8% of staff had little to no confidence in the reliability of departmental strategies in terms of identifying students who require additional language support at postgraduate level, while 57.2% were 'somewhat' confident. Several lecturers reported that admission to postgraduate studies is "only based on the marks obtained during their undergraduate studies" - that "there [are] no selection criteria with regards to academic literacy skills" and "very little, if any, additional [language] support is provided to students". These comments were affirmed by staffs' responses to a question pertaining to the types of information that served as selection criteria for admission to postgraduate studies at the UFS. Thirty-five percent of staff indicated that their departments had no measurements in place to determine students' literacy levels, while 57.2% stated that either students' grade 12 scores or their overall undergraduate degree marks were used as selection criteria for admission to postgraduate studies. Only 50% of staff indicated that their departments used some sort of literacy test (28.6%) or samples of students' writing (21.4%) as measurements of students' literacy abilities. One staff member suggested that there be "a more rigorous language comprehension test before admitting students to postgraduate study", although, ethically, results of a language test should not be used as a gate-keeping mechanism for denying certain students access to postgraduate studies. However, another lecturer stated that "there is more to determining academic literacy levels than a single test".

It is interesting to note that, although 71.4% of staff rated their students' academic literacy levels as substandard at honours level, 50% also agreed that students who fared well in their undergraduate studies possessed the necessary literacy skills to succeed at postgraduate level. This raises the question about what lecturers understand about academic discourse and the acquisition thereof, as alluded to in chapter 2. Although the lecturers who participated in the survey reported a fair amount of teaching experience in higher education contexts, as well as postgraduate supervision experience, only 21.4% indicated that they had completed language courses as part of their undergraduate studies. Thus, although they might be content-area experts, the extent to which they are familiar with the skills required to negotiate academic discourse effectively, and the time it takes to master the subject-specific discourses, is questionable.

Despite the general concern amongst staff regarding students' literacy skills, the reality is that HE institutions are under much pressure to expand the number of masters' and doctoral graduates, which influences the admission process to an extent. Thus, perhaps a more effective selection process could include a combination of language test results, undergraduate scores, as well as samples of student writing as part of the selection process, and as a way of identifying students who require additional language support. Ideally, if the design principle that is at play here, namely the requirement of technical relevance and appropriateness for such intervention design is taken seriously and considered to be important, the support offered should be tailored to the specific needs of students, and provided on a regular basis, to ensure such 'fit', all with the intention of helping students negotiate their postgraduate studies successfully.

5.3.2 Perceptions of what academic literacy and writing entail at postgraduate level

Tailoring language interventions to the needs of students in particular disciplines implies that language is specific to different discourse communities. It is therefore important to determine to what extent staff and students perceive language to be specific to those disciplines. Student responses indicated that they generally (77%)

perceive there to be difference between academic discourse and other types of language. Although most staff agreed that academic language has common features across disciplines (92%) and that they use common genres (77%), 76% of staff also believe that academic language is specific to particular fields of study. The majority (92%) of staff also agree that their departments make use of particular genres and functional text types that are specific to their disciplines.

A key consideration in addressing the academic literacy abilities of students involves understanding staff and student perceptions in this regard. In order to understand better what the perceptions are in terms of academic literacy abilities, both the staff and the student survey included a breakdown of the various issues constituting a definition of academic literacy (as presented in Chapter 2). Staff were required to rate students with reference to the various components of academic literacy from poor to excellent. Students were presented with the same question, but were asked to rate their own ability regarding the various academic literacy components. Figures 5.2 and 5.3 below illustrate staff and student perceptions in this regard.
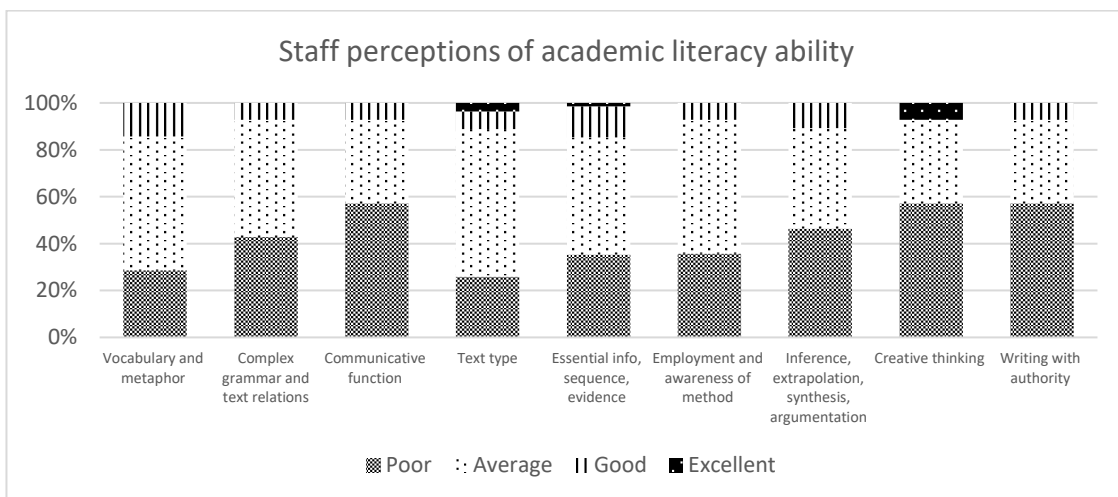
Figure 5.2: Staff perceptions of students' academic literacy abilities
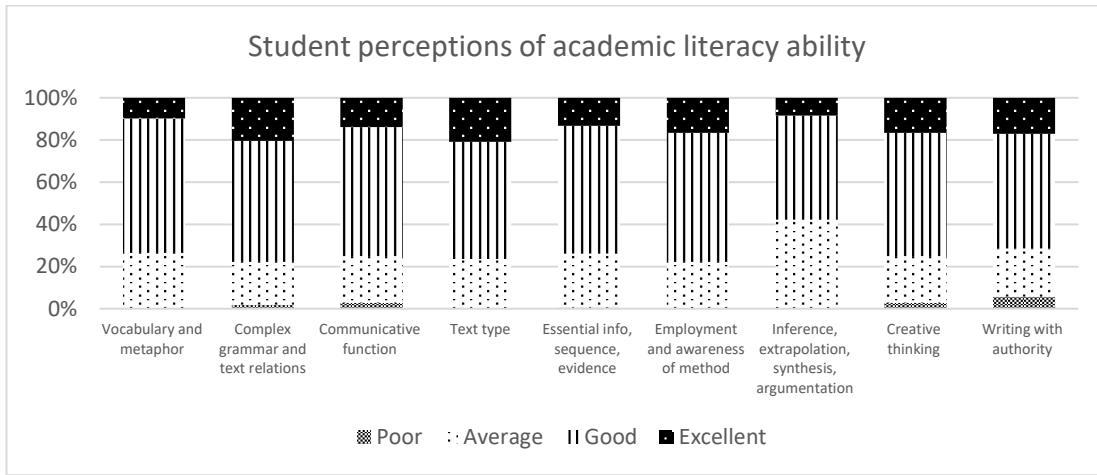
Figure 5.3: Student perceptions of their own academic literacy abilities

It should be noted that the various categories referred to in the survey match some key components of the widely used definition of academic discourse employed across various language intervention designs in this study, that divides it into components like those reported in the tables above (Patterson & Weideman 2013a; 2013b). The reason for using them once again relates to a principle of language intervention design that was marked as crucial in the discussion in the previous chapter: they provide evidence that the survey has been based on a theoretically defensible construct or definition of academic literacy. As we noted there, that is a key or 'founding' requirement for the design of such applied linguistic interventions, that takes a detour into theoretical analysis in preparing and planning the (institutionally appropriate) language intervention. The results in these tables show a clear disparity in staff and student perceptions of literacy ability. Where the majority of staff responses indicated that students' literacy abilities are generally poor or average, students were more inclined to rate their own abilities as good, or even excellent in some cases. Other studies have also reported that students tend to consider themselves well-prepared for tertiary studies. A study by Du Plessis (2016) on the literacy skills of postgraduate students at a local university reported a discrepancy between students' perceptions of their abilities and actual scores obtained on the Test of Academic Literacy for Postgraduate Students (Figure 5.4). Students' average scores for the written component of the test was a mere 30%, and only 11% of students obtained a score of 50% and above.
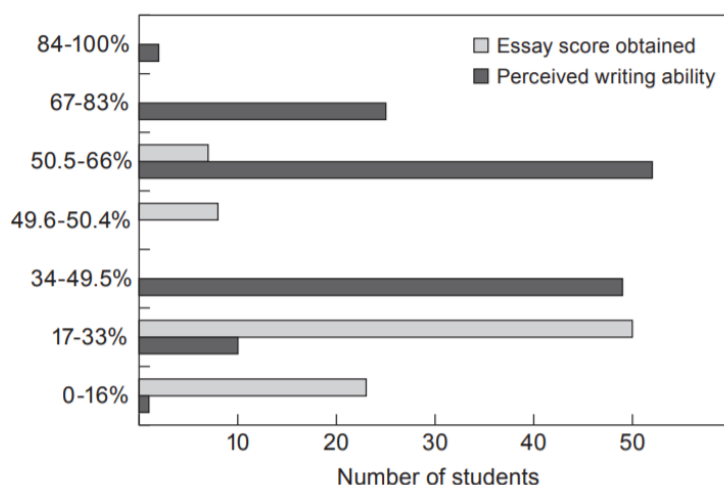
Figure 5.4: Comparison of perceived writing ability and actual score obtained in the TALPS

Students seem to equate their English communicative competence with academic literacy proficiency, and are unaware of the extent to which language affects their academic success (Van de Poel & Van Dyk, 2013; Van Rooy & Coetzee-Van Rooy, 2015). By implication, students believe that they possess the functional academic literacy skills necessary for studies at postgraduate (honours) level. This discrepancy in perception is therefore neither new, nor particularly surprising, as students are led to believe that they meet the requirements for postgraduate studies based predominantly, if not solely, on their undergraduate performance.

Figure 5.5 illustrates the results pertaining to the extent to which staff and students perceived academic writing abilities to be important for success at university. From their responses, it appears that both staff and students consider the ability to write academically important for the successful completion of studies in the HE context. Students' open-ended responses tend to indicate that they associate good writing with higher marks. They commented that "almost all the modules at university require academic writing", and at honours level, they "expect to be doing plenty of writing … towards [the] completion of the programme". Students stated that "if one cannot write, there is no way [one] can … pass"; "the lecturer will appreciate good academic writing and will score [them] higher marks than if [their writing] ability was poor".
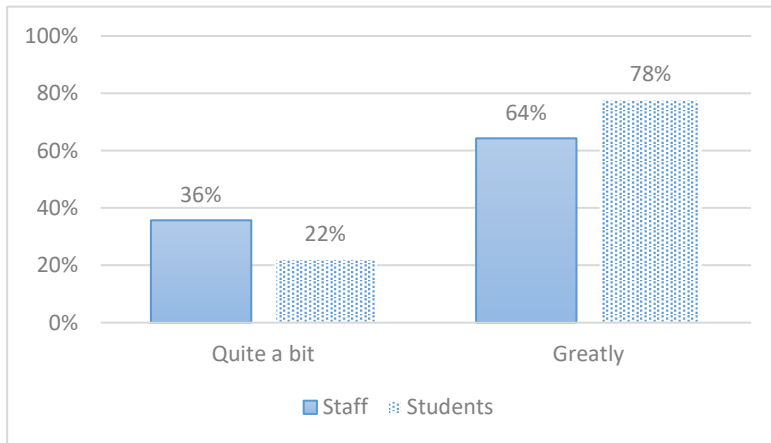
Figure 5.5: Student opinion on importance of academic writing for university success

Staff and students were furthermore asked to indicate the aspects of academic writing that students typically struggle with most. As shown in Figure 5.6, staff indicated that students struggle particularly with the mastery of disciplinary literature, in terms of reading and understanding complex academic texts, as well as text production. Interestingly though, despite students' acute awareness of the importance of academic writing in their studies, their responses in Figure 5.7 indicate that there is no specific aspect of writing that they consider particularly problematic or difficult. This might have to do with the inflated perceptions they have of their academic literacy abilities. It should, however, be noted that the various aspects indicated in Figure 5.7, aside from finding information and understanding the topic, all form part of text production. Thus, considering 92% of students indicated at least one, on average, of these aspects as challenging, it might suffice to say that their responses correlate, to some extent, with staff members' perceptions concerning text production.
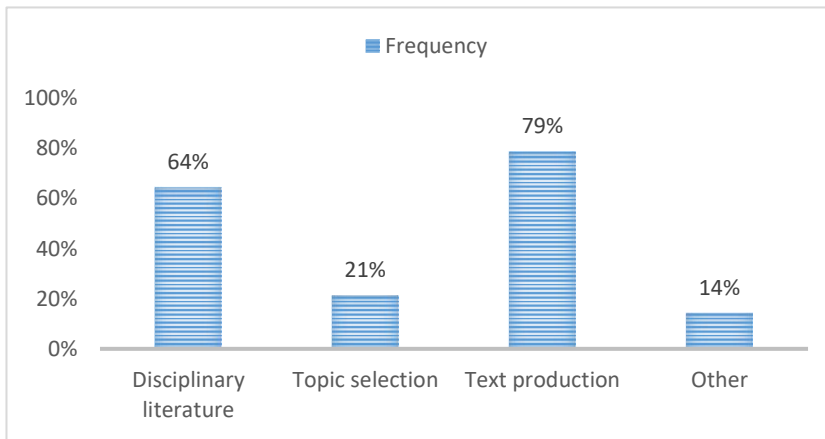
Figure 5.6: Staff perceptions of problematic writing aspects
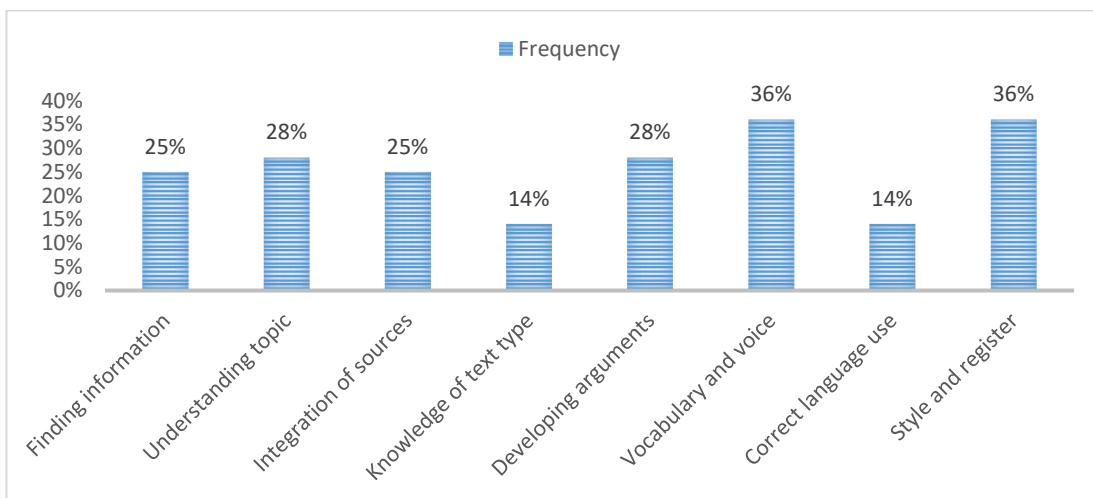
Figure 5.7: Student perceptions of problematic writing aspects

Staff were furthermore required to indicate the aspects of text production that students struggle with most. The student survey, however, required that students indicate which of these aspects they consider most important, as well as least important. The responses from both surveys are combined in Figure 5.8 below. Although the majority of staff (93%) indicated that students struggle with producing quality *content and arguments* in their writing, only half of students identified this as an important component of text production. Similarly, 71% of staff perceived *style and register* to be problematic, while only 25% of students consider this aspect of writing important. In terms of *text structure*, 50% of staff considered this an area of concern, yet 50% of students indicated it to be an area of least importance. Considering staff feel that students typically struggle most with text production, the

discrepancy between staff and student responses regarding the aspects above could be attributed to students' inexperience or misconception about what constitutes good academic writing. Experience in working with students' writing at the Write Site has shown that they are often unaware of how audience and purpose affect the style and register of text. Nor are they always fully aware of the relationship between text structure and the logical flow and development of arguments in academic writing. Students are unaware of how appropriate academic words and phrases, in particular overt discourse markers, are used to indicate the links between various parts of academic arguments (Pot & Weideman, 2015:35). Awareness on this level comes with much practice in producing different types of writing for different purposes. As mentioned in previous chapters, students at undergraduate level are not provided with sufficient opportunity to develop the writing skills required at postgraduate level, which is confirmed by staff members' survey responses. Thus, it is not surprising that students are unaware of the importance of various aspects of text production, which, in turn, affects the quality of their writing.
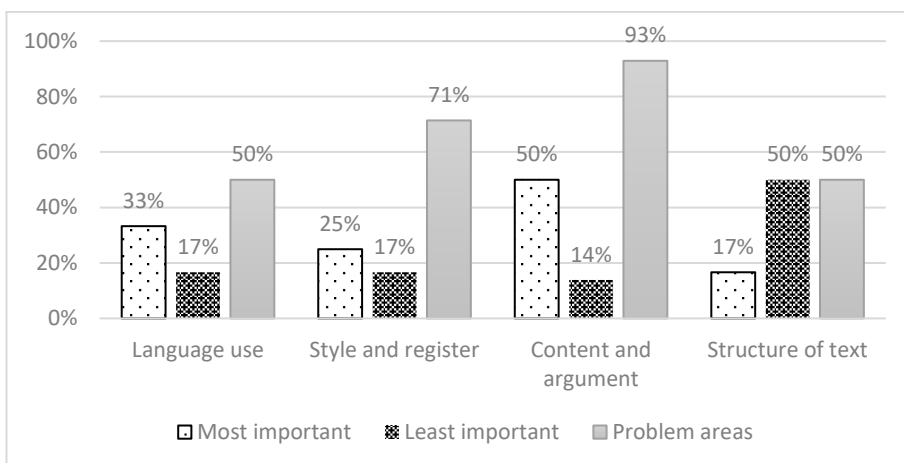
Figure 5.8: Combined staff perceptions of problematic writing aspects and student perceptions of importance of writing aspects

Another issue concerns the type of texts (genres) students are generally required to produce as part of their studies. Knowledge of genre conventions stems from exposure to and experience in the production of different text types. Figure 5.9 shows staff and student responses concerning the genres they are typically required to

produce. The data shows that staff and students agree that the academic essay and assignment are common genres. However, although 71% of staff indicated that the dissertation is a common genre, only 33% of students selected this option. A possible reason for this might be that this particular cohort of students had only just started their honours year when they completed the survey, and the dissertation is usually only required towards the end part of the honours degree. In terms of the discrepancy in responses concerning research-based papers, it is interesting to note that students' selection of this option exceeded that of staff. This might be because these students are all Natural and Agricultural Sciences students. Given the practical nature of degrees within in this faculty, students are most likely required to produce research report texts regularly as part of their studies. The staff who completed the survey, however, originated from a variety of fields across faculties, where research report texts are perhaps not as common as other more narrative or argumentative text types, such as in the Humanities and Education. This supports staff members' earlier responses concerning the use of particular genres and functional text types that are specific to certain disciplines.
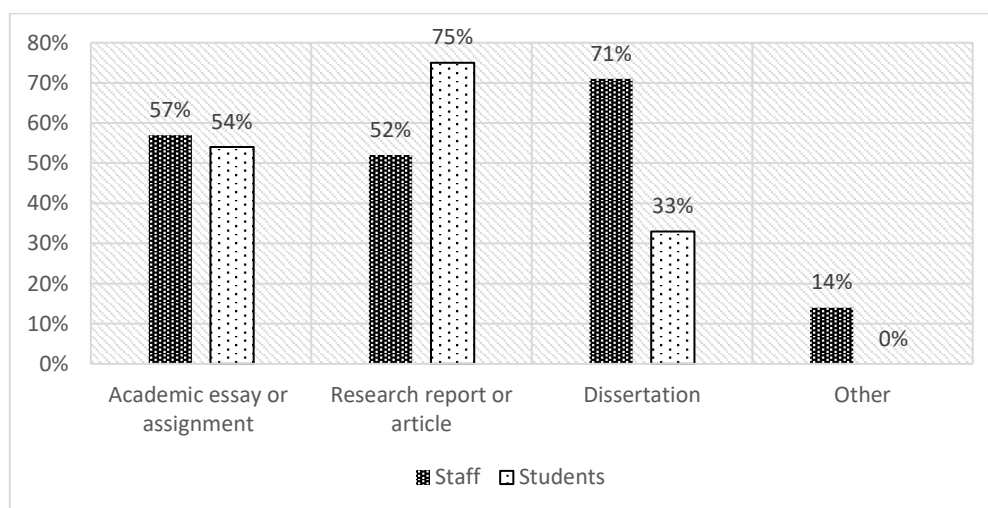
Figure 5.9: Genre requirements

A further issue involves the number of drafts students work through before submitting a final version to their lecturers. Writing is a recursive process that should involve the reworking of several drafts before an acceptable and effective final text

can be produced. The data in Figure 5.10 show that only 15% of students produce more than two drafts of a text before final submission, which correlates with staff expectations in this regard. One student commented that they "do not plan with a draft … [they merely] start writing the final piece". Another student remarked that "one draft is enough to thoroughly assess and correct [their] writing". Through drafting, students can be guided to address higher-order issues, such as structure, organisation, register and logical argumentation, before moving on to lower-level issues. However, students' open-ended responses suggest that they do not necessarily consider issues on this level. Instead, they appear to think that further drafting (if any) serves to address predominantly lower-order issues. One student indicated that "one draft is simply not enough. It may prove to be very erroneous and fill of punctuation mistakes and language misuse". Another student stated that they "will write as someone usually two people to proof read then write to correct my mistakes which is probably around 2 (two drafts). get it proof read again, Before [they] submit." From these students' responses, it is plausible to assume that sentence-level issues often impede their ability to convey meaning in their writing and that lecturers often comment on these issues in their feedback on these students' writing. Thus, such students' awareness of their errors on this level might account for their emphasis on the proofreading of their written texts.
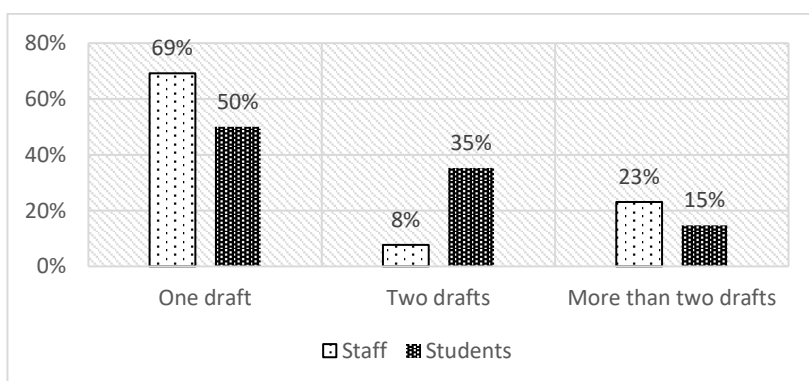
Figure 5.10: Drafting requirements

These findings confirm the typical student writing practices witnessed at the Write Site. The majority of students attempt to write a final (single) draft of an assignment a day or two before the submission deadline, which they then want proofread at the

Write Site before submitting to their lecturers. However, most students struggle with higher-order issues in their writing – their texts are often off topic, or contain serious organisational and structural issues that require substantial redrafting. As we have noted before, it is exactly oral feedback on higher-order issues in their writing that meets the requirement of technical adequacy or effectiveness referred to in the previous chapter. Furthermore, if students are unaware of the stages involved in the writing process, they fail to make allowances for the time it takes to work through various issues on different levels before arriving at an acceptable final version of their assignments.

In order to understand students' individual writing processes better, they were required to select and prioritise the steps they follow when writing academic papers. These various steps were presented to students in random order. Although 61% of students indicated they unpack the assignment topic, only 14% do so as a first step. Furthermore, 42% of students seem to view the pre-writing activity of *writing everything known on the topic* as something that occurs later in the writing process. Another concern is that only 47% of students indicated that they revise and edit various drafts, and only towards the end of the process. Otherwise, no specific pattern emerged concerning the other steps presented. Although no one student will follow exactly the same writing process, one can argue for the logical progression of different steps in the process. For example, one cannot begin to plan or select relevant information if one has not attempted to unpack the topic first. These results further serve to illustrate that students are unfamiliar with the process of writing, and could therefore benefit from exposure to instruction that clearly emphases both the recursive nature of writing, as well as the logical flow of steps comprising the process.

5.3.3 Feedback on academic writing

Related to the discussion of writing as a process above, is the feedback that students receive on their writing. The staff survey therefore required that lecturers specify the aspects on which they provide feedback. The majority of staff indicated that they

provide feedback on language correctness (86%); appropriate style, register and structure (71%); clarity of meaning (93%); as well as logical ordering of ideas and argumentation (93%). Although lecturers claim to provide feedback on these aspects, it is important to consider which of these aspects feature on the rubrics that lecturers use to assess student writing. If students are expected to adhere to the conventions of academic writing in their disciplines and see the merit in working on the quality of their writing, then assessment rubrics need to take these conventions into account when grading students' writing. The results of the survey show that the majority of staff members' rubrics feature organisation/structure (93%); clarity of meaning (79%); correct language use (79%); logical sequencing of ideas/argumentation (93%); correct and appropriate referencing (93%). Only 21% of staff, however, selected appropriate register as a component that features in their rubrics. Although these results appear heartening, the fact that only 31% of staff require students to produce two or more drafts of their assignments, one must question the formative value of the feedback provided in terms of these various aspects if students typically produce only one draft of their writing assignments.

Given the target student cohort had only just started their honours year and had not yet written assignments, they were asked to reflect on the feedback they received from lecturers during their undergraduate studies. Most students (83%) indicated that they found the feedback they received on the *content* of their writing beneficial. Students stated that staff feedback helped them identify the areas "in which … [they] could improve [in terms of] writing and research". One student said that "feedback helps one to understand what is expected of them" – "how [they] should structure [their] writing, how [they] should argue [their] points and make a statement based on research [they] found either from the internet or Library". Generally, students felt that staff feedback helped to improve their writing skills. Students also reported that they generally (71%) received feedback on their *language* use in their writing. Sixty-two percent of students found that this feedback "helped [them] improve on language mistakes" and that "correct spelling and grammar allow the reader to read my work at ease". However, students also reported that "due to large numbers of students at undergrad level attention from the lecturer was very limited", that "no enough was

done", that "it is not easy to read through … [an] assignment your already graded in", or that for students' "previous qualifications [they] did not write anything". One student remarked that "some lecturers would only give you, yours mark and not tell you where a student can improve unless, you consult them regarding the feed back you got from them." These last remarks serve to confirm that large class sizes at undergraduate level not only limit the writing opportunities afforded to students, but so too the quality and thoroughness of lecturers' feedback.

The results concerning lecturer feedback emphasise the value of formative feedback on student writing, particularly if they produce multiple drafts on which they receive feedback on a variety of issues. However, the burgeoning undergraduate enrolment does not always allow for this type of support, which undermines students' learning opportunities. For this reason, academic support services such as the Write Site can serve to provide students with the individualised writing support that they require in order to develop their writing skills. The following section investigates general staff and student perceptions of academic literacy support measures.

5.3.4 Perceptions of academic literacy support

Staff were asked to elaborate on the aspects they would expect writing experts to address in order to improve students' writing proficiency. From their open-ended responses, the most common aspects that emerged included coherence and linking ideas, argumentation, engaging with reading texts, integration and synthesis, as well as correct language use. One lecturer remarked that the type of support "depends greatly on the students. There are PhD students who do not know how to write at all and students who cannot name the topic of an article and students who write extremely well and everything in between in my department". This comment supports that notion that academic writing support needs to be tailored to students' individual writing needs, as not all students possess the same level of writing proficiency. Another respondent stated that "[e]xperts can give guidance and show examples, but ultimately it is the student's responsibility to use the examples and apply it to other similar situations." Although it is true that students need to take

responsibility for their own learning, academic support initiatives should aim to make use of 'examples' that students consider relevant to their learning in order to facilitate students' application of key aspects in their writing in the disciplines.

Students' open-ended responses concerning the extent to which they feel they benefited from language support in their undergraduate studies were generally positive. Several students mentioned that their writing skills improved; they commented that the support they received "helped [them] understand how to write reports … and it enhanced [their] writing and understanding skills". Students reiterated that the support helped them "immensely when … producing scientific assignments". These comments were with reference to the writing support students received at the Write Site, which could serve to indicate that students value support with writing tasks relevant to their particular fields of study.

Despite students' positive feedback concerning the language support they received at undergraduate level, academic staff felt that students' undergraduate degrees do not adequately prepare them for the demands of studying at postgraduate level. Thus, the following section discusses perceptions of the academic literacy skills that need to be developed at this level in order to prepare students for the demands of studying at more senior levels.

5.4 Academic writing expectations at undergraduate level

The results above suggest that students' undergraduate degrees do not necessarily prepare them for the demands of academic writing at postgraduate level. This warrants an investigation into the language needs of students at undergraduate level that might better prepare them to negotiate academic discourse effectively by the time they reach postgraduate-level studies. The information that follows forms part of a different, yet related, impact assessment study of the various English literacy interventions offered by the Unit for Language Development (ULD) at the UFS. These interventions included the current first-year, faculty-specific academic literacy courses, as well as the academic writing intervention for first-year Law students

mentioned at the beginning of this study. This section therefore serves to discuss the key findings of the impact assessment study (Mostert, 2018) that served to provide insight into the academic literacy and writing needs of first-year students at the UFS, of which the Law students were part.

The data of relevance to this study were collected by means of: (1) surveys and focus groups that measured lecturer, student and facilitator perceptions of academic literacy needs; (2) a test of academic literacy ability - the Academic Literacy Development (ALDI) test that measured students' pre- and post-test literacy abilities; and (3) an evaluation of students' first and second semester paragraph and essay scores. It should be noted that the designs of all data collection instruments were based on the same construct of academic literacy (Patterson & Weideman, 2013a) that informs this particular PhD study, and that was extensively presented as a theoretical defence for the design of these interventions in Chapter 2, and noted as an important principle of applied linguistic design in Chapter 4.

5.4.1 ULD impact assessment data collection instruments and evaluation context

Yet another applied linguistic design principle referred to in Chapter 4 is that of the adequacy of effectiveness of the planned intervention. Though not the only way of determining the technically planned impact of a language intervention, the impact assessments that will be reported on here do form an important source of information for the designed effects of the various intervention designs of the ULD. The surveys used followed a mixed evaluation design and were employed to measure lecturer, student and facilitator perceptions of undergraduate students' academic literacy needs, the extent to which the literacy courses address these needs, as well as students' ability to apply these skills in their various fields of study. The surveys all followed the same format and constituted forty 4-point Likert scale questions, as well as three open-ended questions designed to elicit further information pertaining to the literacy skills required, on offer, and the application of these in subject areas. Certain questions were adapted to suit the respective target audiences (lecturers, literacy facilitators, and students). Academic literacy abilities were divided into six

categories; namely, listening and note-taking, academic reading, vocabulary usage; academic writing; analytical and/or reasoning; as well as research skills. Purposeful sampling was used to select first-year subject lecturer and student cohorts across all seven faculties on campus. All academic literacy facilitators who taught on the various academic literacy courses participated in the study. The surveys were completed by 75 first-year academic lecturers across seven faculties, the students enrolled in the four faculty-specific literacy courses in 2018 (Humanities, Natural and Agricultural Sciences, Law and Economic and Management Sciences) who agreed to participate in the survey (n=1394), as well as 48 academic facilitators teaching on the literacy courses. The surveys were followed by semi-structured focus group sessions with 25 lecturers in order to gain a more in-depth assessment of lecturers' perceptions of students' academic literacy needs.

A **generic** Academic Literacy Development Intervention (ALDI) test was developed by the ULD to measure students' academic literacy abilities and English language proficiency levels. As mentioned, the design of the test was based on the same construct of academic literacy as presented in Chapter 2. The test was designed to measure generic language and academic literacy abilities required at tertiary level, and was therefore not intended as a measurement of students' mastery of discipline-specific content. Its focus was therefore broader than the specific focus of this study on Urban and Regional Planning (URP) and, to a more limited extent, Law students. Table 5.1 shows the subsection and task specifications for the ALDI test.

Table 5.1: Test specifications for the ALDI test

Subsections	Task specifications
Understanding texts	Academic text of 700-800 words 25 multiple-choice items with three distractors each Items based on Patterson and Weideman's (2013) articulation of academic literacy as construct
Academic vocabulary comprehension	15 multiple-choice items with three distractors each Comprehension and use of vocabulary selected from Coxhead's (2000) word list (excluding 2000 most commonly used words in English)
Textuality (knowledge of cohesion and grammar)	Paragraph of about 100 words in which the order of sentences has been scrambled 5 multiple-choice items with four distractors each
Interpreting graphs and visual information	Graph presenting trends and time frames 5 multiple-choice items with three distractors each
Recognising communicative function and text type (new task type)	Sentences containing key elements found in academic papers 4 multiple-choice items with 4 distractors each to match communicative function to sentence information
Text editing	Academic text of around 200 words 10 multiple-choice items with 3 distractors each to identify grammatical errors in the text
Paraphrasing (new task type)	Two short paragraphs of around 35 words written in different formats. 2 multiple-choice items with 3 distractors each requiring the selection of a text that captures the original information appropriately One longer paragraph of around 150 words and one reworked text based on the original passage using a variation of cloze procedure in which certain sections have been removed 4 multiple-choice items with 3 distractors each to identify suitable phrases to complete the paraphrased section

A pre- and post-test was completed by the entire first-year student cohort students enrolled in the various academic literacy courses (n=6122) to measure the potential difference in students' literacy proficiency after completing the literacy courses. The test demonstrated the necessary construct validity and reliability to be used as an assessment instrument of literacy abilities. Those requirements relate to what was identified in the theoretical framework discussed in the previous chapter as design principles that relate to the echoes, respectively, of the analytical dimension within

the technical (construct validity) and the kinematic analogy of technical consistency (reliability). Table 5.2 shows the reliability coefficients approximating 0.8, which meets the benchmark requirements for a test of this nature.

Table 5.2: ALDI pre- and post-test Cronbach *alpha* all faculties combined

Score	Alpha	SEM	Split-Half (Random)	Split-Half (First-Last)	Split-Half (Odd-Even)	S-B Random	S-B First-Last	S-B Odd-Even
Pre-test scored items	0.852	3.613	0.754	0.620	0.763	0.860	0.765	0.865
Post-test scored items	0.858	3.586	0.736	0.650	0.769	0.848	0.788	0.869

An assessment of students' paragraph and essay output measured the extent to which the literacy courses specifically impacted students' writing abilities. Purposive sampling was used to select a representative sample of students' output according to various criteria. Students' texts were considered for selection if they had been assessed by an experienced facilitator; if they had met all the submission requirements of the course; and if they had attended class regularly. Students' sample writing was selected based on their having been assessed by an experienced facilitator; as well as if students had attended class regularly and having met all the submission requirements for the course. Students' first and final paragraph and essay submissions were assessed according to a standard analytic scoring rubric used on the literacy courses. In total, across all four literacy courses, 734 paragraphs and 783 essays were assessed. Table 5.3 presents the number of paragraph and essay scripts selected for analysis per course; the course names are in the top row (EALN, EALE, EALH, and EALL).

Table 5.3: Scripts selected for assessment for all literacy courses

Scripts	EALN	EALE	EALH	EALL	Total
Paragraphs	120	150	356	108	734
Essays	178	150	303	152	783
Total	298	300	659	160	1517

The following section provides an overview of the key findings of the impact assessment that are of relevance to the current study.

5.4.2 Key findings and recommendations of the ULD impact assessment study

The surveys and focus group data served to identify the academic literacy skills that were deemed most important to providing useful and appropriate support to first-year students. These findings are presented in Table 5.4 below (adapted from Mostert, 2018:40).

Table 5.4: Most important academic literacy abilities for first-year students

Listening and note-taking Listen effectively in class Take effective notes	Academic reading Summarise main ideas Read with understanding
Vocabulary usage Understand and use subject terminology Understand and use academic vocabulary	Academic writing Analyse and comprehend assignments and exam questions Plan a strategy Write long coherent pieces of text Produce writing for exams, tests or assignments Plan a strategy for writing tasks
Analytical and logical thinking Develop a main argument or thesis Apply relevant processes in argumentation Interpret visual data Distinguish between essential and non-essential information	Research skills Identify relevant information Identify reliable information Use appropriate strategies for research purposes Reference a variety of resources Synthesise information
Key features of academic discourse *Distinction-making* (critical feature); analytical, logical and critical thinking (higher order cognitive skills).	

These findings are consistent with those reported by staff working with postgraduate students. Essentially, the data reiterate the notion that students need to be able to read and understand assignment topics, as well as complex academic texts, for the purpose of gathering relevant information for inclusion in their writing. As mentioned in Chapter 2, the various literacy abilities presented in Table 5.4 are integrated – students draw on multiple literacy abilities, such as academic reading, vocabulary knowledge, analytical and logical thinking, as well as research skills in order to produce written texts that present logical and persuasive academic arguments.

Participants made certain recommendations in their open-ended survey responses, as well as during the focus group sessions, towards increasing the usefulness and relevance of the literacy support offered by the ULD. Participants' responses were categorised according to three main themes, including the development of (1) higher-order cognitive skills; (2) research skills; as well as (3) language usage. Table 5.5

presents a summary of respondents' recommendations per theme that are of relevance to students' academic writing abilities (adapted from Mostert, 2018:42-43). The most obvious observations that can be made from the recommendations below concern the need to make use of discipline-specific texts to address key academic literacy abilities, and to increase students' opportunities to engage critically with these texts. Once again, we may note that discipline-specific material increases the likelihood of fulfilling the essential requirement of technical fit or appropriateness that has been the prominent design principle in this chapter (see the introduction, 5.1 and also 5.3.1) The more relevant the material is, the more likely it will be that the interactive engagement of students with texts will be enhanced.

Table 5.5: Lecturer, student and facilitator recommendations for increased course usefulness and relevance at first-year level of study

Theme 1: Development of higher order cognitive skills		
Sub-themes:		
Analytical abilities	Logical abilities	Critical thinking
Academic reading:	Increase	- Increased emphasis on appreciation for various text interpretations;
- Increased sensitivity to different text genres;	opportunities to:	- increased opportunities for problem solving using texts familiar to South African/Free State multi-cultural context to build students' confidence in forming their own opinions;
- include articles for reading to introduce students to longer and more difficult text;	- develop students' logical reasoning;	
- read more subject-related articles;	- formulate coherent arguments in writing;	
- more in-depth reading of a text to discover various nuances of meaning and interpret ambiguity;	- practise coherent writing;	- include activities where students need to go back and look at a task question again after completing it and ask themselves critically whether they have actually completed the task correctly.
- interpretation of graphs (numeric literacy) applied to actual case studies for example in the Law Faculty.	- practise judicious application of templates to structure paragraphs and essays;	
Theme 2: Development of research skills		
- Increased emphasis on referencing;		
- referencing should be dealt with in more depth;		
- students should be introduced to Exeter in-text citations in Harvard referencing where relevant;		
- increased practice in distinguishing between essential and non-essential information in order to cope with high volume of information;		
- include specific activities to develop students' abilities to paraphrase relevant information from more than one source;		
- include activities to develop ways of checking plagiarism;		
- create opportunities to link research skills to ethics – how students acknowledge ideas used in reports, assignments, projects and questions.		
Theme 3: Development of language usage		
Vocabulary	*Academic writing*	
- Inclusion of short texts to build students' general vocabulary knowledge;	- Students should be given more activities in writing research reports on their academic material;	
- link course content to students' background knowledge;	- More emphasis on writing longer transactional texts;	
- include more discipline specific vocabulary;	- inclusion of more discipline-specific texts, e.g. emails, reports, case studies.	
- more emphasis on the ability to understand that there is a difference between good legal writing and the ability to draft court-related documents with regard to formal language and technical legal terminology.		

Students' performance on the ALDI pre- and post-test revealed that the subtests students found most challenging were those pertaining to paraphrasing, as well as communicative function and text type. This indicates that students lack the analytical ability and knowledge of lexis and language features to paraphrase texts effectively and determine the communicative function of clauses. These findings support the recommendations above to increase students' opportunities to engage critically with disciplinary texts. The ability to paraphrase effectively from multiple sources requires much practice, and a level of familiarity with academic discourse that takes between five and 10 years to master (Cummins, 1999).

Table 5.6 presents the descriptive statistics for students' first semester submissions for all four literacy courses. The results show a mean improvement from first to final submissions across the four courses. In terms of students' essay submissions, Table 5.7 shows the results for students' first and final essay submissions in the second semester. Similarly, the results show an improvement in students' mean essay scores for all the courses listed in the first column (EALN, EALE, etc.).

Table 5.6: Descriptive statistics for paragraph submissions

	Variable	N	Mean	Std Dev	Minimum	Maximum	Median
EALN	First paragraph	120	74.8	8.54	43	90	76.7
	Final paragraph		80.8	10.50	50	100	80.0
	Improvement		6.0	11.9	-18	30	6.7
EALE	First paragraph	150	66.4	9.65	13	88	66.7
	Final paragraph		77.1	9.56	42	93	78.3
	Improvement		10.7	11.34	-23	70	10.8
EALH	First paragraph	356	67.1	9.26	35	100	66.7
	Final paragraph		77.5	10.57	28	100	78.3
	Improvement		10.5	12.21	-23	50	10.0
EALL	First paragraph	108	64.1	10.86	13	80	66.7
	Final paragraph		71.9	7.73	50	83	73.3
	Improvement		7.8	8.80	-10	45	6.7

Table 5.7: Descriptive statistics for essay submissions

	Variable	N	Mean	Std Dev	Minimum	Maximum	Median
EALN	First essay	178	63.7	12.26	27	90	63.3
	Final essay		68.1	14.38	27	97	70.0
	Improvement		4.4	10.99	-30	35	3.3
EALE	First essay	150	62.0	9.56	18	85	63.3
	Final essay		73.7	9.32	38	90	75.0
	Improvement		11.7	9.57	-15	45	11.7
EALH	First essay	303	57.1	13.59	11	86	58.3
	Final essay		66.9	12.38	16	93	68.3
	Improvement		9.9	11.33	-31	48	10.0
EALL	First essay	152	60.5	12.07	20	87	60.0
	Final essay		74.3	9.66	43	97	76.7
	Improvement		13.8	9.13	2	40	11.7

In order to determine whether the improvement observed in students' paragraph and essay submissions was statistically significant, it was first necessary to confirm a normal distribution of scores. The results of a Kolmogorov-Smirnov statistic test produced significant (sig) values (<0.05) for all four courses, indicating an abnormal distribution of paragraph scores. Thus, parametric tests were not applicable and a non-parametric equivalent of the paired t-test was run. The results of the Wilcoxon Signed Rank tests (cf. Tables 5.8 and 5.9) showed significant values (asymptotic sig <0.05) for students' paragraph and essay scores, indicating that the improvement in students' performance from first to final submission was statistically significant.

Table 5.8: Wilcoxon Signed Ranks test statistics for paragraph submissions

	Test Statistics[a]	
		Final paragraph 1 % - 1st paragraph 1 %
EALN	Z	-4.831[b]
	Asymp. Sig. (2-tailed)	.000
EALE	Z	-8.848[b]
	Asymp. Sig. (2-tailed)	.000
EALH	Z	-13.022[b]
	Asymp. Sig. (2-tailed)	.000
EALL	Z	-7.449[b]
	Asymp. Sig. (2-tailed)	.000
a. Wilcoxon Signed Ranks Test		
b. Based on negative ranks.		

Table 5.9: Wilcoxon Signed Ranks test statistics for essay submissions

		Test Statistics[a]
		Final paragraph 1 % - 1st paragraph 1 %
EALN	Z	-5.406[b]
	Asymp. Sig. (2-tailed)	.000
EALE	Z	-9.559[b]
	Asymp. Sig. (2-tailed)	.000
EALH	Z	-11.747[b]
	Asymp. Sig. (2-tailed)	.000
EALL	Z	-10.704[b]
	Asymp. Sig. (2-tailed)	.000
a. Wilcoxon Signed Ranks Test		
b. Based on negative ranks.		

Considering the literacy courses require that students produce several drafts of paragraphs (first semester) and essays (second semester), these results serve to illustrate the value of drafting for students' academic writing development.

The benefit of a hybrid (process-genre) approach to writing development was furthermore illustrated by the Write Site's evaluation of a discipline-specific writing intervention that was developed for first-year Law students. Although this study also formed part of the impact assessment research study conducted by the ULD, it has relevance for the current study in terms of the approach taken to academic writing instruction. Since the study revealed a statistically significant improvement in students' final essay submissions, the results, together with a validation argument for the materials design, will be included in the validation argument for materials design in a later chapter. Validity, in this respect, refers to the adequacy or effectiveness of the intervention design, as discussed in Chapter 4.

5.5 Conclusion

This chapter established student and staff expectations of academic literacy and academic writing requirements as students transition from undergraduate to postgraduate studies. Academic staff generally feel that students' undergraduate qualifications do not adequately equip them with the academic literacy and writing abilities necessary for the successful completion of studies at postgraduate level. The various findings presented in this chapter seem to imply that, in order to prepare students adequately for the academic writing demands of postgraduate studies, they

need to be provided with academic writing support that: (1) addresses their individual academic writing needs; (2) increases their opportunities to engage critically with discipline-specific texts; (3) emphasises the recursive nature of writing, and the logical flow of steps constituting the writing process; (4) and provides formative feedback on both higher-order and lower-order issues at various stages of the writing process. The findings also suggest the need to adapt the selection processes for postgraduate studies possibly to include language test results, undergraduate scores, as well as samples of student writing.

Respondents' specific reference to the use of discipline-specific texts to address students' writing needs supports the argument presented in this study to adopt a more discipline-specific approach to writing development. In accordance with the design principles presented in Chapter 4 in terms of the alignment between language tests and course materials, as well as the technical fit or appropriateness of such applied linguistic interventions with the environment of academic interaction within a certain field, the use of discipline-specific language test results could then be used to determine specific areas of need in terms of academic writing. The chapter that follows discusses the design of such a discipline-specific test, and illustrates how it provides evidence of the required construct validity (relating to the theoretical defensibility in which the design seeks to find its analytical rationale) and reliability (or constitutive technical consistency) for it to be used as an instrument for measuring academic literacy abilities.

Chapter 6: An initial validation of an Assessment of Preparedness to Produce Multimodal Information (APPMI)

6.1 Introduction

The previous chapter discussed the findings pertaining to staff and students' perceptions of academic literacy requirements at tertiary level. These findings illustrate that students require support in order to develop the critical thinking, analytical ability and academic writing skills necessary for the successful completion of their university degrees. Participants' responses further highlighted the importance of making use of authentic, discipline-specific materials to develop students' subject-specific writing abilities. However, in accordance with the principles yielded by the analysis of the leading technical function of responsible language intervention design that was articulated in Chapter 4, this signals the need to develop language assessments that measure students' preparedness to produce the kinds of texts required in their respective fields of study. The advantage of doing so is that the results of such tests could further inform the development of writing interventions that are tailor made to the needs of specific student cohorts in particular discourse communities. It would, at the very least, satisfy the design principle of technical appropriateness or fit that was the focus of the previous chapter.

This chapter therefore focuses on the development of a discipline-specific test designed to assess students' readiness to write as they transition from undergraduate to postgraduate studies. Since the focus of this study is primarily on evaluating the potential impact of disciplines-specific writing interventions offered by the Write Site, of which the language test is a small component, the information presented in this chapter serves merely as an overview of the test instrument and therefore does not deal with its validation in more than the initial detail required of such a process. The sections below discuss the design and specifications of an Assessment of Preparedness to Produce Multimodal Information (APPMI), followed by a preliminary validation argument for the test instrument. The chapter concludes with an evaluation of the test results for the main target cohort of the study, which served

to inform the development of a discipline-specific writing intervention at postgraduate (and, more specifically, honours level).

6.2 Design and specifications

The design of the APPMI is based on the premise that language interaction within the university environment constitutes three main academic or analytically stamped actions – those of gathering, processing and producing information. Chapter 2 discussed in detail the various abilities comprising the construct of academic literacy adopted in this particular study, and that forms the basis of the theoretical rationale for the designed interventions being discussed. The chapter further illustrated the alignment between particular cognitive phases associated with these three key academic actions and the various components of the construct. For the sake of continuity, Table 6.1 below reiterates this alignment. Considering the APPMI is intended as a measurement of students' readiness to produce information in the form of writing in particular, the table below shows how the construct underpinning the design of the test was streamlined and categorised according to the processes affiliated with the gathering and processing of information. Of course, as has also been noted, the readiness to do the last of the three phases referred to at the beginning of this section, namely the production of new, analytically stamped information, precedes the actual production. What is more, though writing academically constitutes the most substantial part of such production, there are other modes of presentation for new academic information as well: one may, for example, think of face to face discussions in which new ideas are floated, or asynchronous interactions in an electronic chatroom to exchange new ideas, in both cases either with peers or with a lecturer, or with both. The same applies to the presentation of new academic information in visual format, for example in a PowerPoint presentation to a whole class and one's lecturer. So, though academic writing ability remains the first priority, that ability is supported and accompanied by many other modes; hence the name of the test. It is designed to assess the readiness to present such new information in several modes, by focussing on what precedes such potential presentation, namely the phases of gathering and processing academic information:

Table 6.1: Alignment of cognitive phases and literacy construct

Cognitive phases	Sub-processes	Alignment with construct
	Conceptualisation	Task representation Macro-planning	Communicative function Text type (including visual representations) Essential/non-essential information, sequence and numerical distinctions, identifying relevant info for evidence Employment and awareness of method Inference, extrapolation, synthesis of information, and construction of argument
	Meaning construction	Global careful reading Selecting relevant ideas Connecting ideas from multiple sources	Vocabulary and metaphor Complex grammar and text relations Communicative function Text type (including visual representations) Essential/non-essential information, sequence and numerical distinctions, identifying relevant info for evidence Employment and awareness of method Inference, extrapolation, synthesis of information, and construction of argument
	Organising ideas (based on mental task representation)	Organising intertextual relationships between ideas Organising ideas in a textual structure	Vocabulary and metaphor Complex grammar and text relations Text type (including visual representations) Communicative function Employment and awareness of method Inference, extrapolation, synthesis of information, and construction of argument

Gathering & processing spans the three cognitive phase rows.

The next step involved aligning the construct of the test with specifications. Test specifications serve to map out the abilities the test is designed to measure and how these abilities will be tested (Davies, et al., 1999). Thus, a test specification serves as the blueprint informing the production of various test items or tasks (Davidson & Lynch, 2002). As was noted in Chapter 4, the development of a blueprint for the design of a language test (or any other applied linguistic design) may be conceptualized as the anticipation of the lingual mode of experience by the leading technical function of design: the design or plan for the development of the test needs to find technical *expression*, and that technical expression is to be found in the form of a set of specifications for the language assessment. From the foregoing it is obvious that the subtests of the APPMI were thus selected for inclusion in the blueprint based on their potential to measure language abilities associated with information gathering and processing. Some of the tasks types were adapted from previous tests of academic literacy, namely the Test of Academic Literacy for Postgraduate Students (TALPS) and the Test of Academic Literacy Levels (TALL), based on their relevance for this new context and their historical performance in these tests (Du Plessis, 2016; Van Dyk & Weideman, 2004b; Van Rooy & Coetzee-Van Rooy, 2015). Other tasks types, which are unique to the APPMI, were designed by

the researcher to assess specific components of the construct. Table 6.2 presents the relationship between the cognitive phases associated with the gathering and processing of academic information, the various subtests of the APPMI, and the components of the construct.

Table 6.2: Alignment of cognitive phases, APPMI subtests and construct

Cognitive phases	APPMI subtests	Alignment with construct
Conceptualisation	Understanding text type and communicative function Making academic arguments Interpreting graphic and visual information Text comprehension	Communicative function Text type (including visual representations) Essential/non-essential information, sequence and numerical distinctions, identifying relevant info for evidence Employment and awareness of method Inference, extrapolation, synthesis of information, and construction of argument
Meaning construction	Organising information visually Understanding academic vocabulary Text comprehension Making academic arguments Organisation of text/scrambled text	Vocabulary and metaphor Complex grammar and text relations Communicative function Text type (including visual representations) Essential/non-essential information, sequence and numerical distinctions, identifying relevant info for evidence Employment and awareness of method Inference, extrapolation, synthesis of information, and construction of argument
Organising ideas (based on mental task representation)	Interpreting graphic and visual information Organisation of text/scrambled text Understanding text type and communicative function Making academic arguments Grammar and text relations Text editing	Vocabulary and metaphor Complex grammar and text relations Text type (including visual representations) Communicative function Employment and awareness of method Inference, extrapolation, synthesis of information, and construction of argument

In order to make the test discipline-specific, in line with the requirement of achieving the best technical fit, the development of the various task types involved the incorporation of texts relevant to the target cohorts' field of study. Although the target cohort was based in the Natural and Agricultural Sciences, a recent recurriculation of the Urban and Regional Planning honours course involved the inclusion of content that views planning more from the perspective of the Social Sciences, particularly with regard to Sociology, Anthropology, Psychology and Politics. Conversations with the academic lecturers teaching the honours course revealed that the department's decision to expose students to more Social Sciences

content was essentially based on the need to make students in this field aware of the effects of the urban environment (towns and cities) on people (Krupat, 1985; Pardo & Prato, 2018). Thus, in collaboration with Social Sciences content experts, the design team selected relevant field-related texts that students are typically required to negotiate as part of their studies. It was also thought that such a selection of relevant texts would enhance the intuitive appeal (or "face validity") that the technical instrument would have to measure field-specific language ability, thus satisfying yet another principle of design that was described in Chapter 4 above. The next section provides further information about the test format, the piloting of the test, as well as a description of the various subtests comprising the final version of the APPMI.

6.3 Subtests of APPMI

A multiple-choice format was selected for the design of the APPMI, and answer keys were randomly dispersed to minimise students' chances of guessing the correct answers and to compensate for their memory capacity. The decision to do so was grounded in the design team's experience of time limitations concerning the analysis of the test results, as well as limited opportunities for students to take such a test, since the researcher had restricted control over the students who participated in the piloting of the test. Unlike other tests of academic literacy that serve as pre-enrolment assessments, it was not administratively possible to include an open-ended format for the APPMI, since the results had to be processed quickly to inform the development and implementation of writing interventions for the target cohort in the first semester of their honours year. Previous studies (Pot & Weideman, 2015) have, however, demonstrated a high correlation between multiple-choice and open-ended test formats, which serves to justify the interpretation of test results in either format. The test was piloted twice before it was administered with the target cohort.

The first version of the APPMI was piloted with 1175 Social Sciences students. This version contained approximately 50% more items to compensate for poor-performing items that would be removed or adapted in the refined version of the test.

For logistical reasons, the refined version (2nd pilot) of the test was divided into two parts so that it could be written during students' scheduled class periods. Thus, the second pilot involved administering the full version of the test (test 1) with some students in 2 hours, while 50 minutes were allocated to other students for the completion of either part 1 (test 2) or part 2 (test 3) of the refined pilot test. Table 6.3 provides a breakdown of the 261 students who completed the various versions of the test.

Table 6.3: Subtest and test-taker specifications for the second pilot of APPMI

Subtests	Test version	Weighting	Number of test takers
Organising information visually	Test 1 & 3	8	56 + 102 (n=158)
Organisation of text	Test 1 & 2	5	56 + 103 (n=159)
Understanding academic vocabulary [two-word format]	Test 1 & 2	12	56 + 103 (n=159)
Interpreting graphic and visual information	Test 1 & 2	8	56 + 103 (n=159)
Understanding text type and communicative function	Test 1 & 3	5	56 + 102 (n=158)
Text comprehension	Test 1 & 3	18	56 + 102 (n=158)
Making academic arguments	Test 1 & 2	16	56 + 103 (n=159)
Grammar and text relations	Test 1 & 2	16	56 + 103 (n=159)
Text editing	Test 1 & 3	12	56 + 102 (n=158)

The APPMI consisted of 9 subtests designed to measure various components of the academic literacy construct. Table 6.4 shows the various subtests and their respective weightings.

Table 6.4: Test specifications

Subtest	Number of items	Weighting
Organising information visually	8	8
Organisation of text	5	5
Understanding academic vocabulary [two-word format]	6	12
Interpreting graphic and visual information	8	8
Understanding text type and communicative function	5	5
Text comprehension	18	18
Making academic arguments	8	16
Grammar and text relations	16	16
Text editing	6	12
Totals	**80**	**100**

The first section measured the ability to *organise information visually*. This task type required students to complete graphic organisers based on information in a sample

text. It was designed to measure text comprehension, more specifically the "visualisation of logical distinctions" (Patterson & Weideman, 2013a:143). An example of an item in this subtest is the following:
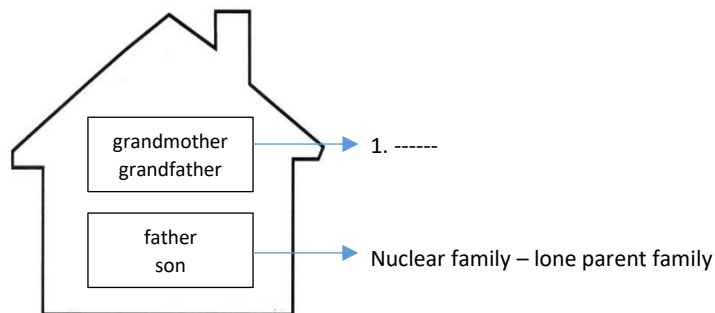
1. The label that belongs here is

A. Nuclear family – couple without children
B. Nuclear family – lone-parent family with non-dependent child
C. Nuclear family – lone parent family
D. Non-family persons

The *organisation of text* subtest presented students with sentences in a paragraph in a scrambled format, which students needed to re-order to form a cohesive whole. It measured students' knowledge of text relations by interpreting various kinds of discourse markers, as well as their ability to interpret context, and their recognition of lexical clues presented in sentences.

In the *understanding academic vocabulary* subtest, students' general academic vocabulary knowledge was measured. Students were presented with sample sentences which they needed to complete using the selection of the best possible combination of vocabulary items. The words assessed in this section were selected from the various levels of the Coxhead Academic Word List or AWL (Coxhead, 2000). The following serves as an example of the type of item in this section:

The popular notion that households in the past were large is very strong and often is used in _____ to the smaller households found in _____ industrialised societies.

A. contrast ... contemporary
B. contrary ... conventional
C. contest ... convoluted
D. context ... conversely

The *interpreting graphic and visual information* section assessed students' visual and graphic literacy. Here students were presented with graphic information accompanied by a short text discussion, which required them to make simple numerical computations and use these calculations to make inferences.

Understanding text type and communicative function was a new task typed developed specifically for the APPMI. Students were presented with a sample text and asked to identify examples of specific types of information associated with making academic arguments. The subtest therefore measured students' knowledge of text types, communicative function, as well as argument construction, all of which were found, in the impact study discussed in the previous chapter, to be potentially challenging components of language ability among students served by the Unit for Language Development (ULD). The following serve as sample items in this subtest:

In the following paragraph, find examples of the type of information indicated in each instance. The questions concern some essential elements of making an academic argument, but are not in the order they would occur conventionally.

A Suicide can be approached from the standpoint of a costs/benefits problem. B If the perceived costs of continuing one's life outweigh the benefits of ending it, the likelihood of suicide increases. C Groups experiencing unfavourable economic conditions are more likely than others to perceive relatively high costs from continuing living. D These groups include the poor and the unemployed. E The material pressures experienced by such groups therefore increase their tendency toward suicide.

33. An explanation of the point of view   *A   B   C   D   E*

35. A statement of a point of view   *A   B   C   D   E*

36. A conclusion to the problem at issue   *A   B   C   D   E*

The section on *text comprehension* required that students complete a number of comprehension questions based on the content of a longer text. This subtest measured a number of academic literacy abilities related to classification and comparison, making inferences, text relations, metaphorical language use, and distinctions between essential and non-essential information.

Making academic arguments was another subtest unique to the APPMI. Students were provided with four short excerpts from which they had to select the most relevant to support specific topics or claims. The subtest was designed to measure several abilities associated with the development of academic arguments, such as making inferences, distinguishing between essential and non-essential information, and identifying relevant information for evidence. The questions below illustrate the type of items that were included in this subtest.

Read the following **excerpts carefully and answer the questions that follow.**

If you were writing a research paper on divorce trends, which of the sample texts would you consider least relevant to your topic?

A. Text 1
B. Text 2
C. Text 3
D. Text 4

Which sample text would you consult to support an argument in favour of couples delaying marriage?

A. Text 1
B. Text 2
C. Text 3
D. Text 4

Grammar and text relations is another section designed to measure several academic literacy abilities. Students firstly had to read a text where specific words had been removed. Having read the text, students then had to select, from four possible options, the specific place where a word had been omitted from a sentence, after which they selected the correct word that had been omitted, again from four possible options, to fit that particular place. This section thus assessed students' functional knowledge of the grammatical or structural features of language, such as sentence formulation, word order, vocabulary, choice of preposition, and punctuation.

The final section of the test focused on *text editing*. Here students were required to edit a short passage containing several language errors, thereby assessing their English grammatical knowledge.

In order to determine whether the test is valid and reliable, the section that follows presents a validation argument similar to those presented in other relevant studies on language testing (Rambiritch, 2012; Van der Walt & Steyn, 2007). Such a validation argument is an essential step in examining whether a test has been responsibly designed. It usually refers, therefore, to more than just the analogical physical concept of technical adequacy or effectiveness, but potentially also to a range of others, that have already been articulated in the theoretical framework described in Chapter 4, and that will be highlighted in the discussion below. The section that follows thus presents the validation argument as a number of interrelated claims, with warrants in the form of empirical evidence to back them up.

6.5 An initial validation of APPMI

The validation argument presented here serves to determine the extent to which the APPMI tests what it was designed to test, as well as the extent to which the inferences made about test takers' scores are justified (Van Dyk T. J., 2010). The theoretical justification for the design, and the technical meaningfulness and interpretability of the results are therefore prime considerations. The process of validation conventionally involves supporting various claims made about a test by "collect[ing]

… all possible test-related activities from multiple sources" (Van der Walt & Steyn, 2007:141). The various claims presented below are supported by drawing on the statistical data of the second pilot of the test, as well as the data from the pre-test written by the Urban and Regional Planning (URP) honours (target cohort) students before they were exposed to the writing intervention designed to address their writing needs. Reference will also be made to conceptual arguments relating to claims about the theoretical defensibility of the construct. The results of the 2nd pilot informed the adaptations made to the final version of the test – the pre-test that was administered with the target cohort. These adaptations are also discussed in the section that follows.

Claim 1: The test presents consistent reliability measures.

The notion of reliability is concerned with the "trustworthiness or ... accuracy of a measurement" (Kurpius & Stafford, 2006:121). It furthermore takes into account the consistency of scores across tests, since test scores cannot serve to provide information about the abilities being measured unless they are relatively consistent (Bachman & Palmer, 1996). In the theoretical framework outlined in Chapter 4, technical consistency can be conceptualised as the analogical link between the leading technical function of language test design and the kinematic, a mode of experience in which we first encounter the concept of regular movement or consistency. For language test designers, the most practical type of reliability is that of internal consistency, which involves the calculation of reliability measures using statistical programmes such as Iteman, SPSS or TiaPlus. The calculations for the APPMI were made using Iteman, the results of which are presented in Table 6.5 below.

Table 6.5: Reliability measures for the APPMI pilot and pre-test

APPMI results	2nd pilot			Pre-test
	Test 1	Test 1+2	Test 1+3	
Cronbach alpha (reliability)	0.90	0.87	0.82	0.91

The table above reflects impressive Cronbach alpha values (> 0.73) for both the 2nd pilot and the pre-test. The analysis of the full test (test 1) produced a reliability value of 0.9, while the combined test results had a reliability of 0.87 and 0.82 respectively. The final version of the test (pre-test) produced a reliability measure of 0.91, that puts the consistency of the measurement beyond question.

Another set of empirical information that serves to determine the reliability of test is the Spearman-Brown alpha coefficient. The reliability coefficient of a test, or subtests in this case, can be suppressed if the test is too short (Kurpius & Stafford, 2006). However, the *Spearman-Brown correction* procedure can be used to compensate for this by indicating the alpha value if the test, or subtest, had a standard length of 40 items. Table 6.6 below reflects the alpha values for the various subtests for both the pilot (test 1 and combined tests) as well as the pre-test (final version), as calculated by Tiaplus. The table also indicates the Spearman-Brown alpha coefficients, had the various subtests contained 40 items. For most of the subtests that reflected lower alpha values (<0.70), indicated in bold, the S-B correction formulae indicated acceptable alpha coefficients in both the refined (2nd pilot) and final (pre-test) version of the test. The one subtest that showed low reliability values and therefore proved particularly unproductive was that of *understanding text type and communicative function Q2*, which was omitted in the final (pre-test) version of the test. Perhaps it may be worthwhile to experiment with this kind of subtest again, but the constraints of time for that in this case were such that its omission was necessary.

Table 6.6: Indication of reliability of APPMI per subtest

Subtests	# items Test 1 vs Pre-test	Test 1 Alpha	Combined test Alpha	Pre-test Alpha	S-B correlation Test 1	S-B correlation Pre-test
Scored items	86 (80)	0.90		0.91		
Organising info visually	8	**0.50**	**0.52**	**0.50**	**0.83**	**0.83**
Organisation of text	5	0.83	0.82	0.82	0.97	0.97
Vocabulary	6	**0.41**	**0.29**	**0.69**	**0.81**	**0.93**
Interpreting visual and graphic information	8	**0.58**	**0.57**	**0.67**	**0.87**	**0.90**
Understanding text type and communicative function Q1	5	0.74	0.70	0.75	0.96	0.96
Understanding text type and communicative function Q2	3	0.31	**0.17**			
Text comprehension	20 (18)	0.71	0.74	**0.66**	**0.83**	**0.80**
Making academic arguments Q1	4	**0.43**	**0.38**	**0.45**	**0.87**	**0.88**
Making academic arguments Q2	4	**0.64**	**0.51**	**0.62**	**0.94**	**0.94**
Grammar and text relations	16	0.83	0.86	0.75	0.92	0.88
Text editing	7 (6)	0.67	0.72	0.71	0.92	0.94

Claim 2: Heterogeneous test items have not compromised the reliability of the test.

The factor analysis provided by TiaPlus (CITO, 2005) serves as a further measure of consistency in terms of the homogeneity of a test. It answers the question that may be asked in terms of the first design principle mentioned in Chapter 4: Does the designed measurement make up a unity within a multiplicity of components? – a requirement that clearly depends on the link between the technical and the numerical modes. Although more heterogeneous test items are typically associated with a less reliable test (Geldenhuys, 2007), a certain degree of heterogeneity is, at times, characteristic of a rich construct of academic literacy (Van der Slik & Weideman, 2005). Figure 6.1 shows the factor analysis for the 2nd pilot of the full test (test 1), which was indicative of a homogeneous construct. The majority of the outlying items (e.g. 17, 34, 39) had undesirable *Rpbis* values. The point-biserial correlation (*Rpbis*) is a measure of an item's potential to discriminate between higher and lower-scoring examinees. *Rpbis* ranges from -1 to 1, with a negative value being indicative of a bad

item in terms of its ability to differentiate between stronger and weaker students (Guyer & Thompson, 2013). The items with low *Rpbis* values were therefore omitted from the final version (pre-test) of the test, except for item 4 that was reworked for inclusion in the final version.
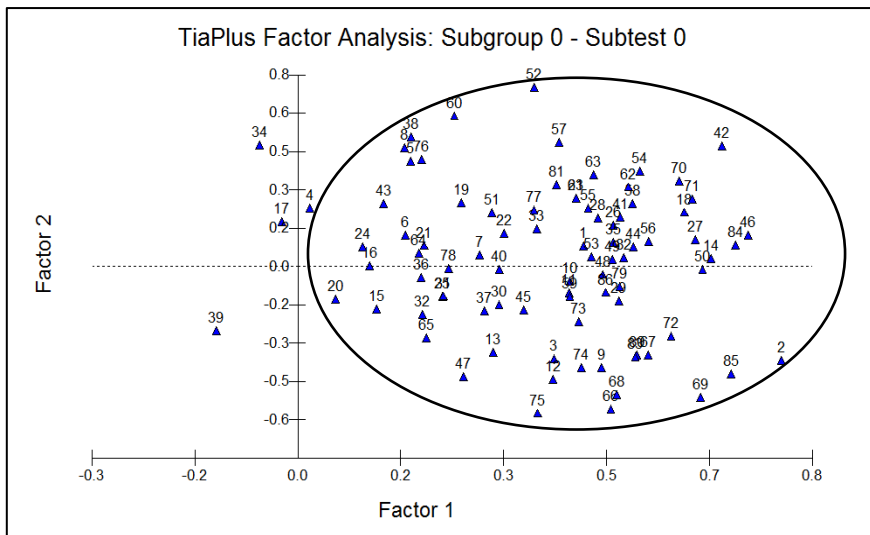
Figure 6.1: Factor analysis of APPMI (test 1)

Figure 6.2 illustrates the factor analysis for the pre-test version of the test, which is a further indication of the homogeneity of the test, satisfying the principle of it being a technical unity of assessment units within a multiplicity of such items (the echo of the numerical in the technical sphere; see Chapter 4, Table 4.8 and the exposition there). Although the majority of the outlying items (e.g. 43, 46, 69, 70) reflected low discrimination values, these items performed well in the 2nd pilot run. Further analyses might demonstrate the need either to remove or amend these items for future versions of the APPMI, although there will most likely always be outlying items for every test administration, given the differences in test-taking cohorts, and their respective sizes.
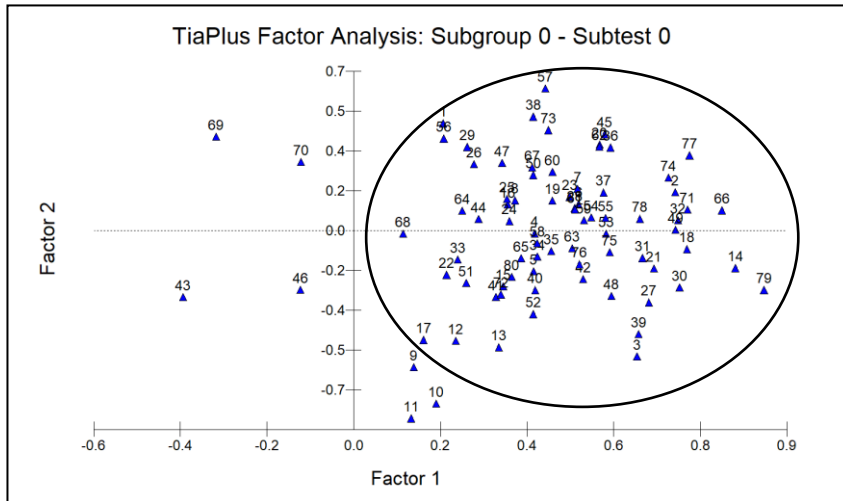
Figure 6.2: Factor analysis of APPMI (pre-test)

Claim 3: The test items presented acceptable discrimination values.

The TiaPlus analysis was also used to determine the discrimination ability of the test, which measures the test's ability to discriminate between the students who answered the questions correctly and those who did not (Kurpius & Stafford, 2006). Thus, an important reason for piloting a test is to determine which items discriminate well and which do not. Table 6.7 provides the *Rit*-values for the 2nd pilot and pre-test versions of the APPMI, which serve as measurement of an item's ability to differentiate between test-takers. The higher the *Rit*-value, the more likely it will be that the technical validity or adequacy of the test, one of the important principles of test design already discussed, will at least be satisfied in one respect: the power of the measurement to differentiate between test-takers of different academic literacy levels.

Table 6.7: Average Rit-values of APPMI

Test version	Average Rit-values
Test 1	0.33
Test 1 and 2 combined	0.39
Test 1 and 3 combined	0.35
Pre-test	0.36

As indicated above, the analyses rendered acceptable *Rit*-values for the 2nd pilot and the pre-test. Since these values all exceed the 0.30 benchmark that is usually adopted

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for these kinds of academic literacy assessments, they serve to confirm the discrimination ability of the APPMI test.

Claim 4: The construct underpinning the design of the test is theoretically justifiable.

The Fairness framework proposed by Kunnan (2004) stipulates that construct validity concerns the representation of underlying traits that are being tested. In terms of this study, these underlying traits form part of a particular definition, or construct, of academic literacy which serves as "the basis for a given test or test tasks and for interpreting scores derived from this task" (Bachman & Palmer, 1996:21).

This chapter and Chapter 4 have discussed the construct underlying the design of the APPMI, that was operationalised to assess students' preparedness to produce information. The abilities assessed are therefore those affiliated with the gathering and processing of information – the processes preceding the production of new, academically relevant information. The components of the operationalised construct are the technical expression of this construct, thus serving as a blueprint featuring abilities that strongly echo what students are required to do at tertiary level, particularly as they transition from undergraduate to postgraduate studies. The majority of the subtests of the APPMI are similar to those featuring in other well-known tests of academic literacy, such as the TALPS, TALL and TAGNaS (Keyser, 2017). The construct informing the design of these tests has been defended at numerous seminars, presentations and conferences with other (international) experts in the field (Van der Slik & Weideman, 2005; Van Dyk & Weideman, 2004a; Weideman, et al., 2014; Weideman, 2017a), and a consensus has been reached concerning the components comprising the construct of academic literacy adopted in this study. It has also been re-examined and refined (Keyser, 2017; Patterson & Weideman, 2013a; 2013b), and it is indeed the latter set of refinements that has informed its operationalisation in the design and specifications of APPMI.

Claim 5: The various subtests meet internal correlation criteria.

The validation of a test also involves determining the correlation between the various subtests comprising the test, as well as how well these subtests correlate with the test as a whole. Such correlations as are conventionally employed constitute yet another measure of the technical adequacy of the academic literacy test, as we have noted.

A correlation coefficient indicates the relationship between two variables – a value of zero is indicative of no relationship; -1 a perfect negative correlation; and +1 a perfect positive correlation (Davies, et al., 1999:36). The various subtests should essentially measure different abilities that together form part of what is understood to be academic literacy, which is what the test is designed to measure, and yet each subtest, as a part of the whole test, should at the same time work together with others to yield a single interpretable score. The requirements of test design behind this kind of calculation therefore also echo another design principle of the test, that has already been noted above: that it should be a technical unity within a multiplicity of components. The questions for test developers are: (a) Is each part of the test contributing uniquely to more information about the academic literacy levels of the test-takers; and (b) Are all these parts nonetheless working together as a technical unity?. Thus, the correlations between the various subtests should be relatively low (0.3 – 0.5); a value in the vicinity of 0.9 could indicate that subtests are measuring the same ability (Alderson, et al., 1995:184), and thus not uniquely contributing to (more) information about the ability being tested. The design thinking behind this criterion is therefore that each subtest should contribute something unique to the assessment as a whole; if the correlation among different subtests is too high (closer to +1), it means that they may be measuring the same ability. Table 6.8 presents the internal correlations for the 2nd pilot, while Table 6.9 shows the results for the pre-test.

Table 6.8: Subtest correlations for 2nd pilot (APPMI)

Subtest	Total test	1	2	3	4	5	6	7	8	9	10	11
Organising info visually	0.57											
Organisation of text	0.48	0.19										
Vocabulary	0.52	0.17	0.10									
Interpreting visual and graphic information	0.56	0.33	0.24	0.47								
Understanding text type and communicative function Q1	0.45	0.13	0.18	0.41								
Understanding text type and communicative function Q2	0.41	0.31	-0.09	0.29	0.18							
Text comprehension	**0.80**	0.36	0.39	0.34	0.38	0.18	0.26					
Making academic arguments Q1	0.67	0.40	0.17	0.35	0.36	0.23	0.29	0.56				
Making academic arguments Q2	0.52	0.27	0.12	0.25	0.15	0.23	0.27	0.45	0.54			
Grammar and text relations	0.67	0.31	0.27	0.14	0.20	0.17	0.07	0.39	0.33	0.21		
Text editing	**0.72**	0.39	0.23	0.35	0.39	0.40	0.28	0.57	0.41	0.21	0.39	

Table 6.9: Subtest correlations for pre-test (APPMI)

Subtest	Total test	1	2	3	4	5	6	7	8	9	10
Organising info visually	**0.77**										
Organisation of text	0.29	0.17									
Vocabulary	0.62	0.37	0.25								
Interpreting visual and graphic information	0.66	0.61	0.21	0.35							
Understanding text type and communicative function Q1	0.64	0.34	0.16	0.44	0.36						
Text comprehension	**0.78**	0.55	0.17	0.41	0.39	0.46					
Making academic arguments Q1	0.59	0.55	0.05	0.29	0.29	0.08	0.49				
Making academic arguments Q2	0.46	0.30	-0.07	0.04	0.32	0.27	0.36	0.29			
Grammar and text relations	**0.73**	0.47	-0.03	0.32	0.34	0.43	0.43	0.38	0.37		
Text editing	**0.75**	0.65	0.11	0.49	0.37	0.44	0.48	0.53	0.20	0.53	

In the case of the 2nd pilot, if the parameters for internal correlations are adjusted to between 0.2 and 0.5 as was deemed acceptable in the analyses of related tests of academic literacy, such as the TALL, then 47 of the 55 correlations (85%) fall between acceptable parameters. Similarly, the results of the pre-test showed that 37 of the 45 correlations (82%) were within an acceptable range.

For the correlations between the various subtests and the test as a whole, another set of parameters applies. In this case one would aim for a higher correlation, since that would show that, in relation to the test as a whole, each subtest contributes maximally. The desirable level of correlation between subtest and test should therefore be above 0.7, since the "overall score is taken to be a more general measure of language ability than each individual component score" (Alderson, et al., 1995:184). In the case of the APPMI, the average correlation between each subtest

and the whole test increased from 0.58 in the 2nd pilot to a more acceptable 0.63 in the pre-test. The subtests that correlated best with the test as a whole in both instances were text comprehension and text editing. In the case of the pre-test, the *organising information visually*, as well as the *grammar and text relations* subtests also indicated high correlations with the whole test.

Claim 6: The sections of the APPMI display content validity.

The factor analysis can also be used to determine what has conventionally been termed as content validity of a test, and that in this study is characterized as the analogical social requirement that the test should have technical appropriateness or fit, and that was the focus of the entire previous chapter. The factor analyses discussed in previous claims, as well as the subtest intercorrelations discussed above, illustrate that the various subtests measure different abilities associated with academic literacy. Although the pre-test analysis identified a few outlying items, the test still had a high reliability measure of 0.91. Thus, these outlying items did not compromise the reliability of the test or the construct.

Expert ratings of the test items, in terms of evaluating how well the items assess the desired content, is another way to determine content validity (Kurpius & Stafford, 2006). As mentioned earlier, the design of the majority of the subtests in the APPMI were similar to those in other tests of academic literacy. In addition, members of the APPMI design team were involved in the development of academic literacy tests, such as the TALPS, which underwent evaluation by other specialists in the field (Rambiritch, 2012). Should APPMI again be employed as a language test subsequent to the experiments in which it has been used for this study, such an expert panel would need to be constituted in order to further validate it, and satisfy the principle of technical adequacy in yet another respect.

Claim 7: The test meets expectations in terms of face validity.

Face validity concerns the appearance of a test, which is believed to have "a considerable effect on the acceptability of tests to both test takers and test users" (Bachman, 1990). In the theoretical framework being used in this study, it is the analogical psychical moment within the technical that comes into play here: the test design must have intuitive appeal. Thus, the piloting of a test should also take into account the opinions of those involved and affected by the test in order to ensure that it is not only appealing and attractive, but also socially acceptable and fair. Face validity is furthermore related to the notion of authenticity, which, in the case of this study, calls for the *alignment* between what language abilities the test measures and the language students are required to use in their field of study. Thus, the test needs to meet the expectations of the various stakeholders involved in its use, which is essential to defending the public credibility of a test (Davies, et al., 1999; McNamara, 2000). The latter, of course, stems from the relation between the technical modality and the juridical: the technical justification of the test in the public eye.

As mentioned, the design of the majority of the APPMI subtests are very similar to those of the TALPS. According to Butler (2009), the notions of face validity and content validity are aligned in that test items should reflect the domain being tested. He argues that test items should be transparent enough for potential users to recognise, and see the relevance of what is being tested. An investigation of the face validity of the TALPS by Butler (2009) revealed that the test indeed met the expectations of students and supervisors in terms of the various academic literacy abilities being assessed. What is more, many of the concerns regarding students' academic literacy and writing abilities raised by supervisors in Butler's study mirror those identified by academic staff in the current study. For example, in addition to UFS staff members' reference to students' low functional academic literacy abilities, they also indicated that students struggle specifically with text structure, argumentation, style and register, as well as correct language use. As in the case of the TALPS, these specific abilities are assessed by particular subtests, such as *organisation of text; understanding text type and communicative function; making*

academic arguments; grammar and text relations; as well as *text editing.* Thus, given the APPMI test subtests assess specifically the abilities identified by academic staff, it could be argued that it meets expectations in terms of content validity, and therefore also face validity.

The discussion above and the seven claims made about the validity of APPMI serve as an initial justification for responsible test design. The various theoretical claims and empirical analyses presented in this section served to illustrate the validity, reliability and social and emotional acceptability of the APPMI test. Given the acceptability of the APPMI, the next section presents the results of the test that informed the development of a discipline-specific writing intervention for Urban and Regional Planning honours students.

6.6 APPMI test results

The APPMI test was used as a diagnostic measure to determine the extent to which the target cohort required additional support concerning their preparedness to produce information, particularly in written format. That kind of intention in test design relates especially to two principles of these planned measurements: that the test should be technically meaningful and its results interpretable (another set of lingual analogies in the technical sphere); and that the meaningful interpretation of the results should have some technical utility (in which the economic sphere is reflected in the technical modality).

The APPMI pre-test was administered to all 32 students enrolled for the Urban and Regional Planning honours programme in order to get a better idea of the kinds of issues this particular student cohort struggled with. It should be noted, however, that the department decided to expose only the full-time students enrolled for the programme to the writing intervention, as the other students were distance learners and came to campus only during block weeks, which was approximately three times during the year of 2018. Who these 15 students were, however, was only revealed shortly before the short course was scheduled to begin, thus the short course was

designed to meet the needs of students based on the interpretation of all 32 students' pre-test results. The intention was to pilot the writing intervention with the full-time students and, if it proved successful, to expose the entire honour cohort to similar writing support in subsequent years.

The TALL and TALPS tests use similar scales to interpret test results. Given the similarity between the majority of the subtests constituting the APPMI and these other literacy tests, the guidelines used to interpret TALPS results could, in part, be applied to the interpretation of the APPMI test scores. The TALPS test comprises five performance bands; namely *high risk* (<33%), *clear risk* (34-55%), *risk* (56-59%), *less risk* (60-74%), and *little to no risk* (>75%). According to these guidelines, of the 32 students enrolled for the honours programme (target cohort), 15 students' scores (47%) fell within the *high risk* (6.3%), *clear risk* (34.4%), and *risk* (6.3%) bands. Of the remaining students, only 8 students' (25%) scores fell within the *little or no risk* category. While future administrations of APPMI will allow one to refine these interpretations of results further, one may attach preliminary meaning to the current set of results. In light of this initial interpretation, Figure 3 therefore illustrates that this particular cohort of students could benefit from additional academic writing support.
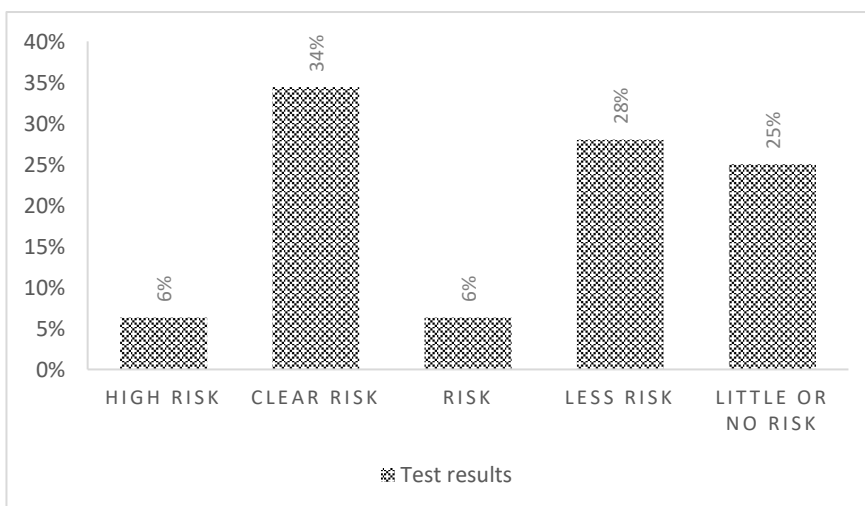
Figure 6.3: Pre-test APPMI results

As mentioned earlier, these test results are neither intended to be used, nor should they be employed, as a gate-keeping mechanism to deny certain students' access to postgraduate studies. Instead, test results should be used in addition to other information about the target cohort to identify those students who could benefit most from language support interventions. Thus, the APPMI test results were used, in addition to staff and student perspectives regarding academic literacy requirements that were discussed in the previous chapter, to inform the design and implementation of a discipline-specific writing intervention that aimed to address the literacy abilities associated with the gathering and processing of academic information. A detailed discussion of the design of these materials forms the focus of the next chapter, and that discussion will take both the interpretation of these results (their technical meaningfulness) and their technical utility (in that they yielded information that can be utilized in further intervention designs) one deliberate, planned step further.

Chapter 7: The design of discipline-specific writing interventions

7.1 Introduction

The initial chapters of this study served to provide an overview of the socially-situated nature of academic discourse, and the requirement of technical appropriateness that follows from this; how academic discourse differs from other types of discourse, and how the identification of that specificity enables one to design language interventions that are theoretically justifiable, with reference to a definition of the ability to handle academic discourse; how the use of academic discourse is unique to certain discourse communities; as well as what it means, in functional terms, to be academically literate. This was followed by a detailed discussion in Chapter 4 of the principles underpinning the responsible design of language interventions and the importance of alignment between the abilities assessed in language tests and those addressed in language courses or interventions. In addition to these key principles, Chapter 1 also stressed the importance of a needs analysis in designing language interventions that are effective and relevant to the stakeholders exposed to or involved with the language intervention. The information presented in Chapter 3 outlined some key considerations in academic writing instruction, which, together with the stakeholder perceptions of academic writing requirements in the tertiary context, and students' performance on a test designed to measure their preparedness to produce information in written format, formed part of the needs analysis critical to informing the design of relevant academic writing interventions.

This chapter subsequently focuses on the design of two writing interventions tailor-made to the discipline-specific writing needs of students at different levels of study. The majority of the chapter is dedicated to a discussion of a short writing course on literature review writing that was developed for Urban and Regional Planning (URP) honours students – the primary target cohort of the study. This is followed by a short description of an intervention designed to assist first-year Law students with legal essay writing. In all of the discussion and analysis in this chapter, the issues covered in the preceding, and noted in the previous paragraph, will be given further focus.

7.2 Foundational pedagogical strategies

Following the needs analysis, Chapter 5 proposed recommendations regarding the potential scope of writing support for the main target cohort (URP students). The scope included: providing students with support that caters to their individual writing needs; providing them with opportunities to engage critically with texts that are relevant to their particular field of study; making them aware of the recursive nature of writing and that the writing process encompasses a series of logical steps; as well as providing students with feedback that is formative in nature. All of these are intended to satisfy the design principle related to the analogical link between the social and the technical, already referred to several times above: there must a technical fit or relevance for any specific intervention, be it a language test or a set of language development instructional interventions, with the social group that will be interacting with it.

Apart from satisfying this and other principles, one may also look at certain basic pedagogic strategies that further refine this design intention. In particular, some key pedagogical strategies that have been identified in the literature will be explored below.

Chapter 3 discussed key considerations in academic writing instruction that informed the design of the writing interventions at the Write Site. A responsible approach to designing writing interventions should take into account various established pedagogical principles when attempting to justify the operationalisation of the recommendations above. In this respect, Carstens (2009:131) presents an overview (cf. Table 7.1) of key pedagogical strategies underpinning academic writing instruction, which is of relevance to this study. Table 7.1 highlights the similarities between Butler's (2006) method-neutral design requirements, the conditions or 'macrostrategies' articulated in Kumaravadivelu's postmethod approach (2003), and the core strategies of genre-based pedagogy (Carstens, 2009:131). The present study seeks to align the teaching and learning practices and approaches discussed in Chapter 3 with the key pedagogical strategies presented below.

Table 7.1: Kumaravadivelu's postmethod conditions, Butler's key issues in the teaching and learning of academic writing, and foundational strategies of genre-based pedagogy

Kumaravadivelu's macrostrategies	Butler's key issues in the teaching and learning of writing	Core strategies in genre-based pedagogy
K1 Maximize learning opportunities	B4 Consider learners' needs and wants as a central issue in academic writing	Identify learner's needs (Paltridge 2001:40ff)
K2 Facilitate negotiated interaction	B9 Acknowledge assessment and feedback as central to course design	Stretch learners' abilities through interaction with teachers and more knowledgeable peers (Vygotsky, 1978)
K3 Minimize perceptual mismatches	B9 Acknowledge assessment and feedback as central to course design	Facilitate a "visible pedagogy" (Hyland, 2004:88)
K4 Activate intuitive heuristics	B3 Engage students' prior knowledge and abilities in different literacies to connect with academic literacy in a productive way	Validate learners' prior knowledge and draw upon students' previous experiences (Paltridge, 2001:40ff)
K5 Foster language awareness	B11 Include productive strategies that achieve a focus on language form	Provide sufficient information about text structure, grammar and lexis, so as to empower students to make informed choices (Hyland, 2003:131; 2004:104-105)
K6 Contextualize linguistic input	B10 Provide relevant, contextualized opportunities for engaging in academic writing tasks	Contextualization of linguistic input is implicit in all genre-based designs, since all applications are related to authentic texts and real-world problems
K7 Integrate language skills	B13 Focus on the interrelationship between different language abilities in the promotion of writing	Integrate reading and writing skills (Johns, 2005:35; Hyland, 2004:113)
K8 Promote learner autonomy	B5 Create a learning environment where students feel safe to explore their own voices in the academic context	Note: Promoting learner autonomy is a feature that is only weakly represented in genre-based designs
K9 Ensure social relevance	B2 Include an accurate account of the understandings and requirements of lecturers/supervisors in specific departments or faculties regarding academic writing	Identify the kinds of writing that learners need to do in their target situations (Hyland, 2003:93)
K10 Raise cultural consciousness	B3 Engage students' prior knowledge and abilities in different literacies to connect with academic literacy in a productive way	Validate and draw upon students' previous experiences (Paltridge, 2001:40ff)

As discussed in Chapter 3, a process-genre approach was adopted in the design of the writing interventions. This involved generating activities around authentic, discipline-specific texts (genres) to teach conventions of academic writing. In the discussion that follows, the use of the pedagogical strategies in Table 7.1 is highlighted by the placement in italics of these. The activities developed by the Write Site were designed to facilitate students' critical engagement with multiple texts

relevant to a particular writing task they were required to produce in their respective fields of study. Relevant genres were thus used to familiarise students with the organisational norms and conventions, and argument formation typical of their subject-area discourse, so that they might replicate these successfully in their own writing assignments. Thus, by engaging critically with reading texts towards informing academic writing, the intervention materials focused on the *interrelationship between different language abilities in the promotion of writing* (see K7 and B13 in the table above).

The writing aspects covered in the instructional materials were selected according to the information provided by the needs analysis that took into consideration the *requirements of lecturers in specific departments regarding academic writing*. Thus, the design of the materials *aimed to maximise learning opportunities* by tailoring the interventions to their *specific writing needs and wants*. The incorporation of discipline-specific texts also ensured for the *provision of relevant, contextualised opportunities for engaging with academic writing tasks*, since all activities were geared towards assisting students with the production of a written text that formed part of assessment in their *target situations*.

The process-genre approach furthermore required that students produce multiple drafts of their writing tasks. This was done to make students aware of the recursive nature of writing, and the logical progression of the various stages of the writing process. Individual consultation sessions at the Write Site furthermore provided students with individualised, formative feedback on particular areas of concern in their writing. In addition to addressing higher-order issues (e.g. *text structure*), individual sessions also *fostered students' language awareness* by providing feedback on lower-order issues, such as *grammar and lexis*. The individual sessions were intended to reinforce the aspects addressed in the instructional materials and facilitate students' application thereof. In this way, the interventions *facilitated negotiated interaction* by requiring students to engage with *feedback* provided during their *interaction with knowledgeable peers* (i.e. writing consultants). In their interaction with field-specific academic knowledge and with those providing writing

support, the technical interaction with texts and peers is once again evident. The Write Site furthermore provides students with a *safe environment* in which they *develop their authentic voices* by means of discussions with writing consultants around meaning-making.

A blended mode was adopted for the delivery of the writing support. Students were exposed to a combination of face-to-face and online learning opportunities. Such an approach presents the opportunity to accommodate students' varying learning styles and preferences, and affords them access to learning opportunities that *facilitate their autonomy*, reflection and control over their personal learning. The online learning materials contained additional supplementary instructional videos and resources, which could be downloaded and accessed repeatedly if necessary, to facilitate students' understanding and application of key writing aspects, and at their own pace. Face-to-face sessions, in the form of contact sessions during scheduled class time and individual sessions in the writing centre, provided students with opportunities to discuss their understanding of key concepts with the instructor, as well as with their peers. A blended learning approach therefore serves to *engage students' prior knowledge and abilities in different literacies to connect with academic literacy in a productive way*.

The needs analysis was necessary to determine which academic literacy and writing skills needed to be developed further in order to promote students' success in their studies. The section that follows provides an overview of the purpose of the writing intervention created for the URP student cohort.

7.3 Purpose of the URP writing intervention

The findings of the needs analysis generally revealed that students are inadequately prepared to negotiate the academic writing demands of tertiary studies. In brief, these findings suggest that students typically struggle to access complex disciplinary texts, and to extract key information from these sources towards forming logical and effective academic arguments in their written texts. As discussed in earlier chapters, the gathering, processing and production of information are complex processes

involving numerous academic literacy abilities. The results of the APPMI, which measured students' preparedness to produce information, and that was discussed in the previous chapter, furthermore indicated that the majority of students required additional support in negotiating the processes of gathering and processing information.

The target cohort of URP students was required to produce a literature review as part of their course assessment. The literature review was thus used as a basis to address the academic literacy abilities identified by the needs analysis. The writing intervention for this cohort comprised five sequential parts; the first required that students submit a first draft of their literature reviews via Turnitin on Blackboard before they are exposed to any part of the writing intervention. The purpose of the pre-submission was to have students commit to a response based on their existing knowledge of literature writing, their understanding of the topic they selected to write about, as well as to make them aware of potential plagiarism issues (in the form of a Turnitin report). This was followed by a face-to-face component comprising three 2-hour sessions scheduled during students' subject class time. The purpose of this component was, by means of a series of in- and out-of-class activities, to build students' awareness of the purpose of the literature review; facilitate their understanding of various structural and organisational conventions of literature review writing; and how to go about identifying evidence and key information in relevant sources towards developing academic arguments.

The online component served to reinforce key aspects addressed in the face-to-face sessions, and provide students with the opportunity to practise the application of these aspects. The online learning materials consisted of five parts, each with a particular focus, that spanned a period of five weeks – one week per part. The content of the online materials was carefully scaffolded and had to be completed in sequence; each part had to be completed and all answers submitted online before students could progress to the next part of the materials.

Upon completing the face-to-face and online components of the short course, and revising their draft literature reviews accordingly, students attended a minimum of

two individual sessions at the Write Site. These sessions provided students with individualised support based on their specific writing needs for completion of their literature reviews. Once students were satisfied that they had made the necessary amendments to their drafts, they submitted a final version of their texts via Turnitin on Blackboard. These were then downloaded from Blackboard and sent electronically to the content lecturer for assessment purposes.

The various components of the writing intervention were carefully scaffolded to provide students with support that was as specific, relevant and comprehensive as possible within the period made available by the department for additional writing support. The next section serves to provide an overview of the content of the URP writing intervention.

7.4 URP intervention content

The various components of the face-to-face and online learning materials each dealt with a particular theme. Table 7.2 presents an overview of the various themes covered by the URP short literature review course, and stipulates the purpose and duration of each component.

Table 7.2: Overview of URP short course content

Session	Session theme	Purpose	Duration
Pre-intervention submission	First draft of literature review	Students commit to a first draft of the literature review based on what they think they know about writing a literature review	8 weeks
Face-to-face: Session 1	Understanding the purpose of a literature review and identifying relevant sources	Elaborate on the purpose of a literature review Identify various components of a literature review Identify sources that are relevant to a particular topic Apply reading strategies to analyse academic articles in terms of relevance Distinguish between essential and non-essential information	2 hours
Face-to-face: Session 2	The art of paraphrasing and summarising	Identify key information in sample texts Illustrate the difference between summarising and paraphrasing Summarise a sample text Paraphrase sample information	2 hours
Face-to-face: Session 3	Synthesis and developing arguments	Distinguish between descriptive and interpretive elements in a literature review Integrate information from sources into their own writing Formulate well-structured paragraphs, in relation to the development of own arguments Use linking words and discourse markers to create flow in writing, and give direction to arguments presented in own texts Reference sources correctly and accurately in acknowledgement of evidence used to support own arguments	2 hours

Online materials: Part 1	Developing vocabulary in context	Identify and use academic vocabulary they are likely to encounter in their disciplinary texts	Available for 1 week
Online materials: Part 2	Identifying main ideas in sample texts	Identify the topic of specific paragraphs in a text, the topic of a text as a whole, as well as the author's main point or argument.	Available for 1 week
Online materials: Part 3	Paraphrasing key information	Familiarise students with strategies for effective paraphrasing	Available for 1 week
Online materials: Part 4	Developing academic arguments	Familiarise students with the format of academic arguments, as well as the inclusion of relevant and appropriate evidence	Available for 1 week
Online materials: Part 5	Using linking words effectively	Familiarise students with the linking words and phrases used to signal the relationships between information and ideas	Available for 1 week
Write Site sessions	Individual consultation sessions	Address students' individual higher-order and lower-order writing needs	2 – 4 hours (minimum)
Post-intervention submission	Final version of literature review	Students submit a final version of their literature reviews based on writing aspects covered in the short course and individual sessions at the Write Site	

As mentioned, each of these components focused on aspects of writing and were carefully scaffolded to assist students to develop the necessary literacy skills that could be applied to their literature review writing. The following is a brief discussion of the function of the various activities constituting each component in terms of developing target academic literacy abilities.

The first face-to-face session focused on *understanding the purpose of a literature review and identifying relevant sources.* The materials for this session constituted several activities that were designed to activate students' background knowledge of the function of a literature review, the structure of this particular text type, as well as applying reading strategies towards identifying relevant sources and information within sources for inclusion in their literature reviews. The relevance of the content of this session was borne out by perceptions of staff that students struggle with text structure, as well as reading and understanding disciplinary literature. The latter was confirmed by the results of the *text comprehension* section of the APPMI.

In their responses to the various group work activities, students were required to reflect on their initial literature review drafts that they had submitted online before

the session. At the end of each activity, students were exposed either to an instructional video or to a handout in their course guides, or in some cases to both. These provided information on the subject of each activity, which they could refer back to at a later stage while revising their draft literature reviews. After the first session, students had to complete two activities that assessed their ability to apply what they had learned in terms of structuring a literature review and identifying sources relevant to their literature review topics. These were submitted via Blackboard and assessed accordingly. The following is an example of one activity in this session that required students to identify information in sample texts relevant to support a particular claim/argument.

Activity 3: Imagine that you are writing a literature review and the argument/viewpoint you want to develop is the following:

"Sustainable development is a complex concept made even more so by the fact that there is no commonly accepted definition of sustainability. There is a growing body of research that attempts to conceptualize urban renewal sustainability in different contexts" (Zheng, Shen & Wang, 2013: 273).

Review the following academic article outlines and answer the questions that follow (*only one provided as an example*).

UrbanStudies
48(2) 273-296, February 2011

Conceptualising Sustainability in UK Urban Regeneration: a Discursive Formation

D. Rachel Lombardi, Libby Porter, Austin Barber and Chris D.F. Rogers

Abstract   Despite the wide usage and popular appeal of the concept of sustainability in UK policy, it does not appear to have challenged the *status quo* in urban regeneration because policy is not leading in its conceptualisation and therefore implementation. This paper investigates how sustainability has been conceptualised in a case-based research study of the regeneration of Eastside in Birmingham, UK, through policy and other documents, and finds that conceptualisations of sustainability are fundamentally limited. The conceptualisation of sustainability operating within urban regeneration schemes should powerfully shape how they make manifest (or do not) the principles of sustainable development. Documents guide, but people implement regeneration— and the disparate conceptualisations of stakeholders demonstrate even less coherence than policy. The actions towards achieving sustainability have become a policy 'fix' in Eastside: a necessary feature of urban policy discourse that is limited to solutions within market-based constraints.

1.   Introduction (excerpt)

This paper draws on a case-based research study of the regeneration of the Eastside quarter in Birmingham, UK. Birmingham City Council (BCC) adopted a sustainability agenda in the early 2000s for the Eastside quarter, when funding became available through European Regional Development Funds (ERDF) for a major infrastructure project (see Porter and Hunt, 2005). The paper reports on a detailed analysis of the discourse of sustainability as it operates in relation to Eastside, both within and beyond public policy circles. The paper finds that, due to a very narrow definition of sustainability and an approach of technological 'add-on' to urban regeneration with little lifestyle change required, weak sustainability has in fact become a policy 'fix' in Eastside (following While et al., 2004): a feature of contemporary urban policy discourse made out to appear as if it addresses systemic social and environmental problems in urban development, but is really just 'more of the same'.
We begin with a targeted review of theoretical perspectives on 'sustainability' and its relationship to urban regeneration policy in the UK. We consider this to be an important activity in sustainability research, as the term itself is somewhat poorly theorised. The paper then introduces Eastside as a regeneration quarter and the methodology adopted in our research. We report on the key findings and provide a mapping of sustainability rationalities operating in Eastside and an assessment of their influence in urban regeneration programmes.

2.   Theorising Sustainability
2.1   Three Pillar Models of Sustainable Development
2.2   Weak-Strong Sustainability Continuum
2.3   Sustainability and Urban Policy
3.   Background and Methodology
3.1   Eastside as the Exemplar Sustainable Quarter
3.2   Methodology
4.   Analysis and Discussion of Key findings
4.1   How Does the Conceptualisation of Sustainability Vary Across a Single Regeneration Project?
        Three dimensions of sustainability
        Weak-strong continuum
4.2   Is Policy Leading the Discourse?
5.   Conclusions
        References

3.1 Which article/s would most likely contain information relevant to your argument/viewpoint?

3.2 Mark the information on the article outline/s that you think is/are relevant to the viewpoint/argument at hand.

The second face-to-face session focused on *paraphrasing and summarising* key information in relevant sources. The aim of this session was to illustrate to students how to go about processing relevant information gathered from multiple sources for inclusion in their own writing. The inclusion of these elements in the instructional materials is supported by students' performance on the "organising information visually" and "understanding text type and communicative function" subtests of the APPMI. The session started with providing students with summarising strategies that they then had to apply to a sample text. The process of summarising was scaffolded by means of a series of guiding questions. The questions were aimed at assisting students to navigate the sample text. Examples of these guiding questions include the following:

1.1   What is the author's main claim in the first paragraph under **'Review of studies on sustainable urban renewal'**? Underline or highlight this claim.

1.2   Which figure in the excerpt could serve as a visual representation of the information you are required to summarise? Mark this figure in the text.

1.3   Accordingly, mark the elements in the text that are relevant to the sub-section you are required to summarise.

1.4   For each of these elements, mark the sentence/s that contain the main idea of each paragraph.

1.5   For each element, mark one key example/elaborative sentence that either supports or expands on the main idea.

Similarly, students were presented with basic paraphrasing strategies which they had to apply to excerpts from an article relevant to the topic of their literature reviews. Samples of student paraphrases were selected and discussed with the whole class to determine whether they had effectively paraphrased the sample text. Students then assessed one another's paraphrases based on the criteria used to assess the samples in the class discussion. To assess students' application of the concepts covered in this session, they demonstrate how they had applied what they had learned towards

improving on the paraphrasing in a sample paragraph from their draft literature reviews.

The third face-to-face session concerned the synthesis and development of academic arguments. The session aimed to familiarise students with the sequencing of information in developing an argument, in terms of premises and conclusions, as well as how this information is structured to form coherent paragraphs. This section of the learning materials is substantiated by perceptions of staff concerning students' inability to produce sound academic arguments (see also Pot, 2015), as well as students' performance on various APPMI subtests. These subtests include "organisation of text", "understanding text type and communicative function", "making academic arguments", as well as "grammar and text relations". The sample activity below illustrates the scaffolding involved in guiding students to apply what they had learned towards formulating a logical argument.

Activity 4: Study the claim and select 2 reasons (premises or 'becauses') in support of the claim from the list below.

CLAIM: *We have a moral obligation not to destroy and pollute the environment.*

BECAUSE:

1. Human life is crucially intertwined with the ecosystem as a whole.
2. Species are dying out on a daily basis.
3. If we destroy one part of the ecosystem, we may unwittingly trigger a chain of events that ultimately culminates in substantial detriment to human wellbeing.
4. The quality of air is getting worse and soon the earth's atmosphere will turn into a greenhouse.

View the following table of words and phrases that can be used to indicate conclusions and premises in your writing. Remember that the statement that immediately follows a conclusion indicator is the conclusion, and a statement following a premise indicator is a premise. This is easy to remember when you keep in mind that the purpose of premises is to give reasons in support of a conclusion, and that all premise indicators mean roughly '*for the reason that*'.

Conclusion indicators	therefore	this shows that
	in conclusion	accordingly
	it follows that	subsequently
	we can conclude that	thus
	consequently	hence
Premise indicators	because	insofar as
	for	firstly, secondly, thirdly
	if …	seeing that
	moreover	in the light of
	since	given that
	for the reason that	whereas

[Adapted from Van den Berg, M.E.S. 2010. Critical reasoning and the art of argumentation]

Use the following sample argument structure and the list of conclusion and premise indicators to formulate your own argument.

<table>
<tr><td align="center">**Premise 1**</td><td align="right">**Premise 2**</td></tr>
</table>

Given that [all human beings should be treated equally] and *seeing that* [no person should be denied a job on the basis of race and sex], *it follows that* [**job discrimination based on race and sex is unjust**].
Conclusion

Your argument:

……

……

……

……

As mentioned, the online learning materials were intended to provide students with additional opportunities to practise some of the key aspects addressed during the face-to-face sessions. Since the latter sessions were limited to three 2-hour sessions, the online learning pathway allowed for more time to address various aspects in more detail, as students had a whole week to complete each part, and could do so in their own time. All the parts were activities-based, incorporated supplementary instructional materials and resources to aid students' understanding of key concepts, and provided immediate feedback on their answers. Part 1 of the online learning pathway focused on developing students' academic vocabulary knowledge and application, which is essential to their ability to negotiate and understand complex academic texts. The results of the "vocabulary knowledge" subtest of the APPMI indicate that students could benefit from the inclusion of materials that support their academic vocabulary development. The vocabulary part constituted several activities that followed a particular pattern – first students had to determine the definitions of key academic words (Coxhead, 2000) based on their use in context. After receiving immediate feedback on their choices, students' ability to use these words was tested by having them select the most appropriate words from a word bank to complete sample sentences (in context).

The second part of the online materials started with a series of activities aimed at helping students identify topics, main ideas and main arguments in excerpts from authentic sample texts. Thereafter, they had to match these sample excerpts with

figures that most appropriately depicted a summary of the information contained in each excerpt. The APPMI subtest results that are of relevance here include "organising information visually", "understanding text type and communicative function", "interpreting visual and graphic information", and "text comprehension". Examples of the types of questions in this regard are provided below. This section was designed to develop students' understanding of communicative function, knowledge of text type, as well as their ability to identify relevant/key information.

After having read the three excerpts, analyse the three figures below. Which of these are relevant to excerpt 1?
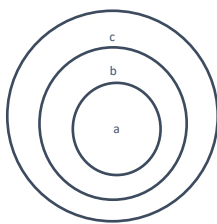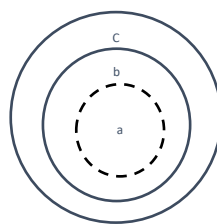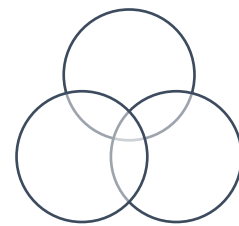
Figure 1   Figure 2   Figure 3

A   Figure 1
B   Figure 2
C   Figure 3

Based on your understanding of the three excerpts, what would serve as appropriate labels for A, B, and C in Figures 1 and 2?

A   a: Economy   b: Society   c: Environment
B   a: Environment   b: Economy   c: Society
C   a: Society   b: Environment   c: Economy

Part 3 aimed at providing students with scaffolded opportunities to practise different paraphrasing strategies. Students were first required to watch an instructional video on effective paraphrasing before commencing with the activities. Although the first activity guided students to apply the strategy of substituting key information with synonyms or phrases of similar meaning, the majority of Part 3 was dedicated to the paraphrasing strategy that required students first to change the structure of the sentence before substituting key words with synonyms/phrases of similar meaning. Since this strategy often involves changing sentences from active to passive form, students were first required to watch an instructional video on active and passive

constructions and download a resource on active and passive tenses, before attempting to identity the subject, verb and object in sample sentences. Thereafter, students had to complete activities that required them to select the most appropriate passive construction of a sample sentence from a series of options, as illustrated by the following example.

Based on your answers to the questions in the previous activities, decide which option presents the best passive construction of the original sentence in each case.

> Over the past 20 years, South Africa has experienced momentous changes, particularly in the political and legislative arenas.

A   Over the past 20 years, momentous changes have been experienced by South Africa, particularly in the political and legislative arenas.

B   South Africa has experienced momentous changes, particularly in the political and legislative areas, over the past 20 years.

C   Momentous changes, in the political and legislative areas, were experienced by South Africa over the past 20 years.

This was followed by activities that first required students to apply what they had learned about passive constructions by rearranging the components of sentences into passive form by dragging them into the correct position. Thereafter, once in passive form, students had to select the most appropriate synonyms for specific words/phrases in the sample sentences from a word bank. The final step involved using their answers to the previous activities to formulate an appropriate paraphrase for the sample sentences provided. Thus, the various activities were carefully scaffolded to provide enough support to guide students towards producing more effective paraphrases. Students were provided with immediate feedback after each activity to promote their understanding of key aspects before moving onto subsequent activities. In addition to the focus in Part 3 on activities that addressed vocabulary, complex grammar and text relations, the ability to paraphrase effectively is essential to extrapolation, synthesis and the construction of academic arguments. The results of the APPMI that validate the inclusion of materials that target these literacy abilities include those pertaining to "vocabulary knowledge", "text comprehension", and "grammar and text relations".

Part 4 focused on the development of academic arguments. Again, the section commenced with an instructional video, the content of which had to be applied to sample texts. Students were required to identify the main arguments (conclusions), as well as relevant support (premises) for the arguments/conclusions presented in the texts. The next step involved identifying the function of each premise in terms of the type of support it provided (communicative function). This was followed by activities that required students to identify words and phrases that signalled premises and conclusions in the sample texts, as illustrated below.

1. Which words in the sample text signal conclusions of an argument?

A   'because' and 'hence'

B   'if' and 'then'

C   'then' and 'hence'

D   'because' and 'then'

2. Which words in the sample text signal premises (reasons or 'becauses')?

A   'because' and 'if'

B   'if' and 'then'

C   'because' and 'hence'

D   'then' and 'hence'

3. Based on the signal words you identified in the previous two questions, which statement is the main conclusion in the sample paragraph?

A   statement 1

B   statement 3

C   statement 4

D   statement 5

Subsequent activities required students to rearrange sample sentences so that they presented a logical and coherent argument. Based on students' performance on the "text type and communicative function", organisation of text", "understanding text type and communicative function", and "developing academic arguments" subtests of the APPMI, Part 4 aimed to address abilities pertaining to communicative function, the identification of relevant information and evidence, as well as the construction of academic arguments.

The final section focused on the use of linking words and phrases to signal the relationships between information and ideas. The decision to address these skills was based on the results of the "grammar and text relations" and "text editing" subtests of the APPMI. Students first watched an instructional video on "transition words in reading and writing", after which they were required to indicate the correct function of linking words used in context. Thereafter, they had to access a list of linking words and phrases and apply them to various sample texts in which transitional devices had been omitted. The skills addressed in this part thus included complex grammar and text relations, and, to a certain extent, constructing academic arguments. The following is an example of the application-type activities in this part.

Read the excerpt paragraphs that follow in which various linking words have been omitted.

1   **[i]** of both these externalities, city planners must balance the positive and negative effects of tourist use of public transportation by managing supply. **[ii]**, if the city does not take advantage of the opportunity offered by tourists to fund services because of the increased occupancy factor in off-peak periods and holidays, **[iii]** the system will incur larger deficits. This foreign cross-subsidy allows city planners to reduce the average charges to local users (or alternatively reduce budget subsidies to the transportation system).

2   **[i]**, planners must be aware that regular supply in peak-time periods that coincide with high tourist arrivals can aggravate the competition for limited resources and urban spaces between residents and tourists. **[ii]**, there is a balance that has to be considered **[iii]** managed when using cross-subsidies from tourists as a contribution to transport funding.

Select the most appropriate combination of linking words or phrases to fill in the blanks in paragraph 1.

	[i]	**[ii]**	**[iii]**
A	take the case	however	since
B	as a consequence	on the other hand	then
C	in spite	but	given
D	because	yet	then

Select the most appropriate combination of linking words or phrases to fill in the blanks in paragraph 2.

	[i]	**[ii]**	**[iii]**
A	however	in addition	or
B	in brief	as a result	yet
C	in addition	but	and
D	moreover	therefore	and

In terms of scaffolding, the design of the URP materials comply with Wood, Bruner and Ross's (1976) functions of scaffolding complex activities, and that were discussed in greater detail in Chapter 3 above. Having students complete a first draft of the literature review *focused their attention on the task at hand*. The instructional materials were divided in various components that focused on specific themes, and each component comprised a series of application-type activities. Thus, the complex task of producing a literature review was *broken up into a series of simplified steps* that aimed to *motivate students to achieve a particular goal*. The general design principle at stake here is that of technical differentiation (a reference within the technical to organic life) that was outlined in Chapter 4. The more differentiated an instructional plan is, the less humdrum it is, and the greater its technical potential to produce the desired effect: that students' language will develop. Students' motivation to achieve the outcomes of each part of the online learning materials was also promoted by the immediate feedback provided on their answers. The immediate feedback thus made students aware of where they had gone wrong in their answers to various activities, and provided them with access to additional resources to aid their understanding and application of key concepts. The use of authentic, discipline-specific texts to address specific writing aspects also served to provide students with *idealised models for required actions*. In short, the opportunity to submit a revised draft based on what they had learned from the instructional materials and individual consultation sessions at the Write Site served to *minimise students' risk of failure*.

A similar approach was adopted to the design of the writing intervention to assist first-year Law students with producing a legal essay. As stated at the beginning of the chapter, these materials do not form the main focus of this study and will therefore be discussed in the section that follows mainly as a brief further illustration of the application of the strategies for language course design and instruction that were articulated in section 7.2 above.

7. 5 Law intervention

The Faculty of Law has taken to addressing students' writing skills from as early on as possible, given the general consensus that Law graduates' writing lacks focus, fails to develop overall theme or case theory, makes little use of composition rules, and is generally unpersuasive (Kosse & Butler, 2003). In light of this, the Law faculty approached the Write Site for assistance with their first-year Legal Skills students' essay writing skills. A blended, process-genre approach was again adopted to the design and implementation of the writing intervention materials. Table 7.3 provides an overview of the intervention content.

Table 7.3: Overview of Law intervention content

Session	Purpose	Duration
Pre-intervention submission	Students commit to a first draft of the legal essay based on their existing knowledge of essay writing, and application of case law and legislation	2 weeks
Face-to-face: information session	To inform students about the various steps of the writing intervention, and to show them where to access the online learning materials, how to go about answering online activities, and where to make their essay submissions	40 minutes
Online learning materials	The materials focused on: Academic essay structural requirements Introduction and thesis statement formulation Body paragraph identification, formulation and development; Conclusion formulation Use of linking words to connect ideas in a text	Available for 1 week
Write Site sessions	Address students' individual higher-order and lower-order writing needs	2 hours (minimum)
Post-intervention submission	Students submit a final version of their legal essays based on writing aspects covered in the online learning materials and individual sessions at the Write Site	

Similar to the URP, the Law intervention required that students submit a complete first draft of their legal essays before engaging with any part of the writing intervention. Upon submission, students gained access to the online learning materials, which they had one week to complete. After having completed the online learning component, students amended their first essay drafts based on what they had learned, and attended two individual sessions at the Write Site. After each individual session, they were encouraged to work on the feedback received from their

consultants and make the necessary amendments to their texts before submitting a final version via Turnitin on Blackboard. These final texts were downloaded by the Write Site administrator and sent to the Legal Skills content lecturer for assessment. In the same way that the URP materials employed scaffolding strategies in the design of learning activities, Figure 7.1 illustrates the function of the various activities and instructional materials comprising the online component of the Law intervention, and how they were scaffolded to aid students' understanding and application of various essay writing conventions.
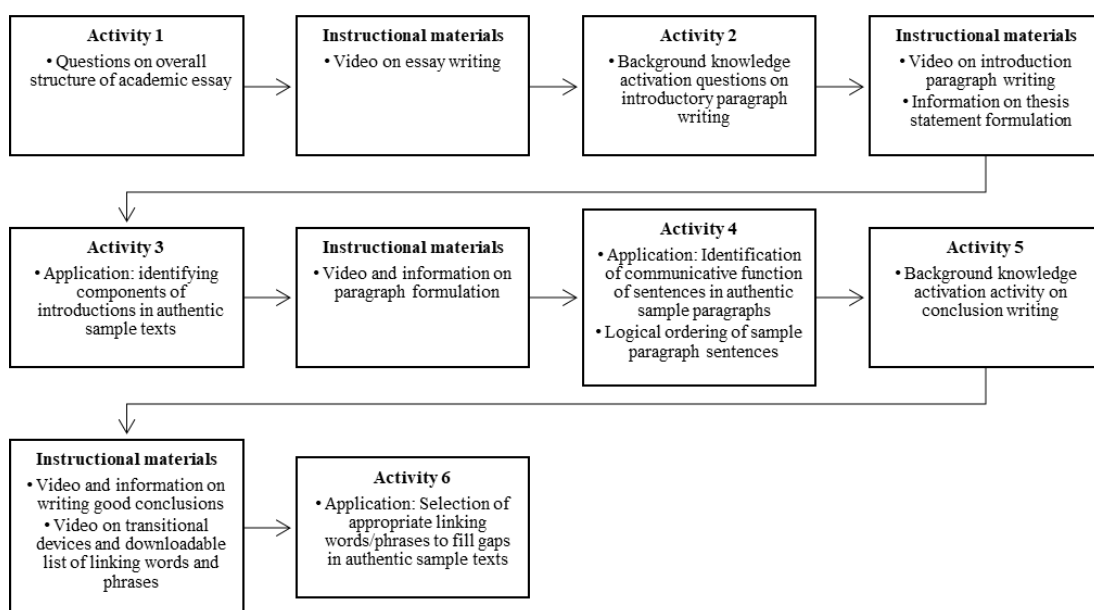
Figure 7.1: Overview of online learning content

7.6 Conclusion

In summation, this chapter has served to provide an overview of the approach taken to the design and implementation of discipline-specific writing interventions for URP honours and first-year Legal Skills (Law) students. The chapter has discussed how a blended, process-genre approach was adopted to meet the academic literacy and writing needs identified in Chapter 5, in terms of the needs analysis, and the analyses discussed in Chapter 6 of the results of the APPMI. Of course, the primary goal of the study is to determine the extent to which these writing interventions were

successful in developing these skills. Responsible design, however, also requires that students' perceptions of their learning be taken into account, in order to gauge whether the technical effect of the intervention was as expected. The chapter that follows therefore not only evaluates the potential impact of the URP and Law interventions, but also provides insight into students' perceptions of their learning experiences.

Chapter 8: Evaluation of subject-specific writing interventions

8.1 Introduction

The technical effect, as well as the designed effectiveness of language solutions that are devised on scale within an institution, is an important condition for the planning of these interventions, and fits in with the framework for the responsible design of these applied linguistic artefacts that is the theoretical backbone of this study. This chapter thus aims to assess the potential impact of the discipline-specific academic writing interventions on Urban and Regional Planning (URP) honours and first-year Law students' academic writing abilities. As discussed in the previous chapter, a blended, process-genre approach was adopted to the design and implementation of discipline-specific writing interventions aimed to assist URP honours students with the production of a literature review, as well as Law students with a legal essay.

For the purpose of this study, the notion of impact is defined as 1) "the observable improvement in academic literacy abilities (writing) between the onset and the completion of an academic literacy intervention, and 2) the extent to which these abilities are necessary and applied to students' content subjects" (Fouché, 2016). In terms of the latter point, previous chapters have discussed the abilities deemed essential by staff and students with regard to writing at tertiary level. The identification of these determine for a good part the technical fit or appropriateness of what is planned for inclusion in language instruction in order to make this happen. This chapter therefore serves to measure the degree of observable development in the target students' writing abilities after having been exposed to writing interventions, and the extent to which they were able to apply what they had learned to the writing tasks due in their respective disciplines.

The information that follows presents the research designs, the data collection and analysis procedures, and the participants, followed by a discussion of the results pertaining to the writing interventions administered to the two afore-mentioned student cohorts.

8.2 Data collection

The section that follows provides an overview of the data collection procedures depicted in the notation systems above for the two discipline-specific writing interventions.

8.2.1 URP data collection procedure

Chapter 5 discussed in detail the student and staff questionnaires that were used to determine perceptions of academic writing needs at tertiary level. This was followed by a discussion of the APPMI in Chapter 6 that measured students' writing readiness, as well as the areas of concern regarding their ability to produce academic texts. These data sets, together with a document analysis of subject-area departmental writing requirements, literature review (text type) conventions, and prescribed readings related to the literature review topic, formed part of the needs analysis that informed the development of the URP writing intervention.

The needs analysis was followed by the collection of multiple data sets that were used to determine the potential impact of the URP writing intervention. A summary of the instruments used to collect these data sets at different stages during the writing intervention is illustrated by Table 8.1 below.

Table 8.1: Overview of data collection procedure

Instrument	Data type	Information collected	Purpose
Document analysis	Quantitative	Students' pre and post-intervention literature review submissions	Marked according to a set of criteria to determine impact
Evaluation forms	Qualitative	Students' evaluation of face-to-face and online learning materials	To determine students' perceptions of their learning
	Qualitative	Consultant feedback on individual sessions at Write Site	To provide an overview of writing issues addressed during sessions
	Qualitative	Student evaluation of individual sessions at Write Site	To determine students' perceptions of their learning
Interview	Qualitative	Staff perceptions of writing intervention	To follow up on perceptions of academic writing requirements illuminated in staff questionnaire
Marks lists	Quantitative	Students' performance on final literature review in subject area	To determine the extent to which departmental marks correlated with students' performance in writing intervention

	Quantitative	Students' performance on out-of-class activities following face-to-face sessions	To determine students' ability to apply what they had learned
	Quantitative	Students' performance on online activities	To determine students' ability to apply what they had learned
APPMI test	Quantitative	Students' performance on APPMI post-test	To determine potential improvement in students' academic literacy abilities

The document analysis involved marking students' pre- and post-intervention literature review submissions according to a set of criteria. This was done to measure the potential impact of the writing intervention on students' ability to produce an acceptable literature review. The rubric (cf. Appendix C) used to assess students' submissions comprised eight sections; namely, literature review structure, introduction, body, coverage of content, conclusion, logic/coherence, referencing, as well as vocabulary, usage and mechanics. Various sample literature review rubrics were analysed to determine appropriate sections for the rubric used in this study. Each section furthermore contained a number of criteria relevant to the aspects/conventions of literature review writing that were addressed during the various stages of the intervention. Thus, the eight sections of the rubric comprised 29 criteria in total. Students' pre- and post-submissions were blind reviewed by five writing consultants who were selected based on their consultation experience and qualifications (MA or PhD). These assessors were furthermore uninformed about whether the scripts they were marking were pre- or post-submissions. Each criterion on the rubric was graded according to a scale ranging from 'inadequate' with a minimum of 0, to 'excellent' with a maximum of 10 marks per criterion.

Students were furthermore required to complete an evaluation form after each face-to-face session (3 sessions), as well as after Parts 1-5 of the online learning materials. The former (cf. Appendix D) consisted of nine 4-point Likert scale questions, which evaluated students' perceptions on various aspects of the sessions, followed by two open-ended questions designed to elicit further information on students' perceptions of the face-to-face sessions. The online materials evaluation forms (cf. Appendix E) comprised 12 questions asked in a 4-point Likert scale format to gauge students' perceptions of the online learning experience, and four open-ended questions that elicited further information about the content and delivery of the learning materials.

In terms of the individual Write Site sessions, writing consultants and students had to complete an evaluation form after each consultation session (cf. Appendixes F and G). The first two sections of the consultant form collected student and subject course information, while the third section collected information on the various aspects addressed during each individual session. The student form also consisted of three sections; the first two focusing on student and content course details, while the third contained questions pertaining to session details (e.g. name of consultant and length of session), students' perceptions of their learning, as well as aspects covered during the session.

At the end of the intervention, a follow-up, semi-structured interview was held with the subject-area lecturer, as well as the departmental student assistant who had marked the final literature review submissions. The interview (cf. Appendix H) consisted of a series of questions designed to expand on the perceptions of academic writing requirements illuminated in staffs' responses to the staff questionnaire at the beginning of the study. The interview also included questions on their perceptions on certain observations made by the researcher during the course of the writing intervention, as well as their views on the appropriateness and potential impact of the writing intervention offered by the Write Site.

The results of students' performance on the final literature review and various activities during the short writing course were also collected to determine their ability to apply what they had learned during the various stages of the intervention. These data sets included students' performance on four out-of-class activities following the face-to-face sessions; their performance on Parts 1-5 of the online learning materials; as well as their departmental scores for their final literature review submissions.

In addition, students wrote the APPMI post-test to determine whether the intervention had influenced their literacy proficiency scores. Due to logistical and time constraints, the post-test was administered in the form of two online summative activities, which students completed after Part 5 of the online learning component. The content lecturer was unable to allocate an additional two hours of students' course time to administering the post-test in a single session. Thus, given the small

cohort size, this was the only way in which a post-test score could be obtained for students within the time available.

8.2.2 Law data collection procedure

As with the URP intervention, a needs analysis was also conducted to determine the writing needs of the first-year Legal Skills students. The content lecturer was consulted in terms of her expectations of students' legal essays, and a document analysis was undertaken to determine which writing aspects to address in the writing intervention. The information collected in this regard informed the refinements of existing online learning materials for Law students at this level.

Table 8.2 below illustrates the data collection procedures for this intervention, which were similar in many respects to the procedures for the URP intervention. Students' pre- and post-intervention essays were also marked according to a checklist comprising 26 criteria to determine the extent to which the intervention influenced their ability to produce texts that met the requirements of good essay writing. These criteria were dispersed across seven sections; namely the introduction; body (paragraphs); conclusion; logic and coherence; referencing; as well as vocabulary, usage and mechanics. A list of students' final departmental essay scores were also obtained from the lecturer. In addition, evaluation forms were used to determine students' perceptions of the online learning materials, their feedback on the individual sessions at the Write Site, as well as consultants' feedback on writing aspects addressed during individual sessions.

Table 8.2: Overview of data collection procedures

Instrument	Data type	Information collected	Purpose
Document analysis	Qualitative data	Notes taken during information consultation with lecturer	Provide background on the writing task; writing needs of students; and writing aspects to be addressed
		Assignment instructions and prescribed reading materials	
		Existing writing intervention materials	Adapted to meet the specified needs
	Qualitative and quantitative data	Students' first and final essay drafts	Marked according to a set of criteria to determine potential impact

Evaluation forms	Qualitative and quantitative data	Student evaluation of online writing materials	Provide insight into students' perceptions of their learning
		Student evaluation form	Provide feedback on students' perceptions of individual assistance at writing centre
		Consultant evaluation form	Provide information on writing aspects addressed during sessions

8.3 Participants

This section provides information about the student cohorts who formed part of the URP and Law interventions.

8.3.1 URP participants

There were 36 students enrolled for the URP honours course, but the department decided to pilot the writing intervention with the 15 full-time students enrolled for the honours course. Although the completion of the various stages of the writing intervention was compulsory for these students, and their scores for the various short course activities formed part of their subject-area course marks, some students failed to engage fully with the writing intervention. For this reason, the results reported in later sections of this chapter do not always include all 15 students, as some students failed to complete activities or make submissions at different stages of the intervention.

8.3.2 Law participants

As part of their Legal Skills course, 343 Law students were required to engage with the writing intervention. Only those students who submitted a final version of their legal essays to the content lecturer were included in the study; thus, only 291 students formed part of the impact study. Purposive sampling (Nieuwenhuis, 2016) was used to select a representative sample (40%) of students who were divided into groups – those who engaged fully with the writing intervention (online workshop followed by two individual sessions), and those who did not (online workshop only). Due to submission errors, five students' essay submissions were excluded from the analysis.

Students' final departmental essay marks were used to divide them into performance brackets. A representative sample of students was then selected from each bracket for the analysis of the pre- and post-essay submissions. Table 8.3 illustrates the number of submissions selected from each performance bracket for analysis.

Table 8.3: Participants sampled for analysis

Performance brackets	Fully engaged (N=145)	Sample for analysis (n=56)	Partially engaged (N=105)	Sample for analysis (n=39)
<50%	2	1	7	3
50-62%	41	14	43	15
63-74%	95	38	53	20
75%	7	3	2	1

8.4 Results and discussion

The following section presents a discussion of the findings for the URP writing intervention, followed by a synopsis of the results for the Law intervention that formed part of the impact assessment research.

8.4.1 URP results and discussion

Table 8.4 shows the descriptive statistics for students' pre- and post-literature review submissions. It should be noted that two of the 15 students failed to submit a final literature review submission, and were thus excluded from the analysis. The results indicate that students obtained a mean score of 43% for their pre-submissions and 57% for their post-submission, indicating a mean improvement of 14% from pre- to post-submission.

Table 8.4: Descriptive statistics for pre- and post-submissions

Variable	n	Minimum	Maximum	Median	Mean	Std Dev
Pre-submission	13	23	59	42	43	11.5
Post-submission		40	67	59	57	8.1
Improvement		2	27	12	14	6.9

A Shapiro-Wilk test was run to measure the normality of the distribution of scores. The test produced a Sig. value greater than 0.05 (0.66), which indicates that the data was normally distributed and parametric tests are applicable. Thus, a paired t-test

was conducted to determine whether the improvement indicated above was statistically significant. From Table 8.5 it can be seen that the difference in pre- and post-submissions was in fact statistically significant (Sig. <0.001). However, since the t-statistic is sensitive to sample size, a Wilcoxon Signed-rank test was conducted to confirm the results of the paired t-test, which too indicated a statistically significant (Sig. <0.001) change in students' scores. From a practical perspective, these results can be interpreted as the writing intervention having enabled students to perform better by applying what they had learned to the completion of a disciplinary writing task.

Table 8.5: Paired t-test for differences in means between pre- and post-submissions

Paired Differences							
	Mean	Std Dev	Std. error mean	95% Confidence Interval		df	Sig. (2-tailed)
				Lower	Upper		
Post-pre submission %	14	6.95	1.93	9.8	18.1	12	.000

A further test was conducted to determine the extent to which students' post-submission scores correlated with the final literature review marks assigned by the department. The Pearson's product-moment r or r coefficient ranges between -1 and +1, and the closer the r coefficient is to ±1, regardless of direction, the stronger the relationship between the variables measured. A positive correlation indicates that as one variable increases, so too would the other, whereas a negative correlation is indicative of an inverse relationship; thus, as the one variable increases, the other decreases (Taylor, 1990). The correlation test in this case produced an r value of 0.53, which is representative of a modest or moderate correlation between students' post-submission marks and the final literature review marks assigned by the department. A possible explanation for this could be that the student assistant who marked the final submissions was perhaps more focused on the subject-area content than on the extent to which students complied with the conventions of good literature review writing.

In the interview with the lecturer and student assistant, the lecturer noted that when she marks, she uses a rubric that takes logical argumentation and structure into

account. In this case, however, the student assistant was tasked with marking the final scripts, and she commented that "if [she] has time, [she'll] read through the essay or the assignment and then give it a mark and then go back and look at the rubric and allocate and see how it matches up". It therefore appears that a general impression mark was assigned first and the rubric used to justify this impression mark, as opposed to marking each students' submission strictly according to the rubric. The effect this kind of practice may have on the consistency of the result, and the fulfilment of the criterion of technical reliability, is obvious. The assistant furthermore mentioned that her undergraduate degree had required very little writing, and that she had only been exposed to literature review writing during her Master's degree, which was ten years after the completion of her first degree. The assistant commented that she "really, really struggled with [her] literature review" and that "the golden thread didn't make sense". Although this assessor probably has a good grasp of the subject-area content, one could, based on these remarks, question the extent to which she is familiar with the conventions of the literature review as a specific genre, and thus the extent to which these conventions feature in her assessment of students' final scripts. The assistant also commented that:

> in the context of … South Africa and the political climate, you try to be sensitive towards everybody and understand where people are coming from, but … if you would send the exact same paper to an overseas moderator or examiner, they would just fail the students, where I think we are much more lenient, for various reasons.

The latter remark could account for the difference in students' average performance on the post-submission (57%) and the final literature mark (65%), considering the departmental assistant might have been more lenient in her marking than the writing consultants were in their assessment of students' post-submissions.

A measurement of the relationship between students' APPMI pre-test and post-submission scores showed a strong ($r = 0.81$) correlation, indicating a solid alignment between the skills measured in the APPMI test and those assessed in students' post-submissions. This, together with the test's high reliability (0.91), suggest that the APPMI successfully gauges students' readiness to write and that it could be used by

the department, and possibly other departments within the Social Sciences, to assess students' academic writing abilities. In the interview with the subject lecturer, she mentioned that the department needs a test "that [can] actually determine if the students know what they're reading and can write … coming in from a graduate degree to a postgraduate degree". The APPMI could thus meet the departments' need in this regard. The correlation between the APPMI pre-test and final departmental literature marks, however, was moderate (r=0.53), most likely due to a difference in the focus during assessment mentioned above.

A further objective of this study was to determine the extent to which the writing intervention influenced students' performance on the APPMI test. Tables 8.6 and 8.7 present the descriptive statistics and paired t-test results for the APPMI pre- and post-tests. On average, students' performance improved by 4.8%, from a mean of 66.8% to 71.6%, which is indicative of an improvement in their academic literacy, although not statistically significant. Research (Van der Slik & Weideman, 2008) has shown that the factors of time, initial level of academic literacy and mother tongue all have a significant effect on the improvement in students' academic literacy abilities. Given the limited duration of the course and that all 13 students were second-language speakers of English (1 Afrikaans, and 12 African languages), an average increase of nearly 5% is acceptable.

Table 8.6: Descriptive statistics for APPMI pre- and post-test

Variable	n	Minimum	Maximum	Median	Mean	Std Dev
Pre-test	13	42	88	69	66.8	13.2
Post-submission		46	93	69	71.6	12.7
Improvement		-15	25	5	4.8	13.3

Table 8.7: Paired t-test for differences in means between APPMI pre- and post-test

Paired Differences								
	Mean	Std Dev	Std. error mean	95% Confidence Interval		df		Sig. (2-tailed)
				Lower	Upper			
Post-test – pre-test %	4.8	13.33	3.70	-3.28	12.83	12		0.221

As was mentioned in Chapter 5, 47% of the 32 students who wrote the pre-test fell within the *high risk* (Level 1), *clear risk* (Level 2), and *risk* (Level 3) bands. However, a large percentage (69%) of the 13 full-time students who were required to engage in the writing intervention, fell within the *less risk* (Level 4) or *little or no risk* (Level 5) categories. Only three students (23%) fell within the *clear risk* or *risk* bands. Table 8 shows that the latter students, as well as one student from the *less risk* category went up a level in the post-test. Interestingly though, four students who were initially in the *little or no risk* band dropped one level, and two dropped two levels, from *less risk* to *clear risk*.

Table 8.8: Change in literacy levels from APPMI pre- to post-test

Band	% range	Level 1	Level 2	Level 3	Level 4	Level 5
High risk	0-33%	0	0	0	0	0
Clear risk	34-55%	0	0	**1**	0	0
Risk	56-59%	0	0	0	**1**	0
Less risk	60-74%	0	**2**	0	**2**	**1**
Little/no risk	>75%	0	0	0	**4**	**2**

These results could be interpreted in different ways. The improvement observed in Level 2 and 3 students, as well as the one Level 4 student, could be due to a 'maturing' effect as a result of students becoming more familiar with academic writing conventions. In the case of high-scoring students dropping a level, this could be attributed to a 'ceiling effect', since the mean score for Level 5 students was 83%, which did not leave much room for improvement. Another possible reason for the afore-mentioned results might be a 'regression to the mean' effect, where the pre-test score is not a true reflection of students' ability – either their abilities are underestimated or overestimated in the first occasion. However, given the reliability coefficient of the APPMI pre-test (0.91), this is less likely the explanation for the improvement observed in Level 2 and 3 students. A further explanation for the changes observed in levels could be a "testing effect", since the post-test was administered in an online format, as opposed to the paper-based format of the pre-test. However, the reliability coefficient of the APPMI post-test was still high (0.9), so other variables concerning students' perception of the online learning experience

might have influenced their performance on the post-test. For example, one Level 5 student was reported to have a learning disability and required additional time to complete the pre-test and other short course activities. This could explain why this student in particular dropped a level in the post-test due to time limits set for the completion of the online post-test assessments.

The study also aimed to determine students' perceptions of face-to-face and online components of the writing intervention. Figures 8.1 and 8.2 show students' perceptions concerning the relevance of the various aspects covered, as well as whether they felt the presentation of the face-to-face sessions and online Parts facilitated their learning of these aspects. The majority of students (93% and 76%) agreed that the writing aspects covered were relevant to the writing task (literature review) they were required to produce. Similarly, students generally agreed (98% and 70%) that the way in which the materials were presented stimulated their learning of the aspects covered.

However, in both cases, students' responses are generally more positive for the face-to-face sessions than for the online learning materials. Three students' comments concerning the online learning materials indicated that "online learning is not [for] everyone" and that "they don't like doing things online … [they] pre[fer] face to face". Considering that students' responses were anonymous, it cannot be confirmed whether these students are among those whose APPMI post-test scores dropped. It is, however, a possibility that these students' clear aversion for online learning could have influenced their performance on the post-test. Students' also provided comparatively more feedback in the open-ended questions for the face-to-face sessions than for the online components. Students remarked that the former sessions were "extremely useful and very helpful", that "they help guide [them] on what is expected in academic writing", and that "the information … was relevant to many writing skills". A large percentage of students (70%) furthermore indicated that the use of subject-specific texts facilitated their learning of writing aspects.

Figure 8.1: Student perceptions of the relevance of aspects covered in sessions
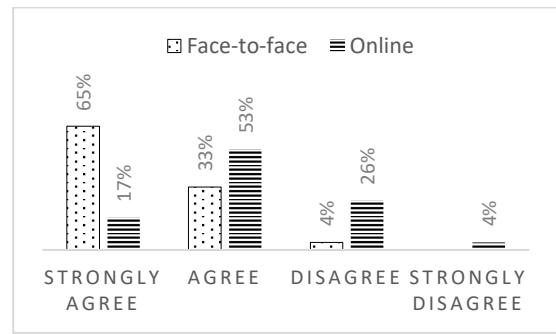
Figure 8.2: Student perceptions of the presentation of sessions

As depicted in Figure 8.3, students generally agreed that the learning materials helped them better understand the writing aspects that were addressed in the face-to-face and online learning components. Again, more so for the face-to-face sessions. Students' open-ended responses indicated that the latter sessions made them "look back at [their] literature review[s] and [made] them think twice about what [they had written] already". They furthermore mentioned that the sessions were "important in assisting one with formulating arguments" and "being mindful of the overall paragraph structure" when building arguments. Figure 8.4 illustrates that students generally felt confident in their ability to apply what they had learned during the writing intervention. Specifically in relation to the face-to-face sessions, students commented that "they should engage because [the sessions] really help"; they "are informative and … help one … acquire the necessary skills when writing academic papers". One student remarked that they "usually battle with paraphrasing but [that day's] sessions helped [them] adopt some techniques that work best".

In terms of the perceived importance of such writing interventions, all students (100%) indicated that such sessions are necessary to help students approach writing tasks more effectively. The majority (95%) furthermore agreed that there should be more writing support throughout the year to assist students with their academic writing needs. The importance of writing ability was stressed by the content lecturer during the interview, since "the need to be able to write is something that employers see as important … and the students themselves are picking it up. I've heard through the grapevine that students have gone through with a poor quality of work and are

not able to progress [in the world of work]". Given the necessity of writing skills in the field, the lecturer furthermore mentioned that she "cannot pass a student who can't write" and that she will "not take a postgraduate student who can't write". She stated that she had "done it [taken on a student who could not write well] twice and … not … again". The lecturer concluded that, in order to address the issue of writing effectively, students "just have to write more. This goes for postgraduate and undergraduate students".
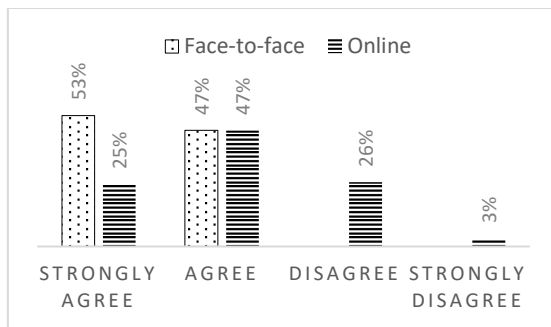
Figure 8.3: Student perceptions of their understanding of aspects covered
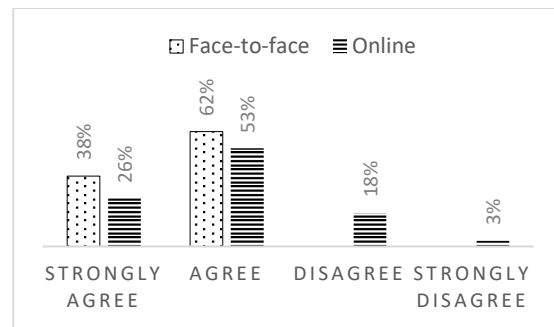
Figure 8.4: Student perceptions of application of learning

In terms of the consultation sessions at the Write Site, Figure 8.5 shows the tutorial types that consultants reported addressing during individual sessions with students. A tutorial, in this case, refers to particular writing aspects that are covered during an individual session at the Write Site. The topics in the graph below refer to the issues addressed in these sessions. For example, 'Assignment' in the graph refers to understanding the audience, purpose and subject of the paper, while under 'Invention', the session focused on brainstorming, listing, or diagramming ideas to inform the writing process. 'Sentence' and 'Paragraph' are self-explanatory, and link closely with 'Organisational' [issues], while 'Audience review' concerns the use of language and content appropriate to the audience and purpose of the paper. 'Drafting' refers to writing in the writing centre to fit the assignment and test the outline employing invention techniques. As illustrated, the most frequently addressed tutorials included organisational, paragraph, and sentence-level tutorials. Students' feedback indicated that these sessions bolstered their confidence in their writing abilities, and helped them improve their literature review submissions. Students'

open-ended responses concerning what they learned during the consultation sessions illustrated that they learned how to "plan [their paper] before writing"; and "structure their ideas … and … a thesis statement". They commented that they learned how to produce "a good and understandable introduction"; write clear "paragraphs and sentences"; as well as "present … [an] argument in a more specific and clear manner that allows the person who reads [their] word to understand without being familiar with the topic". One student mentioned that they learned "the importance of not losing direction when writing … and always linking back to the thesis statement". Several students also remarked that the sessions helped improve their "grammar, [sentence] structure and punctuation".
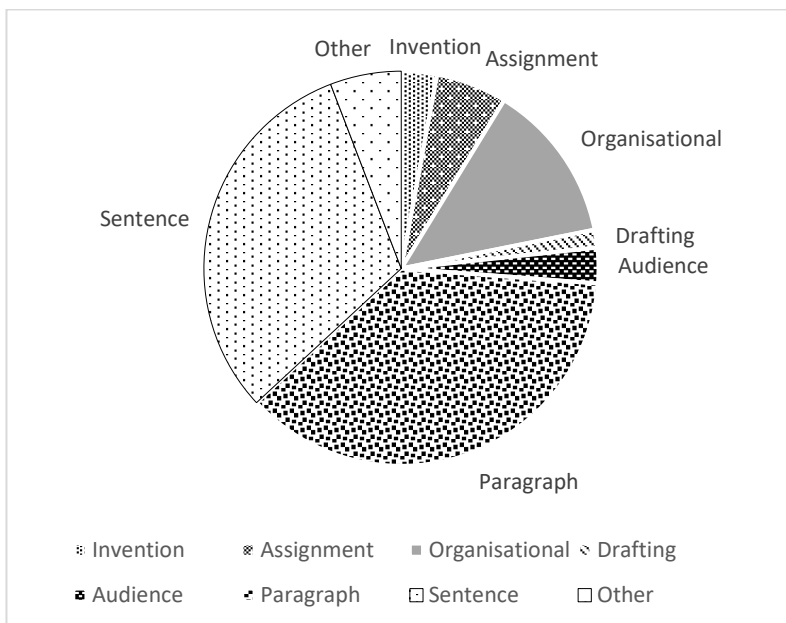
Figure 8.5: Tutorials addressed during individual sessions

This section has reported on the impact of the interventions planned by the Write Site, as experienced by URP students and lecturers, and as evidenced in some measurable aspects. The section that follows provides a summary of the potential impact of the Law writing intervention for first-year Legal Skills students.

8.4.2 Law results and discussion

Table 8.9 presents the descriptive statistics for the Law students who (1) engaged fully in the components of the writing intervention, and (2) those who completed only the online workshop. The results indicate a mean improvement of 32% from pre- to post-submission for the first group, and a comparatively smaller improvement of 8% for the second group. Thus, the students who engaged fully with all the stages of the writing intervention showed a greater improvement in their post-submissions than those who engaged partially and completed only the online workshop materials.

Table 8.9: Descriptive statistics for both groups

	n	Variable	Min	Max	Median	Mean	Mode	Std Dev
All interventions group	56	Pre-submission	17	71	35.3	38.6	35	13.68
		Post-submission	23	96	70.5	70.9	79	15.84
		Improvement	-1	62	30.8	32.3	26	15.26
Workshop only group	39	Pre-submission	21	74	46.2	46.2	44	13.57
		Post-submission	27	94	53.8	54.2	54	14.95
		Improvement	-4	44	3.8	8.1	6	11.25

Given that the scores were normally distributed (Sig. >0.05), a paired t-test was run to determine whether the difference in pre- and post-submission scores were statistically significant. The results presented in Table 8.10 show that the improvement in scores for both groups was statistically significant (Sig. <0.001). From these results, it is reasonable to assume that the writing intervention had the desired effect of enabling students to transfer the relevant literacy skills to a disciplinary task.

Table 8.10: Paired t-test for differences in means between pre and post-submissions (both groups)

		Paired Differences							
		Mean	Std Dev	Std. error mean	95% Confidence Interval		t	df	Sig. (2-tailed)
					Lower	Upper			
All interventions	Pre-post submission %	32	15.258	2.039	60.0	68.2	15.842	55	.000
Workshop only	Pre-post submission %	8	11.25	1.801	12.5	19.8	4.471	38	.000

A Pearson correlation coefficient was then computed to determine the relationship between students' post-submission scores and the final essay marks assigned by the content lecturer. Although the results showed a strong correlation (r=0.71) between these variables, the difference in the mean post-submission and final essay scores (4.7%) was statistically significant (Sig. >0.001). As discussed in the URP intervention, this difference could be attributed to the subject-area lecturer marking more for content than for academic essay writing conventions.

Figure 8.6 illustrates the writing aspects in which students showed most improvement in their post-submissions. As can be seen, the average improvement across all seven areas was notably higher for the students who engaged fully (group 1) than for those who only completed the workshop (group 2).
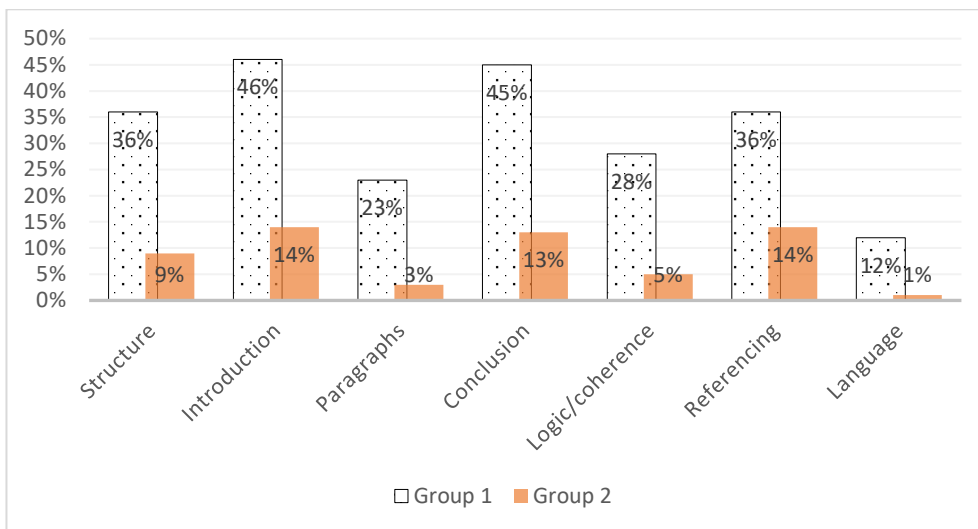
Figure 8.6: Average improvement across writing aspects for both groups

Consultant s' feedback indicated that they assisted students predominantly with organisation (31%), paragraph (65%), sentence (35%) and 'other' (27%) tutorials, the majority of which (70%) concerned referencing. This correlated with the results in Figure 8.6 as students' post-submissions showed the greatest mean improvement in terms of organisation (structure), paragraphs (introductions and conclusions), as well as referencing.

Students' evaluation of the writing intervention was generally very positive. The results depicted in Figure 8.7 show that 95% of students felt the individual sessions bolstered their confidence in their writing ability, and 97% indicated that the sessions improved the quality of their essay submissions. In terms of students' evaluation of the online workshop, Figure 8.8 shows that the majority (91%) of students felt they were able to apply what they had learned from these materials, and that such writing assistance is necessary to help students negotiate the writing process more effectively.
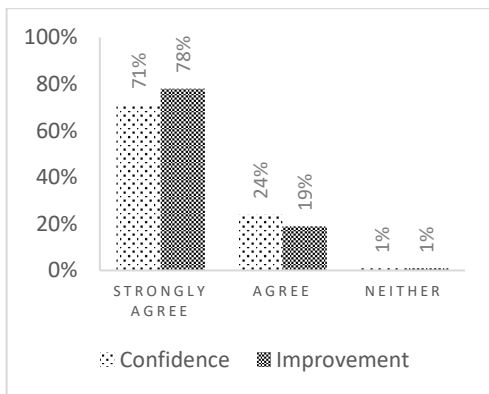
Figure 8.7: Student perceptions of confidence and improvement in writing
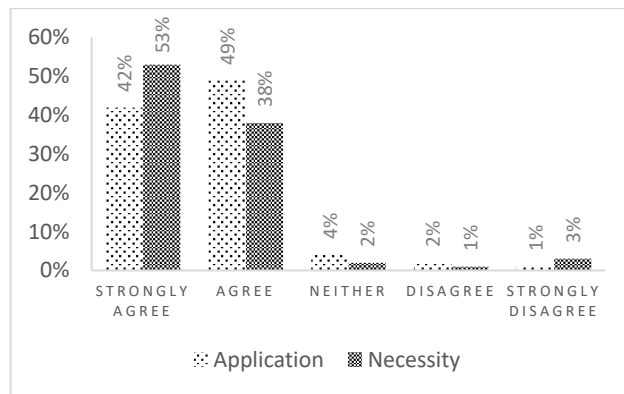
Figure 8.8: Student perceptions of application of learning and necessity of writing workshops

Student's open-ended responses in the workshop evaluation questionnaire showed that they found the workshop materials informative and valuable. Their comments revealed that the materials helped them "structure their essay[s]" in a logical fashion, as well as "structure [a] thesis [statement] … [and] paragraphs". This was echoed by one student who remarked that "in order to have a good essay you must first break down the topic, answer it [and] then develop your introduction, body paragraphs and conclusion". Another student reflected that "what [was most] positive about [the] workshop was that as [they were] busy doing it, [they] could … notice the mistakes [they had made] … in [their] first draft essay and [they knew] how [they would] be able to rectify them to improve [their] final draft essay". In terms of application of learning, one student mentioned that the materials provided them with "information that is specific and relevant to the assigned assessment", and that 'the way [the workshop] gave [them] sources to interpret and apply to the questions … enhance[ed]

[their] knowledge and made [them] aware of some parts of the academic essay". Thus, students felt that "the information that was provided is everything that [they] [needed] not just for this assignment but for other assignments as well".

8.5 Conclusion

The results indicate that both the URP and Law writing interventions had a positive impact on students' writing abilities. Both interventions showed a statistically significant improvement in performance from pre- to post-submission, which is indicative of students' ability to apply what they had learned from the writing interventions to disciplinary writing tasks. Although the final departmental essay marks assigned by the Law lecturer correlated strongly with students' post-submission scores, the difference in marks proved statistically significant. A possible explanation for this is that the lecturers are more focused on marking for content than for compliance with good academic writing conventions. This could potentially also account for the moderate correlation between URP students' final departmental literature review marks and their post-submission scores.

The positive impact observed in terms of students' post-submission performance is echoed by students' perceptions of the writing interventions. Both cohorts' evaluations of the learning materials were generally very positive. Students reported that they better understood the writing aspects addressed in the learning materials, that they felt more confident in their writing abilities, and that they felt they were able to apply what they had learned. Although the URP students generally found both components of the writing intervention helpful, they seemed to prefer the face-to-face sessions, and a few students reported an aversion to online learning. Both cohorts, however, indicated that they deem such writing interventions necessary to help them approach disciplinary writing tasks, and the URP students' responses showed that such writing interventions should be offered more frequently throughout their studies.

The URP students' performance on the APPMI showed a mean increase of 4.8% from pre- to post-test, which is indicative of an improvement in their academic

literacy abilities. Although lower-level students' performance improved by a level in the post-test, several high-scoring students' performance dropped in the post-test. Although this could be due to a 'ceiling', or possibly even a "regression to the mean" effect, some students' aversion to online learning activities cannot be ruled out as a possible influencing factor.

The APPMI pre-test furthermore showed a strong correlation (r = 0.81) with students' post-submission marks, indicating alignment between the skills measured in the pre-test and those assessed in students' written texts. This, together with its high reliability, indicates that the test could possibly be used by the URP department, as part of the selection process for postgraduate studies, as a measurement of students' academic writing abilities.

The purpose of this study is to provide a theoretical and practical defence for the design of writing interventions tailored to meet the writing needs of students at the UFS. Chapter 4 stipulated various conditions for the responsible design of applied linguistic artefacts or interventions. The chapter that follows therefore discusses the extent to which the URP and Law writing intervention designs comply with the design conditions specified under the theoretical framework adopted for this study.

Chapter 9: Conclusion and recommendations

9.1 The importance of academic writing and the corresponding issues in higher education

This study was concerned with the general perception at higher education institutions that students' academic writing skills have declined steadily in recent years. This is largely due to the large proportion of students enrolling at South Africa universities who are underprepared for tertiary studies. These students are faced with the dual challenge of having to study in English as the primary language of study, as well as develop the necessary academic language proficiency to make a success of their studies in specific disciplines. Given that the majority of these students are not mother tongue speakers of English, and come from underprivileged backgrounds, their poor English proficiency has direct implications for their academic literacy proficiency. This, in turn, affects their ability to demonstrate their learning and negotiate typical academic tasks in their respective fields of study. One of the possible limitations of this study is that it has not delved into the earlier reasons, related to the struggling primary and secondary school system, that may be causing or exacerbating this lack of preparedness for tertiary study. For those, especially as regards the assessment of academic literacy levels within the school system, one may refer to Du Plessis, Steyn and Weideman (2016), Weideman, du Plessis and Steyn (2017), and Myburgh-Smit and Weideman (2017). As these studies point out, despite the stipulations in the language curricula that should be taught at school, the end-of-school, exit examinations of language leave much to be desired, and in fact do not sufficiently attend to developing or measuring language ability for further study and education, as the policy envisages. Instead, this study has focussed on what can be achieved within an institution of higher education to ameliorate the effects of previous disadvantage, in particular as that is related to the development of language ability to be able to cope with the demands of tertiary studies within specific disciplines, as students progress from undergraduate to postgraduate work.

An important aspect of students' academic literacy proficiency is their ability to produce effective and appropriate academic texts, since academic writing still serves

as one of the primary means of assessment in higher education. Students' inability to produce acceptable academic writing therefore has severe ramifications for the successful completion of their studies, as it can be viewed as a gate-keeping mechanism for students' epistemological access and success. However, what is deemed 'acceptable' depends on how text production is used to negotiate interactive relationships in different discourse communities. Students' writing issues can be ascribed to their unfamiliarity with the conventions of writing in particular discourses, as well as the misconceptions many academic staff have regarding the time it takes for students to acquire proficiency in these specific discourses. Chapter 2 discussed these notions of academic discourse and discourse communities, and what it means to be 'literate' in academic discourse. The chapter looked at what students are required to 'do' in order to become accepted members of these communities and thus proposes that academic discourse production (writing) is characterised by three main processes – the gathering, processing, and production of information. With this as a basis, a functional definition (construct) of what students are required to 'do' in specific contexts in terms of academic literacy ability was presented, which served to inform the design of writing interventions in this study. This study has therefore adopted the view that the competent production of academic discourse is both a process – preceded by gathering and processing of academic information – and has a number of functional components, such as defining, exemplifying, illustrating, comparing, categorizing, sequencing, finding evidence, concluding, and the like. In terms of the theoretical framework adopted in this study, such definitions form the rational 'basis' function or analytical ground for any technically qualified design or plan that will be devised either to develop language ability (in the case of a variety of language instruction interventions), to measure it (by means of a language test or other kinds of assessment), or to organise and make arrangements for it (in an institutional language plan or set of regulations). Given the varied and specialised nature of academic discourses in different fields of study, this study moreover adopted a discipline-specific approach to writing instruction that views writing as a tool to socialise students into specific discourse communities. It was argued that, if this could be done well, it would go a long way towards satisfying

an important criterion for designing language interventions, that of them having a technical 'fit' with, or possessing a technical appropriateness for the interactional academic environment in which they are to be implemented.

Satisfying that condition was taken a step further in the review of the relevant literature in Chapter 3, that highlighted the importance of exposing students to writing instruction that focuses on authentic genres and conventions valued by their particular fields of study. This involves the use of authentic, discipline-specific texts to generate awareness of audience, purpose, message, and organisation specific to the specific social context in which the writing occurs. Thus, a process-genre approach is proposed as a potentially more effective, functional and comprehensive means to address the writing needs of students in specific disciplines. Potentially more effective, because the measurement of effect, that would satisfy yet another design condition, that of technical adequacy or impact, still needed to be measured and gauged subsequently. On the one hand, the use of authentic, model texts make explicit reader expectations and conventions of specific genres valued by particular discourse communities. On the other hand, the production of multiple drafts, on which students receive guided and formative feedback, facilitates their understanding of and engagement in the writing process. The more their engagement with producing new academic information, the greater the chances, it is assumed, of the desired technical impact being achieved with their implementation. The interventions, although pitched at different levels of study, focused on facilitating the competencies required at all levels of tertiary study, including the ability to analyse and interpret information critically, synthesise multiple sets of information, formulate, develop and defend arguments, and present research.

Tailoring an intervention to meet the discourse-specific writing needs of students in varying fields of study to ensure appropriateness and relevance furthermore requires that stakeholders' perceptions and expectations be taken into account. Chapter 5 provided an overview of key stakeholders' perceptions of academic writing requirements and expectations at tertiary level, particularly as students transition from undergraduate to postgraduate studies. The information gathered during the

needs analysis was used to develop the Assessment of Preparedness to Present Multimodal Information (APPMI) that measured students' preparedness to produce multimodal information, with a particular focus on written information. So, though the focus was (ultimately) on student writing, the design of APPMI acknowledged that before writing, a substantial measure of preparation is involved: academic information must be gathered (by listening, reading, taking notes), then processed further (for example by sifting, comparing, categorising, and tabulating information) and only then prepared for presentation. Similarly, it was acknowledged that presentation need not involve writing only, but could be achieved orally, in face-to-face interaction, with or without visualisation. In a crucial sense, what precedes writing determines the quality of the eventual production, in writing, of new academic information, and it was this that APPMI wished to measure. In addition to being highly sensitive to field-specific needs, APPMI was designed to be defensible theoretically in terms of the definition or construct of academic literacy that was referred to earlier.

The APPMI test results subsequently informed the design of the writing interventions in terms of specific areas of need. Basing the design of the writing interventions on this information provides justification for the validity of the writing intervention materials as well as the APPMI, for which an initial validation argument was presented in Chapter 6. 'Validation' in this sense relates to the theoretical framework adopted in this study, as a process that can be conceptualized by considering the connection between the technical (design) dimension of experience with the physical aspect of (cause and) effect: for a designed language intervention to have an effect, we should investigate and attempt to validate its technical force or adequacy. If the design is adequate, it has the required technical force, or validity. In the subfield of language assessment, that investigation is conventionally thought of as a process of validation, since one cannot declare all designed interventions 'valid' for all time and for all occasions: they need to be technically validated in a process, that usually takes the form of an argument, and that argument needs to be revisited as often as is necessary to ensure that the intervention (in this case a test of language ability) has retained its validity across multiple applications.

Another way of thinking about the technical adequacy or validity of institutionally-specific or field-specific language interventions, as in this study, is to consider their technical impact. Chapters 7 and 8 discussed the design and evaluation of potential impact of the writing interventions for the URP and Law students. The final step now, however, involves drawing on this information, together with the theoretical information provided in earlier chapters, to provide a justification for the responsible design of the discipline-specific writing interventions that form the primary focus of this study. The section that follows discusses the extent to which the URP and Law writing interventions comply with the conditions for the responsible design of applied linguistic artefacts stipulated in Chapter 4.

9.2 Conditions for responsible design

This section aims to use Weideman's (2017b) framework for design principles to justify the writing interventions in this study as technical artefacts that comply with the conditions of responsible design. A preliminary articulation of that framework was discussed above in Chapter 4, and has been referred to several times subsequently, since this is the theoretical backbone that gives coherence to the planned interventions offered by the Write Site and that have been the subject of this investigation. Firstly, the employment of this framework requires that a theoretical justification be provided in terms of current and leading views on the ability to handle academic discourse properly, views that are particularly relevant, in the current case, to the design of writing instruction. That kind of theoretical defensibility reflects the alignment between the leading technical design function of the planned instruction and the analytical dimension of reality. A further requirement related to the justification for the design is to show how this is grounded in the analogical connections between the technical and all other dimensions of reality.

Before going into the discussion of the specific design principles within this theory of applied linguistics, it needs to be pointed out again that assessing language intervention design against such principles enables one to acknowledge that such plans are done only after thorough preparation, and deliberately. The deliberation is

not all theoretical: the principles derive not only from the connection of the technical with the analytical, but from other than theoretical dimensions as well. The shorthand for this is to say that both theoretical and practical considerations apply. That is the first preliminary point. The second point is that designing applied linguistic interventions should not be considered naïvely as the 'application' of linguistic insight only. We saw in Chapter 4 how the awkward name of the field may obscure for some its current wide reach as a design discipline, which was another reason for adopting that perspective for the purposes of this study. The third, and perhaps even more important issue, is that in this theory the connections between the technical and other dimensions of experience enable us to formulate principles of design that can be variously interpreted and applied. That means, for example, that for some the technical 'fit' or appropriateness of an intervention such as a language test – one of the design principles that has been referred to - may be acceptable, while others will argue that it is the very opposite. Evaluating whether one has conformed or is conforming to certain design principles in planning solutions to pervasive language problems will remain a matter of argument and debate. The realisation of any design principle is therefore always provisional, and open to challenge. In a study of this nature, one can at most hope to present a theoretical defence for the way that such requirements have been met, or perhaps not yet met adequately. It cannot confirm the adherence to any principle for once and for all, and for all occasions, since the technical design process is caught up in the dynamics of change and subsequent experience. We need to revisit even our best designs.

Even though the principles may only be provisionally realised, they do provide a checklist for us against which we can measure our designs. I turn now to a discussion of how their application relates to the interventions that are part of this study.

The first condition is that of systematicity, which requires that multiple sets of evidence be integrated when making an argument for the validity of the linguistic artefacts. This too involves ensuring the appropriateness and relevance of the interventions, which will be discussed in more detail below. In the case of this study, evidence was gathered *systematically* by means of different methods as part of a

comprehensive needs analysis. The needs analysis entailed an enquiry into the discourse and genre conventions of the specific subject areas, stakeholder perceptions and expectations of writing requirements at undergraduate and postgraduate levels, as well as the APPMI and ALDI test results. This information was then used to inform the design and implementation of the writing interventions in question. This evidence is expressed in the types of genre selected for instruction in the writing interventions, the academic literacy skills identified for development, as well as the specific aspects of academic writing that were targeted during the interventions. When one brings the multiplicity of these data into a designed or planned unity within a language intervention, one has begun to satisfy the technical condition of systematicity, or of bringing a unity within a multiplicity of components of the intervention or interventions into the technical design. This principle relates to the analogical link between the technical qualifying function of the language intervention design and the numerical aspect.

The *scope* of the intervention also needs to be well defined to ensure for consistent and valid activities. Such a requirement analogically connects the technical design with the spatial mode. The writing interventions in this case were designed specifically to help students improve their academic writing skills by means of producing a particular genre that formed part of their subject-area curricula assessment. They were therefore highly focussed and their range tightly specified. Students were thus exposed to authentic sample texts that modelled the conventions of the genre they were required to produce. These sample texts formed the basis for activities that made explicit the conventions of literature review writing, in the case of the URP intervention, and legal essay writing, in the case of the Law intervention. In each case, the intended goal and specific writing aspects to be addressed were very clearly stipulated, and all aspects covered were presented in such a way that students were familiarised with the conventions of the written discourse pertaining to a specific genre in their subject areas. That is not to say, of course, that what students learned on this course may not be applicable to other fields and other genres, but the considerations of such further potential language development fell outside of the scope of this study.

Ensuring the *validity* of the interventions is another key condition for responsible design. As has been remarked above, this set of conditions that specify our conceptualisation of the links between the technical and the physical sphere deal mainly with the technical force or effect of an intervention. Does it do what it is intended and designed to do? In the first instance, the interventions need to be relevant and appropriate to URP and Law students in terms of what they need to 'do' in specific discourse communities. The various activities of the interventions were all designed to reflect the kinds of real-life academic writing activities required of them in their respective subject areas. These activities provided a platform for the development of different academic literacy competencies associated with the gathering, processing and production of (written) information. The selection of specific competencies was informed by a theoretically justified definition of academic literacy (the construct), the information gathered during the needs analysis regarding academic writing requirements, as well as the APPMI and ALDI test results. Based on this, one could make an argument for the content and construct validity of the writing interventions. However, the true evidence of their validity lies in the potential impact of the interventions on students' academic writing abilities. As is evident, all of these considerations relate to the technical effectiveness of the plans that were implemented. In the case of evidence of impact, we turn to the evaluation results presented in Chapter 8. In both cases, the URP and Law interventions had a positive impact on students' learning. Students' pre- and post-submissions showed a statistically significant improvement after having engaged with the writing interventions, which suggests that they were able to apply what they had learned during the writing intervention to disciplinary writing tasks. For the URP group, students' post-intervention literature review submissions showed a mean improvement of 14%, while the Law students' legal essays improved by 32% from pre- to post-submission. Further evidence of the potential impact of the URP writing intervention on students' academic writing abilities was the 4.8% improvement in students' performance on the APPMI post-test. These results were supported by students' perceptions of their learning. The majority of students in both the URP and Law groups agreed that the writing interventions helped them better understand key

writing aspects, and that they were able to apply what they had learned to their disciplinary writing tasks. Based on the aforementioned information, one could argue that the writing interventions, given the limited time available to address key issues in students' writing, did achieve what they set out to do – students' ability to produce a particular academic genre relevant to their field of study did improve – which serves to justify their validity.

A further requirement of responsible design involves *consistency* in terms of designing learning activities that are aligned with the main purpose of the writing intervention. This involves including only those activities that, on the one hand, make explicit the writing conventions literature review writing in the field of URP, and essay writing in the field of law. On the other hand, the activities should furthermore facilitate the development of literacy abilities associated with the gathering, processing and production of information. Activities beyond this scope would be not be consistent with the goal of the writing interventions and would therefore be invalid. The proposed model for writing instruction presented in this study should help ensure for this consistency. This is supported by the evaluation results presented above, which support the reliability and validity of the interventions. As we saw in the discussion of the results of APPMI, the requirement of technical consistency, that derives from the link with the kinematic dimension of experience, also applies to sub-parts of our designs. In that case the technical consistency could be expressed in numbers, for example a correlation coefficient, Cronbach alpha.

By limiting the scope of the intervention, one has to be mindful at the same time that the planned intervention shows sufficient *differentiation*. An adequately differentiated instructional plan allows for a greater technical potential to produce the desired outcome of developing students' writing abilities. One can see how these concepts are analogically linked with the aspect of organic life. In analogical technical terms, it means that our plans must be sufficiently and functionally differentiated that the designed instruction is not mono-functional. Each activity was thus developed to be consistent with the purpose of the intervention, as well as address consistently and functionally the specific aspects associated with the

production of specific genres in the specific discourse. In other words, the activities were numerous and varied, aimed to make students aware of specific text type conventions, as well as facilitate their ability to apply what they have learned to produce written texts that are deemed appropriate and effective in their field of study. In line with this principle of technical *organisation*, the activities were therefore arranged and organised in a systematic fashion to facilitate students' learning – from more simple aspects to more complex aspects of ability. This was achieved by means of appropriately differentiated task and activity types, pitched at different levels of study, that were carefully scaffolded to aid students' understanding and application of key writing aspects. By designing an intervention that ensures systematic learning and that includes systematically differentiated learning activities, one enhances the validity and reliability of the writing intervention as a whole. The designs presented in Chapter 7 for the discipline-specific writing interventions in this study illustrate the systematic manner in which differentiated activities addressed specific abilities associated with the gathering, processing and production of information in specialised discourses.

Another condition of responsible design concerns the *appeal* and *acceptability* of an intervention. Relating to the perception of the technical artefact, it is a condition yielded by the analogical link between the technical and the sensitive dimension. This requires that the activities be designed in a way that engages students in the learning process. It can be argued that the writing interventions in this study employed several strategies that facilitated student engagement with the learning process. For instance, the requirement of students to produce an initial draft of their writing assignments (1) engaged students with the writing prompt, (2) required of them to gather information based on their initial interpretation of the prompt, and (3) activated their background knowledge about the specific genre they had to generate. In addition, the online workshop materials contained supplementary instructional videos and readings, which appealed to students' different learning styles and motivated them to engage with the online workshop activities. Furthermore, all the face-to-face and online workshop materials comprised practical activities based on authentic, disciplinary texts. The individual sessions in the Write Site were also

pitched at students' individual writing proficiency levels and dealt with their individualised writing needs. The writing interventions were relevant to students' subject fields, as well as to specific assignments that formed part of the content-area assessment. Students were therefore more motivated to engage with the various components of the writing interventions, since they were able to identify how the various activities were aimed at improving their performance in their content courses. The high degree of satisfaction expressed by students and lecturers alike, and that was discussed above in Chapter 8, is yet another indication that the condition of technical appeal was met.

The next principle relates to the technical *defensibility* or *rationality* of the design as regards its employment of theories of academic language ability to inform and correct its designs. In this, the design finds its theoretical or rational basis; it echoes the link between the technical and the analytical dimensions of experience. In designing applied linguistic interventions, a detour into analysis is justifiable on several grounds. First, employing analytical criteria ensures currency. Second, analysis need not be wholly theoretical: it may be based on empirical or factual data. Third, analysis potentially allows the design of the intervention to be modified in light of theoretical considerations, a point that is related to the currency and acceptability of the design among peers. Most important, however, is that the detour introduces a measure of deliberation in the preparation of the designed interventions that can only be beneficial. As has been remarked above, there has been a strong emphasis on achieving theoretical defensibility for the interventions developed throughout this study, and, though the designs may still reveal major or minor shortcomings, this investigation has attempted to satisfy this principle in several ways. Its employment of a construct of academic literacy that was specifiable across different disciplines, and applicable to a particular field, has been particularly prominent.

Having adopted a theoretically defensible technical design for the assessment of language ability and the writing instruction, the designer of these interventions must then ask: how can this technical rationale, the theory underlying the plan, be

operationalized? For the assessment, APPMI, the theory was technically *expressed* in the specifications for the test. The proposed model for discipline-specific writing interventions proposed in this study, and that builds on, amongst other things, the technical information yielded by APPMI, forms the technical *articulation* of the blueprint for the end-user formats of the writing interventions of this study. The specifications for the model are reflected in the disciplinary genres identified for instruction, the various writing aspects identified as problematic, as well as the corresponding academic writing abilities identified for development.

Clearly, what we have here are links between the technical dimension of experience and the lingual. Apart from the notions of technical information and articulation, those connections conceptually yield for us the further principles of technical meaningfulness and interpretability. Are the language interventions proposed in this study meaningful? The answer, especially from the data that was discussed in Chapter 8, is yes. Are the results of the interventions meaningful? Do they yield diagnostic data that may be informative for the design of subsequent interventions? It would appear so, though those subsequent designs fall outside the scope of the current probe. But the results were indeed technically interpretable for the current set of designs.

The technical meaningfulness of the language interventions, a lingual analogy, is evident already in the information gathered and analysed during the needs analysis, that ensured that the writing interventions covered content that was relevant and *appropriate*. Technical appropriateness and relevance, in turn, relate to the connections between the technical and the social, the aspect of reality that has to do with our interactions with others in a specific context, in this case: interaction in the particular academic field or fields in question. The provision of content that is relevant and appropriate to those who engage with it therefore meets the analogical social condition of design. The scope of the interventions specified both the (socially specifiable) context within which learning would take place, as well as who the end users were, who were technically interacting with the designs during their implementation. The various activities constituting the writing interventions for the

URP and Law groups were based on the information gathered and articulated in the needs analysis, which serves as an empirical justification for their design. The results of the impact of the interventions furthermore demonstrated an improvement in students' academic writing abilities. Based on this, one can argue for the appropriateness of the artefacts for reaching their objective and doing what they set out to do, and for their technical fit with the interactive context in which they were implemented.

The feasibility of the design is another condition that has to be met. The interventions should be *economical* with regard to time and money. Given the limited time available on students' academic schedules for additional academic support initiatives, negotiations were made with content lecturers to embed the writing interventions in students' content course curricula. In this way, provision was made for the time and effort made for engaging with the writing intervention content. Furthermore, the online workshops, the content of which remained available to students for an extended period of time, provided students with the opportunity to complete the materials in their own time and at their own pace. In addition, the services offered by the Write Site are free to students, thus no cost is incurred by the departments, or their students, who make use of its services. Any intervention design must satisfy the analogical economic requirement of being technically feasible and *efficient*: the intervention must be technically useful. As will be pointed out below, some of the limitations of this study, especially as they show up over time, may require a reconsideration of the degree to which the principle of technical efficiency will be satisfied in future.

Another principle of design that requires consideration is that of *alignment*. Chapter 4 discussed in detail the alignment between the policy stipulations at the UFS and the language interventions offered by the Write Site. Such a requirement connects the technical design with aesthetic life: we seek, in our designs, a technical *harmony* among designs with institutional arrangements (language policies). In addition to considering the alignment of the interventions with institutional policy, there was also demonstrable coherence across the language assessments (APPMI and ALDI)

and the writing interventions developed for the URP and Law students. The design and implementation of activities constituting these writing interventions were aligned with the overall purpose of the artefacts, which was to develop students' academic writing abilities pertaining to specific genres. Thus, all the activities and the teaching thereof were aligned with various assessments that measured students' abilities in this regard. These assessments results, in the form of the APPMI in particular, also contributed to students' learning and to the development of their academic writing competence.

Transparency is yet another condition. It relates to the analogical juridical conditions that technical designs must fulfil. This study provided the students with a description and explanation of the scope and aim of each face-to-face session and online workshop. As much technical information as was possible was made available, and in good time, so that, should there be political or legal objections to participating, those could be addressed. Students and staff were also provided with the definition of academic literacy (construct) that informed the design of the interventions of this study. Students and staff were required to engage with the various components of the construct as part of the questionnaires they completed to identify particular areas of concern regarding student' literacy abilities that required further development. The purpose of the APPMI test was also made clear to all stakeholders, which was to use the test results to inform the development of writing interventions offered by the Write Site. The test result were also reported to the department before the implementation of the writing intervention for the URP students. Staff were furthermore provided access to the online learning materials so that they were aware of the content to which the students were exposed, and a detailed report was sent to content lecturers regarding the aspects covered during individual sessions with students. This was way, the designer was technically *accountabl*e to the stakeholders for the design of the interventions.

The design of intervention should also take into consideration the condition of *fairness*. Measures should be taken to ensure, as far as possible, that the activities do not discriminate against learners based on, for example, their race, age, gender,

culture, or sexual orientation. This principle, that forbids that interventions should harm students in any way, is obviously their analogical ethical dimension. Technically qualified care means that our designs must be beneficial to those affected by them. It is very difficult, if not nearly impossible, to take into consideration every possible factor that could create a bias against a student. However, should one be identified during the implementation of an intervention, it should be remedied with immediate effect. In the case of the current study, no particular biases came to the fore during the implementation of the URP and Law interventions. Beforehand, this study was of course ethically cleared in its totality by the relevant authorities in the Faculty of the Humanities and the university as a whole. That is a first step towards ensuring the right degree of technical care and compassion, but not the last. The high degree of satisfaction evoked by the intervention indicates that this principle, of technical *beneficence*, was indeed subsequently satisfied by the implementation of the intervention.

The final condition is *trustworthiness*. The results of the evaluation of the writing interventions for the URP and Law students demonstrated an improvement in students' writing abilities. Furthermore, students' perceptions of their own learning also demonstrate that they found the interventions useful and helpful in assisting them with improving the quality of the submissions made to their content lecturers. These findings, together with the research that was undertaken to meet all the above conditions of responsible design, serve to support an argument for the trustworthiness of the writing interventions in this study. However, the technical reputability, a condition that clearly relates the technical to the aspect of belief and commitment, is a principle that can only be fully satisfied once an implemented design has been retested, re-implemented, and is allowed to gain a reputation over time. It is therefore perhaps too early to say whether this condition has been met fully.

From the discussion above, one may claim that the proposed writing intervention designs strive to adhere to the requirements of the responsible design of applied linguistic artefacts (Weideman, 2017b:224-225). The designs are grounded in current and leading theory on academic writing instruction, and the needs analysis provided

sufficient information to develop materials that were relevant and appropriate to the needs of the student cohorts in question. The systematic organisation and presentation of the writing intervention content, together with the findings of their impact on students' learning furthermore serve to meet the requirements for adequacy, differentiation, as well as validity.

There are, however, various limitations to this study that require consideration for the undertaking of future projects. By addressing the limitations of this particular research, future interventions can be supplemented and refined to produce potentially better results concerning students' writing development than those presented here.

9.3 Limitations and recommendation for future research

The first limitation concerns the limited focus of the study in terms of the primary target cohort. It would possibly have been more desirable to work with a larger postgraduate student cohort to gain a more in-depth and comprehensive understanding of the writing issues faced by students transitioning from undergraduate to post-graduate studies. Another issue was that the researcher had access only to the results of the 15 full-time students who were exposed to the writing intervention. It would have been beneficial to compare the performance of these students who enrolled in the URP honours course with the remaining part-time students' final departmental literature review results. This could have provided more insight into the potential impact of the writing intervention. A recommendation will, however, be made to the department to provide this information for further research, so as to determine more definitely the extent to which their students benefit from such academic writing support initiatives.

A related issue to students' departmental assignment performance, however, concerns the fact that the content lecturer did not assess students' final departmental literature reviews. Instead, a student assistant was tasked with marking students' scripts. The assistant was not the one who requested the writing support for the URP students, and was therefore not aware of the intervention's purpose and what it entailed, which could have impacted the extent to which students' adherence to and

application of specific writing conventions were factored into the assessment of their papers. Preferably, there should be alignment between the aspects addressed during the writing intervention and those assessed by the content lecturer in the department. This can only be achieved through close collaboration and communication with content lecturers. Firstly, the various components constituting the departmental assessment rubric need to be jointly determined by subject specialists and applied linguistic practitioners. Secondly, if anyone other than the subject specialist is required to assess students' writing, they need to be informed of the purpose of the intervention and the corresponding alterations made to the assessment rubric, and undergo training if necessary to ensure for consistent and accurate marking.

Another limitation concerning performance was the change in mode of delivery of the APPMI post-test. Since the pre-test was administered in a face-to-face format, the change in format of the post-test could have influenced students' performance and thus the reliability of the test results. This is particularly the case for those students who reported an aversion to online learning. Ideally, the post-test should have been administered in the same format as the pre-test, which would have required that the content lecturer make time available on students' academic calendar to write the test. Although one could argue that it is not ethical to interfere with students' contact time or course work, it is important to conduct research into the potential impact of language interventions if we are to address their language needs effectively.

A further limitation was the time that was made available on the academic calendar for the writing interventions. In the case of the URP intervention, a once-off initiative constituting three 2-hour face-to-face sessions, followed by five weeks of online workshop exposure, which technically only requires approximately 2 hours of student input per week, does not constitute a sufficient amount of time to address the writing needs of students at this level. If students are to see the value and reap the benefits of such academic writing support, a more writing-intensive approach needs to be adopted by the academic departments on campus, and from as early on as students' first year of study. The ESP literature emphasises the time required to

develop the required proficiency in academic discourse in tertiary studies. Thus, such writing initiatives need to occur more frequently throughout the academic year and run concurrently with students' subject courses, from first year all the way through to honours year if we are to provide students with sufficient opportunity to develop their academic writing abilities before embarking on postgraduate studies.

The fact that students are not provided with individualised support, other than technical assistance during their completion of the online workshop, serves as another potential limitation. The URP students reported that they preferred the face-to-face sessions to the online workshop materials. Although students were not particularly forthcoming about what they did not like about the online format, other than that it's "not for everyone", the fact that some students were not too keen on this mode of delivery could have negatively impacted their engagement with the learning materials and ultimately their application of learning to their disciplinary assignments. A recommendation for future projects could be that, in addition to allocating more time throughout the year to address students' writing needs, face-to-face and online materials be alternated. In this way, any potential issues arising from the online materials can be appropriately expanded on and addressed during follow-up face-to-face sessions. In other words, the current blended initiatives could assume a more flipped-classroom approach, where "students receive a combination of traditional face to face (F2F) instruction in class and are also required to complete activities outside of the class, facilitated through a range of technological resources" (O'Flaherty & Phillips, 2015:85).

9.4 The goal of responsible design

This study attempts to provide a justification for the design of writing interventions aimed at addressing key writing concerns of students at the UFS. These interventions are justified in terms of having met various theoretical and practical conditions for responsible design. The theoretical framework informing these designs emphasises our ethical obligation to students to express our concern for their well-being by exposing them to applied linguistic artefacts that have been deliberately and carefully

designed to address their language needs. The model for writing instruction proposed in this study therefore intends to contribute firstly to alleviate some of the struggles faced by students during their negotiation of complex disciplinary writing tasks. Secondly, by means of the proposed model, the researcher hopes to empower students to make a success of their studies by addressing their ability to communicate effectively and acceptably in their respective fields of study.

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Abstract

This study is primarily concerned with providing a theoretical justification for the design of discipline-specific writing interventions aimed at developing students' academic writing skills. As a basis for this justification, the study proposes to investigate the extent to which these writing interventions comply with the conditions of responsible design in terms of a particular framework.

The study begins by discussing the concern amongst academic lecturers regarding the steady decline in students' academic writing skills and the resultant implications for access and success in the higher education context. The study highlights the socially-situated nature of academic discourse and the importance of proficiency in this regard in initiating students into specific discourse communities. This is followed by a discussion of key considerations in the teaching and learning of academic writing instruction, together with the approaches most appropriate for developing students' disciplinary writing needs. Thereafter, a framework of design principles is presented that serves to inform subsequent arguments for the theoretical and practical justification of the applied linguistic artefacts in this study.

As part of the conversation concerning accountability for coherence across applied linguistic artefacts and the appropriateness of their design, Chapter 5 provides the findings of a needs analysis of key stakeholders' perceptions of academic writing requirements at tertiary level. Chapter 6 then provides an initial validation argument for the development of a test designed to assess students' preparedness to produce multimodal information (APPMI). This information is used to tailor the design of discipline-specific writing interventions to the needs of specific student cohorts. Subsequent chapters (7 and 8) discuss the design and potential impact of these interventions.

The final chapter attempts to draw on the theoretical and practical information presented throughout the study to provide a justification for the accountability and defensibility of the writing interventions in this study.

The study hopes to make a contribution to the field of academic writing instruction by presenting an approach to addressing students' writing needs that is theoretically justified, and that demonstrates practical value in terms of having the intended impact on their writing abilities.

Abstrak

Hierdie studie handel hoofsaaklik oor die verskaffing van 'n teoretiese regverdiging vir die ontwerp van dissipline-spesifieke skryfintervensies wat daarop gemik is om studente se akademiese skryfvaardighede te ontwikkel. As basis vir hierdie regverdiging beoog die studie om te ondersoek in watter mate hierdie skryfintervensies aan die voorwaardes van verantwoordelike ontwerp ingevolge 'n bepaalde raamwerk voldoen.

Die studie begin met die bespreking van die kommer onder akademiese dosente oor die bestendige afname in studente se akademiese skryfvaardighede en die gevolglike implikasies vir toegang tot en sukses in die hoëronderwyskonteks. Die studie beklemtoon die sosiaal-geleë aard van akademiese diskoers en die belangrikheid van vaardigheid in hierdie verband om studente in spesifieke diskoersgemeenskappe te inisieer. Dit word gevolg deur 'n bespreking van sleuteloorwegings in die onderrig en leer van akademiese skryfonderrig, tesame met die benaderings wat die geskikste is om studente se dissiplinêre skryfbehoeftes te ontwikkel. Daarna word 'n raamwerk van ontwerpbeginsels aangebied wat dien om die daaropvolgende argumente vir die teoretiese en praktiese regverdiging van die toegepaste taalkundige artefakte in hierdie studie te ondersteun.

As deel van die gesprek oor aanspreeklikheid vir samehang tussen toegepaste taalkundige artefakte en die toepaslikheid van die ontwerp daarvan, bied Hoofstuk 5 die bevindings van 'n behoefte-ontleding van die belangrikste belanghebbendes se persepsies van akademiese skryfvereistes op tersiêre vlak. Hoofstuk 6 verskaf dan 'n aanvanklike valideringsargument vir die ontwerp van die toets wat ontwikkel is om studente se gereedheid om multimodale inligting (APPMI) te produseer, te beoordeel. Hierdie inligting is gebruik om die ontwerp van dissipline-spesifieke

skryfintervensies aan te pas by die behoeftes van spesifieke studentekohorte. Daaropvolgende hoofstukke (7 en 8) bespreek die ontwerp en potensiële impak van hierdie intervensies.

In die laaste hoofstuk word gepoog om teoretiese en praktiese inligting te gebruik wat regdeur die studie aangebied is, om die verantwoordbaarheid en verdedigbaarheid van die skryfintervensies in hierdie studie te regverdig.

Die studie hoop om 'n bydrae te lewer tot die veld van akademiese skryfonderrig deur 'n benadering voor te stel om studente se skryfbehoeftes te beantwoord wat teoreties geregverdig is, en wat praktiese waarde demonstreer in terme van die beoogde impak op hul skryfvaardighede.

Appendix A   Staff perceptions of student academic writing requirements questionnaire

QUESTIONNAIRE – STAFF PERCEPTIONS OF STUDENT ACADEMIC WRITING REQUIREMENTS

INFORMED CONSENT TO PARTICIPATE IN RESEARCH

Title of research: Defensibility and accountability: developing a responsibly designed academic writing intervention for students at tertiary level

This questionnaire forms part of a larger PhD study in English that focuses on academic writing development in a tertiary education environment. The study essentially comprises two main components: the development of a test that assesses students' preparedness to produce multimodal information (APPMI) – writing in particular – and the development of writing interventions geared towards addressing the difficulties students experience regarding academic writing. The analysis of the test results, which constitutes the initial phase of the study, will be used to inform the development of the writing interventions. The aim of the research is therefore to identify the areas where students struggle most with regard to academic writing, and then to design writing interventions that address these specific areas of concern more effectively.

Your participation in this study is voluntary. The data will be treated confidentially, and you will not be implicated in the research. The findings of this study may also be anonymously processed into a research report, journal publications and/or conference proceedings. Yet your personal contribution to the research is crucial in obtaining an understanding of and developing a model for addressing academic writing needs of students at tertiary level.

Ethical clearance for the study has been obtained from the Ethics Committee of the Faculty of Humanities at the University of the Free State. The clearance number for the research is UFS-HSD2017/1047.

Staff number of Participant: _____ Permanent ☐ Contract/part-time ☐

Signature of Participant: _____ Date: _____

Full Names of Researcher: Laura Maria Drennan

Signature of Researcher: Date: 5 March 2018

Instructions

Some of the questions that follow require that you select your answer(s) from a list of options, while other questions require a short written explanation. Please answer all the questions; your feedback is very important to us.

A	BACKGROUND INFORMATION

1   For how many years have you been involved in lecturing in a higher education context?

0-2 years	A
3-5 years	B
6-9 years	C
More than 10 years	D

2   At which higher education institution/s have you lectured and for how long?

Name of institution	Duration spent lecturing
e.g. University of the Free State	Jan 2012 – Dec 2015

3   Did you complete any language courses as part of your own studies?

Yes	A
No	B

4   If yes, please specify which courses.

………………………………………………………………………………………
………………………………………………………………………………………

5   Please indicate how many postgraduate students you have supervised successfully.

Honours	
Master's	
Doctorate	

B	PERCEPTIONS ABOUT LITERACY ABILITY

6   Are the postgraduate students you teach

predominantly second-language (L2) speakers of English?	A
predominantly mother-tongue (L1) speakers of English?	B
an even mix of L2 and L1 speakers?	C

7   To what extent do you think that academic writing ability influences your students' success at university?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

8   How would you rate the honours students' general academic literacy levels?

A	B	C	D
Poor	Fair	Good	Excellent

9   To what extent do you **agree** that students who fared well (e.g. 60% +) in their undergraduate studies possess the necessary academic literacy skills to cope with postgraduate studies in the language of instruction?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

10   Please elaborate on your response to the previous question.

……
……
……
…………………………………………………………………………………………………

11   How does your department measure students' academic literacy proficiency before they enroll for postgraduate studies? Select all that apply.

The department does not measure students' academic literacy proficiency	A
Students' Grade 12 (matric) language scores are used	B
The overall mark for the previous degree is used	C
An academic literacy test is written in the language of instruction	D
Students submit samples of previous academic writing	E
Other **(please specify)**	F

……
……

12   To what extent to do you agree that the departments' strategy of determining students' academic literacy levels is reliable and valid? In other words, does it allow for the identification of students who are most likely to cope with postgraduate studies, or alternatively, those who require additional language support?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

13   Please elaborate on your response to the previous question.

……

……

14   In your experience, what would you say students struggle with most concerning their postgraduate studies?

Mastering discipline-specific literature	A
Selecting a topic for their research	B
Producing the actual thesis/dissertation/report/assignment	C
Other (please specify)	D

……

……

C	SPECIFIC WRITING NEEDS

The following table presents issues associated with a definition of academic literacy. Please rate your postgraduate students' ability to:

		A Poor	B Fair	C Good	D Excellent
15	understand and use a range of academic vocabulary as well as content or discipline-specific vocabulary in context;				
16	interpret the use of metaphor and idiom in academic language, and perceive connotation, word play and ambiguity;				
17	understand and use grammatically complex sentences, and texts that use sophisticated and abstract/technical concepts;				
18	understand relations between different parts of a text, be aware of the logical development and organisation of an academic text, via introductions to conclusions;				

		A Poor	B Fair	C Good	D Excellent
19	link ideas in sentences and between paragraphs by using linking words (e.g. *therefore*, *as a result*) to create a coherent text;				
20	understand the communicative function of various ways of expression in academic language (such as defining, providing examples, inferring, extrapolating, arguing);				
21	interpret different kinds of text type (genre), and be sensitive to the meaning they express, as well as the audience they are aimed at;				
22	interpret, use and produce information presented in graphic or visual format;				
23	think of imaginative and original solutions, methods or ideas which involve brainstorming, mind-mapping, visualisation, and association;				
24	distinguish between essential and non-essential information, fact and opinion, propositions and arguments, cause and effect, and classify, categorise and handle data that make comparisons;				
25	see sequence and order, and do simple numerical estimations and computations that can be applied for the purposes of an argument;				
26	systematically and critically analyse the use of theory, methods and arguments in your own research and that of others;				
27	interact with texts both in spoken discussion and by noting down relevant information during reading (discuss, question, agree/disagree, evaluate and investigate problems, analyse);				
28	synthesize and integrate information from various sources with their own knowledge in order to build new claims;				
29	know what counts as evidence to develop an argument in your own writing;				
30	use information as a basis for making inferences, and apply it or its implications to other cases;				
31	interpret and adapt their reading/writing for an analytical/argumentative purpose and/or in light of their own experience;				
32	write in their own academic voice for an imagined audience (such as your lecturer, or the readers of a scholarly journal).				

33 Would you say that students' successful completion of their postgraduate studies depends on their ability to produce coherent and well-formulated texts?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

34 How much writing do you typically require of your postgraduate students? Please elaborate below (e.g. honours students – 1 assignment and a mini dissertation)

………

………

………

35 To what extent do you believe that language is specific to particular disciplines?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

36 To what extent to you agree or disagree with the following statements?

I believe that academic language is the same for all disciplines				
A	B	C	D	E
Strongly agree	Agree	Neither	Disagree	Strongly disagree
I believe that academic language has certain common features across disciplines				
A	B	C	D	E
Strongly agree	Agree	Neither	Disagree	Strongly disagree
I believe that academic language is specific to particular fields of study				
A	B	C	D	E
Strongly agree	Agree	Neither	Disagree	Strongly disagree
I believe my department makes use of particular genres and functional text types (e.g. technical reports and descriptive texts) specific to our discipline				
A	B	C	D	E
Strongly agree	Agree	Neither	Disagree	Strongly disagree
I believe my discipline calls for the use of subject/field-specific terminology				
A	B	C	D	E
Strongly agree	Agree	Neither	Disagree	Strongly disagree

37   Which of the following genres are your students required to produce? Please select all that apply.

Research proposal	A
Thesis/dissertation	B
Academic article	C
Report (technical, research)	D
Academic essay	E
Other (please specify)	F

……
……

38   Do you expect your students to substantiate their claims and/or arguments in their writing?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

39   What would you count as evidence in your particular discipline (e.g. empirical results)?

…….
…….

C	ACADEMIC STAFF FEEDBACK

40   On which of the following do you provide feedback regarding your students' academic writing?

I do not offer feedback on students' writing	A
Language correctness (e.g. grammar, spelling)	B
Appropriate style, register and structure	C
Clarity of meaning	D
Logical ordering of ideas and argumentation	E
All of the above	F
Other (please specify)	G

……
………………………………………………………………………………………………………

41   Do you make use of a rubric for marking your students' written tasks?

Yes	A
No	B

42   If so, which of the following components are included in your rubric/s? Please mark all that apply.

Organisation/structure	A	Other (please specify)	H
Clarity of meaning	B		
Content	C		
Appropriate tone/register	D		
Correct language use (spelling, grammar)	E		
Logical sequencing of ideas/argumentation	F		
Correct and appropriate referencing	G		

……
……

43   How many drafts do you usually provide feedback on per writing task?

One draft	A
Two drafts	B
On average, more than two drafts	C

44   In your experience, which of the following do you think your students struggle with most? Select all that apply.

Correct language use (e.g. grammar and spelling)	A
Appropriate use of style and register (e.g. formality of language, specific referencing method)	B
Quality of content and argument	C
Overall structure of the written text	D
All of the above	E
Other (please specify)	F

……
……

45   Whose responsibility do you believe it is to correct students' academic language? Select all that you think are applicable.

The student	A
Supervisor/lecturer	B
Language editor	C

46 Do you require that your postgraduate students have their work professionally edited before submitting their final drafts to you?

Yes	A
No	B

47 Which aspects of academic writing would you expect writing experts to address with your students in order to improve the quality of students' writing?

………

………

………

Appendix B   Student academic writing profile questionnaire

QUESTIONNAIRE - STUDENT ACADEMIC WRITING PROFILE

INFORMED CONSENT TO PARTICIPATE IN RESEARCH

Title of research: Defensibility and accountability: developing a responsibly designed academic writing intervention for students at tertiary level

This questionnaire forms part of a larger PhD study in English that focuses on academic writing development in a tertiary education environment. The study essentially comprises two main components: the development of a test that assesses students' preparedness to produce multimodal information (APPMI) – writing in particular – and the development of writing interventions geared towards addressing the difficulties students experience regarding academic writing. The analysis of the test results, which constitutes the initial phase of the study, will be used to inform the development of the writing interventions. The aim of the research is therefore to identify the areas where students struggle most with regard to academic writing, and then to design writing interventions that address these specific areas of concern more effectively.

Your participation in this study is voluntary. The data will be treated confidentially, and you will not be implicated in the research. The findings of this study may also be anonymously processed into a research report, journal publications and/or conference proceedings. Yet your personal contribution to the research is crucial in obtaining an understanding of and developing a model for addressing academic writing needs of students at tertiary level.

Ethical clearance for the study has been obtained from the Ethics Committee of the Faculty of Humanities at the University of the Free State. The clearance number for the research is UFS-HSD2017/1047.

Student number of Participant: _____ Full-time Part-time [ ]   [ ]

Signature of Participant: _____   Date: _____

Full Names of Researcher: Laura Maria Drennan

Signature of Researcher: Date: 26 January 2018

Instructions

Some of the questions that follow require that you select your answer(s) from a list of options, while other questions require a short written explanation. Please answer all the questions; your feedback is very important to us.

A	BACKGROUND INFORMATION

1   At what level did you study English in Grade 12?

First/Home language	A
Second/First additional Language	B
Other level	C
Did not study English in Grade 12	D

2   What year did you matriculate? Write your answer below.

Year	

3   What mark did you receive for English in the Grade 12 final examination?

30-39%	A
40-49%	B
50-59%	C
60-69%	D
70-79%	E
80-89%	F
90-100%	G
No mark available	H

4   At which university did you complete your first degree? Write your answer below.

Degree	University	Country
First degree		

5   In what year did you obtain your first degree? Write your answer below.

Year	

6   In which language(s) did you receive instruction during your undergraduate studies? You may select more than one option (if applicable).

English	**A**	Afrikaans	**B**	IsiZulu	**C**
SeSotho	**D**	IsiXhosa	**E**	Setswana	**F**
Sepedi	**G**	SiSwati, Tshivenda, Xitsonga, Chinese, Ndebele, Other			**H**

7   Did you receive any additional language support in the language in which you received instruction during your undergraduate studies (e.g. academic literacy course, writing workshops, writing centre assistance)?

Yes	A
No	B

8   If you answered yes to the previous question, what support did you receive? Please select all that apply.

Formal academic literacy course	A
Occasional academic writing workshops	B
Individual writing assistance at writing centre	C
Other	D

9   If you selected other in the previous question, please specify.

………
………

10   Which of these language support initiatives were compulsory? Select the initiative(s) that apply to your undergraduate studies.

Literacy course	A
Academic writing workshops	B
Individual writing assistance	C
Other	D

11   To what extent do you feel you benefited from the language support you received?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

12   Please elaborate on your answer to the previous question.

…….
…….
…….
…….

B	**PERCEPTIONS ABOUT LITERACY ABILITY**

Rate your own academic language ability in terms of the language you use in your studies at university. Say how you would rate your ability to:

		A Poor	B Fair	C Good	D Excellent
13	understand and use a range of academic vocabulary as well as content or discipline-specific vocabulary in context;				
14	interpret the use of metaphor and idiom in academic language, and perceive connotation, word play and ambiguity;				
15	understand and use grammatically complex sentences, and texts that use sophisticated and abstract/technical concepts;				
16	understand relations between different parts of a text, be aware of the logical development and organisation of an academic text, via introductions to conclusions;				
17	link ideas in sentences and between paragraphs by using linking words (e.g. *therefore*, *as a result*) to create a coherent text;				
18	understand the communicative function of various ways of expression in academic language (such as defining, providing examples, inferring, extrapolating, arguing);				
19	interpret different kinds of text type (genre), and be sensitive to the meaning they express, as well as the audience they are aimed at;				
20	interpret, use and produce information presented in graphic or visual format;				
21	think of imaginative and original solutions, methods or ideas which involve brainstorming, mind-mapping, visualisation, and association;				
22	distinguish between essential and non-essential information, fact and opinion, propositions and arguments, cause and effect, and classify, categorise and handle data that make comparisons;				
23	see sequence and order, and do simple numerical estimations and computations that can be applied for the purposes of an argument;				
24	systematically and critically analyse the use of theory, methods and arguments in your own research and that of others;				
25	interact with texts both in spoken discussion and by noting down relevant information during reading (discuss, question, agree/disagree, evaluate and investigate problems, analyse);				

		A Poor	B Fair	C Good	D Excellent
26	synthesize and integrate information from various sources with your own knowledge in order to build new claims;				
27	know what counts as evidence to develop an argument in your own writing;				
28	use information as a basis for making inferences, and apply it or its implications to other cases;				
29	interpret and adapt your reading/writing for an analytical/argumentative purpose and/or in light of your own experience;				
30	write in your own academic voice for an imagined audience (such as your lecturer, or the readers of a scholarly journal).				

31   Which of the following do you think is **MOST** important when it comes to producing good academic writing?

Correct language use (e.g. grammar and spelling)	A
Appropriate use of style and register (e.g. formality of language, specific referencing method)	B
Quality of content and argument	C
Overall structure of the written text	D
Other (please specify)	E

……
……

32   Which of the following do you think is **LEAST** important when it comes to producing good academic writing?

Correct language use (e.g. grammar and spelling)	A
Appropriate use of style and register (e.g. formality of language, specific referencing method)	B
Quality of content and argument	C
Overall structure of the written text	D
Other (please specify)	E

……
……

33   Do think that there is a difference between academic discourse/language (the language used in academic settings) and other types of language?

Yes	A
No	B

34   If you answered yes, please elaborate how academic language is different.

……

……

35   To what extent do you think that academic writing ability influences your success at university?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

36   Please elaborate on your answer to the previous question.

……

……

37   What types of writing are you expected to produce for your current studies at university? Select all that apply.

Academic essay	A
Academic assignment	B
Research report	C
Dissertation (mini for full)	D
Other	E

38   If you selected 'Other', please specify.

……

……

C	INDIVIDUAL WRITING NEEDS

39   What areas of academic writing do you struggle with most? Select all that apply.

Understanding/choosing a topic	A
Finding relevant information	B
Integrating information from sources in your writing	C
Knowing which sections make up the specific text type you have to produce	D
Organising your ideas in your writing to build a good academic argument	E
Finding the right words to express yourself	F
Using language correctly	G
Writing in the appropriate style/register	H

40   Do you think you can benefit from relevant support with your academic writing?

A	B	C	D	E
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

41   Please elaborate on your answer to the previous question.

………
………
………

42   When you have to write text for your studies at university, how many drafts do you usually write before you submit to your lecturer?

One draft	A
Two drafts	B
On average, more than two drafts	C

43   Please elaborate on your choice above.

………
………

44   Which of the following steps do you follow when you write academic papers? Provide a sequence for the steps you follow, starting with 1 for the first step. Leave the options blank that you do not follow.

Putting all the information together to from a coherent whole	
Revising and writing various drafts	
Producing a first draft	
Writing down everything you know about the topic	
Selecting information on the topic	
Editing and writing the final draft	
Unpacking the topic	
Sorting through information you have gathered and selecting information most relevant to the topic	
Planning what you want to write	

45   Did lecturers provide you with relevant feedback on the **content** of your written texts during your undergraduate studies?

Yes	A
No	B

46   Do lecturers provide you with relevant feedback on the **content** of your written texts during your subsequent degrees?

Yes	A
No	B
I have not written anything yet	C

47   If they did, did you benefit from their feedback?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

48   Please elaborate on your choice above.

………
………
………

49   Did lecturers correct your **language** (e.g. spelling and grammar) during your undergraduate studies?

Yes	A
No	B

50　　Do lecturers provide you with relevant feedback on your **language** (e.g. spelling and grammar) during your subsequent degrees?

Yes	A
No	B
I have not written anything yet	C

51　　If they did, did you benefit from their feedback?

A	B	C	D	E
Not at all	Very little	Somewhat	Quite a bit	Greatly

52　　Please elaborate on your choice above.

………
………

53　　Have you ever made use of a professional language editor for your writing?

Yes	A
No	B

54　　Whose responsibility do you believe it is to correct your academic language? Select all that you think are applicable.

Yourself	A
Supervisor/lecturer	B
Language editor	C

55　　What skills do you think you need to have to correct your own writing?

………
………

56　　What is your perception of your own skills in this regard?

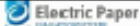| A	B	C	D	E
Needs significant improvement	Needs improvement	Competent	Strength	Outstanding strength

57　　Please elaborate on your choice above.

………
………
………

Appendix C   Literature review assessment rubric

Literature review structure	Inadequate		Needs improvement			Adequate			Excellent		
	0	1	2	3	4	5	6	7	8	9	10
1. Appropriate table of contents present											
2. Introduction-body-conclusion structure is present											
3. Appropriate use of headings/subheadings											
Introduction	Inadequate		Needs improvement			Adequate			Excellent		
	0	1	2	3	4	5	6	7	8	9	10
4. Clearly introduces the topic/problem											
5. Clearly states the rationale for the literature review											
6. Clearly states the aim/purpose/problem to be discussed											
7. Clearly indicates the main aspects/ideas to be discussed											
Body	Inadequate		Needs improvement			Adequate			Excellent		
	0	1	2	3	4	5	6	7	8	9	10
8. The paper moves from general ideas to specific conclusions											
9. Body paragraphs make one clear point related to the thesis/problem											
10. Body paragraphs have proper topic sentences											
11. Topic sentences are supported by sufficient evidence											

	0	1	2	3	4	5	6	7	8	9	10
12. Source information has been explained/analysed/elaborated on in supporting sentences											
13. Relevant source information has been included as evidence in supporting sentences											
14. A synthesis of a variety of sources to support the main argument/aim of the literature review is evident.											

Coverage of content	Inadequate		Needs improvement			Adequate			Excellent		
	0	1	2	3	4	5	6	7	8	9	10
15. The discussion illustrates a grasp of main issues											
16. Demonstrates proficient knowledge of the field											
17. Relevance and/or significance of content covered is unquestionable											
Conclusion	Inadequate		Needs improvement			Adequate			Excellent		
	0	1	2	3	4	5	6	7	8	9	10
18. Makes succinct and precise conclusions based on the review											
19. Illustrates appropriate insight into the topic/problem											
20. Conclusions are strongly supported in the review											
Logic/Coherence	Inadequate		Needs improvement			Adequate			Excellent		
	0	1	2	3	4	5	6	7	8	9	10
21. Effective use of linking words that link ideas/information within paragraphs											

	Inadequate		Needs improvement			Adequate			Excellent		
22. Effective use of linking words that link ideas/information across paragraphs											
23. Effective use of links between sections											

	Inadequate		Needs improvement			Adequate			Excellent		
Referencing	0	1	2	3	4	5	6	7	8	9	10
24. Accurate citation of sources within the text											
25. Referenced sources accurately included in reference list											
Vocabulary, usage and mechanics	Inadequate		Needs improvement			Adequate			Excellent		
	0	1	2	3	4	5	6	7	8	9	10
26. Contains no word/idiom choice errors											
27. Contains no usage errors (e.g. word order, run-ons, fragments, etc.).											
28. Contains no capitalisation, punctuation and spelling errors											
29. Sentences are clear, concise and easy to understand											

Appendix D   Face-to-face student evaluation form

Mark as shown: ☐ ☒ ☐ ☐ ☐   Please use a ball-point pen or a thin felt tip. This form will be processed automatically.
Correction: ☐ ■ ☐ ☒ ☐   Please follow the examples shown on the left hand side to help optimize the reading results.

1. Workshop evaluation

1.1   Writing course session number   ☐ One   ☐ Two   ☐ Three
1.2   Date of session [dd/mm/yyyy]

☐☐ / ☐☐ / ☐☐☐☐

		Strongly agree	Agree	Disagree	Strongly disagree
1.3	The session's activities stimulated my learning.	☐	☐	☐	☐
1.4	The structure and design of the short course materials helped me better understand what is expected of me in my writing.	☐	☐	☐	☐
1.5	The session covered aspects that are relevant to the writing task required of me.	☐	☐	☐	☐
1.6	The session was presented in a way that faciliated my learning of the aspects covered in this session.	☐	☐	☐	☐
1.7	I feel I better understand the aspects addressed in this writing session.	☐	☐	☐	☐
1.8	I feel I will be able to apply what I learned during this session.	☐	☐	☐	☐
1.9	I plan to visit the writing centre for further assistance with the aspects covered in this session.	☐	☐	☐	☐
1.10	I think that such writing courses are necessary to help students approach writing tasks more effectively.	☐	☐	☐	☐
1.11	I think there should be more such writing sessions throughout the year to assist me with my academic writing needs.	☐	☐	☐	☐

1.12 What would you tell other people about this session?

1.13 Do you have any other comments?

1.14 I hereby give permission to the Writing Centre   ☐ Yes
      to use the information on this form for research
      purposes. I understand that my personal
      information will be regarded as confidential.

1.15 Student number

☐☐☐☐☐☐☐☐☐☐☐

Appendix E   Online materials student evaluation form

Mark as shown: ☐ ☒ ☐ ☐ ☐ Please use a ball-point pen or a thin felt tip. This form will be processed automatically.
Correction: ☐ ■ ☐ ☒ ☐ Please follow the examples shown on the left hand side to help optimize the reading results.

1. Online learning materials evaluation

		Strongly agree	Agree	Disagree	Strongly disagree
1.1	The way that the online materials were arranged made my learning much easier.	☐	☐	☐	☐
1.2	I could easily navigate and find my around the online learning materials.	☐	☐	☐	☐
1.3	Because the online materials included a variety of media (videos and resources), I think that stimulated my learning.	☐	☐	☐	☐
1.4	The way that the online materials explained and covered aspects of writing was helpful to learning how to write better.	☐	☐	☐	☐
1.5	I found the aspects of writing addressed relevant to the requirements of my field.	☐	☐	☐	☐
1.6	The use of subject-specific sample texts facilitated my learning.	☐	☐	☐	☐
1.7	The activities appropriately tested the writing competencies addressed in the materials.	☐	☐	☐	☐
1.8	The feedback that I received on activities was timely and relevant.	☐	☐	☐	☐
1.9	The feedback I on activities was useful because it facilitated my sense that I was really learning something.	☐	☐	☐	☐
1.10	I feel I now understand the writing aspects addressed in the learning materials better than before.	☐	☐	☐	☐
1.11	I feel I will be able to apply what I learned from the online learning materials.	☐	☐	☐	☐
1.12	I prefer online learning to face-to-face instruction.	☐	☐	☐	☐

1.13 What additional aspects could be addressed in the learning materials that, in your opinion, were not covered?

1.14 What did you find most useful about the learning materials?

1.15 What suggestions would you make to improve the learning materials?

1.16 Do you have any other comments?

Thank you for completing this questionnaire!

Appendix F   General student evaluation form

Mark as shown: ☐ ☒ ☐ ☐ ☐ Please use a ball-point pen or a thin felt tip. This form will be processed automatically.
Correction: ☐ ■ ☐ ☒ ☐ Please follow the examples shown on the left hand side to help optimize the reading results.

1. Student particulars

1.1 Sex   ☐ Female   ☐ Male   ☐ Other
1.2 Ethnicity   ☐ Asian   ☐ Coloured   ☐ African
                  ☐ White   ☐ Other

1.3 Home language
☐ Afrikaans   ☐ English   ☐ isiNdebele
☐ isiZulu   ☐ Sesotho   ☐ Sepedi
☐ Setswana   ☐ Tshivenda   ☐ Xitsonga
☐ isiXhosa   ☐ siSwati   ☐ Other

1.4 Year of study   ☐ First year   ☐ Second year   ☐ Third year
                      ☐ Fourth year   ☐ Honours

2. Details of module

2.1 Course code (e.g. GEOP1514)

2.2 Subject lecturer (e.g. Dr Steven Phillips)

2.3 Department (e.g. Philosophy)

2.4 Faculty
☐ Humanities   ☐ Natural and Agricultural Sciences   ☐ Law
☐ Theology and Religion   ☐ Health Sciences   ☐ Economic and Management
                                                                          Sciences

☐ Education

3. Details of consultation

3.1 Name of Writing Centre consultant

3.2 Is this your first visit to the Writing Centre?   ☐ Yes   ☐ No
3.3 How would you rate your own skills/ability?   ☐ Very good   ☐ Average   ☐ Below average
3.4 Appointment date (dd/mm/yyyy)

☐☐ / ☐☐ / ☐☐☐☐

3.5 Appointment time (e.g. 09:00-10:00)

3.6 Approximately how long was your consultation   ☐ 5-10 minutes   ☐ 10-15 minutes   ☐ 20-30 minutes
     today?   ☐ 30 or more
                                                       minutes

3.7 How did you learn about the Writing Centre?   ☐ My lecturer told   ☐ A Writing Centre   ☐ Another student
                                                       the class about it   consultant
                                                                             visited my class

                                                     ☐ My lecturer   ☐ Flier, hand-out or   ☐ Other
                                                       required the   campus
                                                       class to visit   announcement

3. Details of consultation   [Continue]

3.8 If you answered 'Other' in the previous question, please specify.

	Strongly agree	Agree	Neither	Disagree	Strongly disagree
3.9 The consultant listened attentively to my concerns	☐	☐	☐	☐	☐
3.10 The consultant seemed friendly	☐	☐	☐	☐	☐
3.11 The consultant explained concepts clearly	☐	☐	☐	☐	☐
3.12 The advice my consultant gave me was very useful	☐	☐	☐	☐	☐
3.13 I am more confident in my ability to write a strong paper now than I was before the consultation	☐	☐	☐	☐	☐
3.14 I think my paper improved because of the consultation	☐	☐	☐	☐	☐
3.15 I plan to return for another Writing Centre consultation	☐	☐	☐	☐	☐

3.16 If you answered 'Neither', 'Disagree' or 'Strongly disagree' to the previous question, please indicate why.

3.17 The Writing Centre has helped me (Please choose ALL that apply):

☐ Develop a thesis statement and/or main idea(s)   ☐ Write well-supported arguments   ☐ Brainstorm about the assignment topic

☐ Find and correct my own grammar errors   ☐ Organise my ideas logically   ☐ Understand who I am writing for and for what purpose

☐ Understand the assignment topic and instructions   ☐ Other (please specify below)

3.18 If you selected 'Other' in the previous question, please specify.

3.19 If you think the consultation session at the Write Site did not help you, please elaborate on why you say so.

3.20 What did you you learn during the consultation session today?

3.21 Student consented to their information to be used by the writing centre for research purposes.   ☐ Yes   ☐ No

3.22 Student number (10 digits)

4. Data capturing details

Appendix G   General consultant evaluation form

EvaSys	General Consultant Form_ 10 [1/2018]	Electric Paper

Mark as shown: ☐ ☒ ☐ ☐ ☐ Please use a ball-point pen or a thin felt tip. This form will be processed automatically.
Correction: ☐ ■ ☐ ☒ ☐ Please follow the examples shown on the left hand side to help optimize the reading results.

1. Details of client

1.1   Client initial(s)

1.2   Client surname

1.3   Student number

1.4	Sex	☐ Female	☐ Male	☐ Other
1.5	Ethnicity	☐ Asian	☐ Coloured	☐ African
		☐ White	☐ Other	

1.6   Home language
☐ Afrikaans   ☐ English   ☐ isiNdebele
☐ isiZulu   ☐ Sesotho   ☐ Sepedi
☐ Setswana   ☐ Tshivenda   ☐ Xitsonga
☐ isiXhosa   ☐ siSwati   ☐ Other

2. Details of module

2.1   Course code (e.g. GEOP1514)

2.2   Subject lecturer (e.g. Dr Steven Phillips)

2.3   Department (e.g. Philosophy)

2.4   Faculty
☐ Humanities   ☐ Natural and Agricultural Sciences   ☐ Law
☐ Health Sciences   ☐ Economic and Management   ☐ Education
                             Sciences

☐ Theology and Religion

3. Details of consultation

3.1   Name of Writing Centre consultant

3.2   Appointment date (dd/mm/yyyy)

3.3   Appointment time (e.g. 09:00-10:00)

3.4   Session details   ☐ Show   ☐ No show

3. Details of consultation   [Continue]

3.5   Type of tutorial

☐ **Invention tutorial** (free writing, listing, brainstormin, diagramming)

☐ **Assignment tutorial** (understanding audience, purpose, subject)

☐ **Organisational tutorial** (using outlines to arrange ideas)

☐ **Drafting tutorial** (writing in the WC to fit the assignment and test the ouline employing invention techniques)

☐ **Audience review tutorial** (find the thesis statement or determine the subject; identify the purpose; use language to address the audience appropriately; use the level of information appropriate to the audience)

☐ **Paragraph tutorial** (discuss topic sentence, purpose, number of paragraphs, length of paragraphs to achieve proportion, one subject per paragraph)

☐ **Sentence tutorial** (avoid overuse of 'to be' verbs, avoid expletive constructions, avoid bumping prepositional phrases, indicate relative importance, write a variety of sentence types, check spelling and puntuation)

☐ Other

3.6   If you selected 'Other' in the previous question, please specify.

3.7   Write a brief report on the focus of this particular session/the specific problems that were addressed.

3.8   Did you recommend that the client schedule another session for this particular assignment? Motivate your answer.   ☐ Yes   ☐ No

3.9   Motivate your answer to the previous question.

Rate the session using the following scale:

3.10 Preparation   1 ☐☐☐☐☐☐☐☐☐☐ 10

3.11 Engagement   1 ☐☐☐☐☐☐☐☐☐☐ 10

3.12 Attitude/Student's reaction   1 ☐☐☐☐☐☐☐☐☐☐ 10

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Questions for follow-up lecturer interview on students' academic writing requirements

Interviews – Urban and Regional Planning

1. *Staff responses to the questionnaire generally indicate that students' academic literacy levels are below par and that there has been a steady decline in their writing abilities in recent years. Do you agree with this perception for both mother-tongue and second-language learners of English?*

2. *To what extent do you think their general literacy and academic writing skills influence their ability to succeed in your courses? What are the ramifications for you as lecturer and/or supervisor?*

3. *In terms of admission to postgraduate studies at the UFS, academic staff generally indicate that departmental strategies of determining students' academic literacy levels are insufficient. What is your perception of this and how might the selection process be adapted in your department?*

4. *What aspects of writing do you usually focus on when providing feedback on your students' written assignments, and how many drafts do you usually require students to submit?*

5. *Contrary to academic staff perceptions, students generally tend to rate their academic literacy levels as good. Why do you think this is?*

6. We find that students are not sufficiently motivated or informed to take the development of their ability to use academic language seriously enough. What would you suggest, are the things that would make it possible to get them to engage with this challenge more effectively?

7. *Staff responses to the questionnaire generally indicate that language is specific to particular disciplines. What is your perception of a discipline-specific approach to addressing your students' writing needs; and what are key writing aspects you would like addressed in such writing interventions?*

8. *What was your perception of the quality of students' final literature review submissions after the writing interventions in the first semester? Did you see an improvement from pre to post-submissions? If so, regarding which writing aspects?*

9. *How might the approach taken to addressing your students' writing needs be improved or adapted in future?*

10. If we imagine that finding information (in lectures, in notes, in scholarly publications, in discussions), processing that information (by recasting notes, tabulating and categorising information, making inferences, extrapolation, and so forth) and producing new information (for presentations, for discussions, for written assignments) are the three main components of the process of engaging with academic language demands, how would you apportion (as a percentage) each of these in importance, so that they add up to 100%?

11. If that is the proportional importance of these three processes, in which one do you think would your students most need support?