Positioning academic literacies at the core of curriculum design

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Abstract

The Council of Higher Education's proposal for Undergraduate Curriculum Reform in South Africa has called for a renewed focus on curriculum design given the high attrition rates affecting all students, but particularly African students, in the South African higher education system. This paper argues for embedding the academic literacies in the early stages of curriculum design processes and uses illustrations from research to show how findings from academic literacies research projects can be quite significant in informing the design of new curricula.

Introduction

As the Council of Higher Education's Proposal for Undergraduate Curriculum Reform (2013) shows, South Africa's standard undergraduate educational process is not working effectively for a large proportion of the student body, particularly for first-generation, socio-economically disadvantaged students. In particular, the traditional curriculum structures have been identified as being a major obstacle to learning. Scott (2013) argues that curriculum structure which includes basic parameters such as the starting point, expected rate of progress, progression paths and exit standards of a program is so embedded in the system that it is seldom examined or problematized. In developing countries where far-reaching changes have occurred in the nature of the student intake, he contends that the appropriateness of current curriculum parameters for contemporary conditions needs to be reviewed.

As a result of low participation and high attrition rates affecting black students only 5% of African youth in South Africa are currently succeeding in any form of higher education (Scott, Yeld and Hendry, 2007). We are aware that township and rural students are underprepared for the traditional programmes offered in mainstream higher education even though they all fall into the top decile of their age group in terms of school performance. The central challenge is therefore to design curricula and curriculum structures as well as pedagogical approaches that will enable these students to unlock their potential (Scott, 2013).

This article seeks to respond to this renewed call to focus on curriculum design in higher education in South Africa by emphasising the importance of the academic literacies and the teaching of these in new curriculum structures. It seems important to point out that in this article we use the plural form of the term 'academic literacies' to signal a focus on modes of meaning that are broader than language alone, therefore the plural form of the term includes the quantitative, the visual, the spatial, and the digital literacies conceptualised as social practices in social contexts. These various literacies are not entirely separate and are practiced interdependently within the context of academic discourses. For example quantitative literacy cannot be disentangled from language as quantitative concepts are conveyed through language, using terminology and forms of expression that are associated with specific quantitative ideas.

The reasons for focusing on the academic literacies in curriculum are multiple. Firstly, the development of the academic literacies is an essential graduate attribute for all students. Secondly, most students find the transition to academic literacy practices challenging but changes in South African schooling such as the new National Senior Certificate (2009) with its lower baselines for passing matric and entering university have meant that there is a greater diversity in language proficiency and preparedness for academic literacies even in students from better funded schools. Research at the University of Cape Town (Thesen and van Pletzen, 2006) has indicated that students who declare English as a first language may have difficulty with reading and writing at university. In addition, results from the National Bench Mark Tests Project indicate that many students are poorly prepared to meet the quantitative literacy requirements in university curricula[1] (Yeld, 2009: 79). Thirdly, much research in South Africa has shown that students for whom English is an additional language with poorly resourced schooling backgrounds face a much greater challenge with the academic literacies (Thesen and van Pletzen, 2006; Leibowitz and Mohamed, 2000; Angelil-Carter, 1998; Paxton, 2006). Finally, the academic literacies play a central role in learning and concept development. Therefore, it is crucial that, in the process of designing new and flexible curricula, the *teaching* of academic literacy practices is positioned at the heart of this design process. This article argues that it is very important that the academic

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[1] In the pilot tests in the National Benchmark Test Project in 2009, only one quarter of all students tested were classified as proficient in quantitative literacy.(Frith and Prince 2009)

literacies are not taught as generic skills courses, but are rather embedded in disciplinary curricula. In addition it illustrates by means of examples the ways in which academic literacies *research* can inform the design of such integrated curricula.

The article will begin by considering the variety of ways in which academic literacies is understood and how that has led to a variety of ways of teaching it, both locally and internationally. It will then outline the relatively new field of academic literacies research and focus on a number of different academic literacies research projects which have been able to inform curriculum design. The article will close with some illustrations from an empirical study in the natural sciences to consider in more detail what academic literacies research can bring to the curriculum design process in disciplinary teaching in higher education.

Ways in which "academic literacies" is understood

Both internationally and in South Africa, the term 'academic literacies' has taken on a number of different meanings which has led to considerable confusion as to what we mean when we use the term. Jacobs (2014) argues that one common (mis)understanding that still dominates thinking in South Africa is one that sees academic literacies as a description of the generic 'skills' that students need to be taught in academia. She points out that this understanding of academic literacies as 'skills' has led to the teaching of such skills through generic academic literacy courses separate from the mainstream disciplinary curricula. Yet, the same term, 'academic literacies' is used as descriptor of rhetorical practices, discourses, genres in academia linked to specific disciplines (Lillis and Scott, 2007) so we might refer to the academic literacies required for economics or mathematics. Academic literacies has also been understood as a pedagogic approach to teaching[2] conceptualized by Lea and Street (1998) as the academic literacies approach which has developed over the last fifteen years in recognition of a growing mismatch between students' needs and experiences and the curriculum and the academic institution (Lea and Street, 1998; Lea and Street, 2000). The academic literacies approach understands literacies as social practices concerned with meaning making and contestation around meaning. Perhaps the key contribution of the academic literacies approach has been that it has challenged assumptions of student deficit and called for higher education institutions to be made more accessible to a diverse student body.

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[2] Lea and Street (1998) refer to three different but overlapping models or approaches to the teaching of academic literacies: the study skills model which tends to focus on the surface features of language and understands literacy as a set of skills that have to be learned and can then be transferred to other contexts; the socialization model sees students as having to be inducted into the new 'culture' of academia; the academic literacies model which is described in more detail above.

Lillis and Scott (2007) offer a further way of understanding academic literacies, describing it as a critical field of inquiry with a specific theoretical and ideological standpoint. In their paper they have attempted to define the field of academic literacies research, identifying literacy as social practice as the specific epistemology of academic literacies research and transformation as the ideology.

What distinguishes an academic literacies research approach from other socially oriented approaches to writing research is the shift in emphasis from a focus on text to a focus on text as social practice (Lillis and Scott, 2007), drawing on a number of different traditions such as the New Literacy Studies, critical discourse studies and sociolinguistics. The New Literacy Studies, to which academic literacies research is closely aligned, challenges the belief that literacy and numeracy is concerned with the acquisition of a set of cognitive skills which can be learned and used in any new context. Instead, the idea of literacy as a social practice recognises that literacies are socially and culturally embedded practices that vary from one context to another and that there are power discrepancies in any literacy related activity (Street, 1984; Gee, 1996). Academic literacies research has built on these theoretical frameworks to develop a field of research which seeks to understand language, literacy and numeracy as social practices within higher education.

The idea of literacy as a social practice points to ethnography as the appropriate methodology to characterise an academic literacies approach. Typically, academic literacies involves observation of practices surrounding the production of texts, collection of data from multiple sources so as to enable thick description (Geertz, 1973) as well as interviewing participants to understand their perspectives on their texts, an approach which has become known as "talk around text" (Lillis, 2001).

Academic literacies scholars indicate that the relationship of students to the dominant literacy practices and discourses of the academy is more complex than other work in student learning has indicated (Lea, 2004; Lillis and Scott, 2007). Academic literacies research recognises that the construction of knowledge and contestation around meaning (knowledge making) is a dialogic process as students mediate the texts through their own personal readings and understanding of the materials they encounter during their studies (Ivanic, 1998, Lillis, 2001 and Paxton, 2006, 2007). This is described by Lillis and Scott (2007) as the ideological stance in academic literacies research because it plays a transformative role, not only identifying academic conventions but in understanding how these conventions may conflict or contrast with social practices and positions of other discourses (to which many non-traditional students belong). They argue that this approach is interested in the ways in which such traditional conventions may impact on meaning-making and in discovering alternative ways of meaning making by considering the resources that students bring as legitimate meaning making tools.

Academic literacies as ideological

If we understand literacies as social practices embedded in social contexts (the ideological stance), then it follows logically that the teaching of academic reading and writing should be embedded in specific discourses, so that students learn the discourse practices and forms of expression in particular disciplines. As Gee (1990: xviii) says,

> There is no such thing as 'reading' or 'writing', only reading or writing something (a text of a certain type) in a certain way with certain values, while at least appearing to think and feel in certain ways.

Ensuring that the academic literacies are embedded in disciplinary teaching is important because students learn through reading and writing the texts of the discipline. The importance of reading and writing for shaping students' cognitive processes is now well established after extensive research in this area over the last four decades (Bazerman, 1988; Kelly and Bazerman, 2003) and yet, as Lea (2004) has pointed out, discipline specialists seldom take this into consideration when planning their courses. This means that the reading and writing components of curricula are often added on after the course design process is completed with no thought given to curriculum alignment or to conceptualising the writing assignment as part of the content of the course so that students can learn from writing about this content.

Academic literacies teaching should be about making explicit to students the ways of knowing in the discipline as well as teaching the specific disciplinary forms of expression and conventions for writing. Those of us who have worked in embedding the academic literacies in the disciplines have learned that this involves very close collaboration with the disciplinary specialists who may sometimes fail to make explicit the values, practices and conventions of their disciplines (Jacobs, 2007, 2014; Paxton, 2007, 2011; Nomdo, 2013). At first year level this involves working in partnerships so that the discipline specialist and the academic literacy specialist collaborate closely and might, in some cases, team teach. However the need for discipline embedded support with academic literacy and numeracy does not stop at first year because the literacy demands become more complex as students move through their undergraduate years. This is particularly true for students for whom English is not a first language. Undergraduate throughput figures for the 2007 cohort at the University of Cape Town show that language is still an important variable for success. 27% of students who reported English as an additional language were excluded (compared with 8% of English home language students) (UCT Language Policy and Implementation Plan 2013). This means we need to continue to build language and literacy expertise among discipline specialists in the faculties by means of staff development initiatives such as courses in academic literacies teaching.

The role of academic literacies research in informing curriculum

As I have indicated, understanding literacy as a social practice means that reading and writing are linked to what people do in the material and social world. This foregrounds, not only the material and social world of the academic discipline to which our students need to gain access but it also means we need to have a clearer understanding of the worlds from which the students have come. Therefore, we have had to develop a reflective approach to our teaching and our research has focused on trying to understand the values, beliefs and practices of students from rural and 'township' backgrounds in South Africa. We have had to identify the gaps and the connections between the students' literacy practices and the range of academic literacy practices in our institutions. For instance, studies that probe the hybridity in student writing allow us as educators to understand more about the learning and meaning-making processes (Paxton, 2007). Insights into students' developing schemata allow us not only to bridge the gaps between institutional expectations and students' models and practices, but also to explore alternative ways of meaning making in academia. These studies have also indicated that many of the practices and discourses that students bring with them from other contexts may conflict with the requirements of academic discourse. For instance, drawing on situated meanings to make sense of new concepts can often complicate, rather than assist, the process of discourse acquisition (Paxton, 2007). Ndlangamandla's study (2013) of postgraduate proposal writing in the MTech in Policing at UNISA highlights the fascinating ways in which the discourses of the academy clash with policing discourses.

I will illustrate the role played by this kind of research in more detail by summarising the findings from a recent academic literacies research project in a foundation course in the biological, earth and environmental science and point to the ways in which it has informed curriculum development and has led to curriculum changes.

Findings from an academic literacies research project in the biological, earth and environmental sciences

In 2011–2012, we conducted an academic literacies research project in a component of a foundation course in the natural sciences. This component of the course which was taught by the discipline specialist, academic literacy and numeracy specialists, led to the students writing a 'scientific report' on waste management which was the major formative assessment task in the course. In the research study we conducted a linguistic and intertextual analysis of students' written assignments and then engaged in dialogue with students around their writing. The findings from this research have provided in-depth insights into important issues that have led to changes in the curriculum and the pedagogy of the course. I will briefly describe some of our findings and their implications for curriculum design.

Curriculum alignment

A central principle in designing a course according to the model based on an academic literacies framework (Lea, 2004: 744) is recognising that there are gaps between teacher's expectations and the understanding of the texts involved in learning. In contexts such as ours, where students come from very diverse backgrounds which differ from those of the teaching staff, research and ongoing dialogue is needed in order to identify what these gaps are. The course was an interdisciplinary one in which foundational concepts from the biological, earth and environmental sciences were taught. The sections of the course were embedded within an earth systems science framework and aimed at providing students with an understanding of the processes that shape the earth, the connections between these processes and their impact on the environment.

In our discussions with students about their reports we were surprised to find that they could not see how the scientific report on waste management was relevant to their course content. Waste management had seemed a central issue in any course with an environmental focus and the relevance of the scientific report to the course material had seemed obvious to the teaching team and the discipline specialist (the course convenor) who had designed the scientific report as a real world application of what the course was about. However, students had clearly not made this link and it made us realise that the link needed to be made much more explicit. We also realised that the course convenor might need to work on curriculum alignment to ensure that the aims of her course were made very clear to the students from the start and were carefully aligned to the major assessment task.

Quantitative literacies

Students were given lectures and Excel-based tutorials to prepare them for answering a series of directed questions which guided them through the analysis of a set of data on waste management in a fictitious third world city. These were presented in the form of a structured Excel spreadsheet, on which the students could perform the statistical analysis, create the charts and graphs and write the descriptions of the results. The students were then expected to draw on these analytical results to support any arguments they made in their 'scientific report', which was the major formative assessment task in the course.

Learning to use terms and phrases to describe quantitative concepts is fundamental to quantitative literacy for a science student. However, in our analysis of the scientific reports, we found that many of these students used quantitative terms and phrases

inappropriately, often in a manner that was grammatically correct, but conceptually incorrect, and our "talk around text" revealed that the students either did not understand the specific contextual meanings of the terms they were using or that they did not understand the concepts the terms refer to, or both. For example many students used the phrase 'increasing at an increasing rate' to describe a population growth chart, when in fact the rate of increase on the graph they were describing was approximately constant. We realised therefore that students had not understood the way the phrase "at an increasing rate' was conceptualised in the language of quantitative literacy. This has meant that the quantitative literacy specialists in the team have had to find new way teach the concept of "increasing at an increasing rate".

Another finding relating to the language of quantitative literacy (in the natural sciences) which has led us to build further changes into the curriculum had to do with the students' use of the phrase 'is proportional to'. From interviews we established that school physics teaching practices (and the kinds of symbolic representations used to represent relationships in physics) had led students to conclude that whenever an increase in one variable leads to an increase in another variable, the relationship can be described as proportional. (This is in fact not true, as only relationships in which the values of the two variables are in a constant ratio can be described using this term). Students were drawing on discourse practices developed in school physics lessons which led to a misconceptualisation of the concept of "is proportional to" and which was likely to interfere with knowledge building in the quantitative literacies and therefore in the natural sciences.

These findings have shown that we cannot afford to design a curriculum without being clear about what prior discourses students may be drawing on and that it may only be through dialogic methods, typical of academic literacies research, that we can really understand the gaps or misconceptions that arise from these prior discourses.

Finally we found that students had been challenged in learning the academic conventions for writing a scientific report. What we had not realised until we interviewed the students was that schools were now teaching referencing but they were teaching referencing practices in ways that conflicted with referencing practices in the academy. For instance, students told us that at school they had simply cut and pasted from the web and then drawn up a list of references at the end of the school assignment. They said that the first time that they had encountered "in text" referencing was at university when they had to write this scientific report.

These illustrations from our data emphasise, firstly, the importance of embedding language and literacy in course design so that the curriculum is aligned very carefully with the assessments and the activities around those assessments. This requires making the ways of knowing of the discipline, the aims of the course and the links between theory and real world application explicit, particularly if the major assessment project involves real world application of the theory.

Secondly, the illustrations of the way students engage with the quantitative literacy texts indicate that knowledge making needs to be a dialogic process which draws on a range of semiotic modes. In contexts where educational resources have not been equally distributed we need a more complex understanding of the way students are constructing knowledge from texts, so that we gain a better understanding of discourses that students bring from a diverse range of schooling and home backgrounds. It is only then that we can build additional steps into course design and pedagogy to scaffold learning and thus avoid conceptual breakdown.

Finally, the students' difficulties with the genre and conventions of scientific writing illustrate that referencing needs to be seen as a knowledge making practice, rather than a technical skill. Course design needs to include the teaching of the specific textual functions and generic conventions and practices of the discourse of science and of mathematics.

Conclusion

These research findings developed from ethnographic studies based on dialogue with students around their assignments are quite critical for bridging the gap between teachers' expectations and the understandings that students from very diverse backgrounds bring to the academy. They can also play a significant role in informing the design of new curricula at a time when curricula seem outdated and in need of reform. Furthermore they add weight to the argument for embedding the teaching of the academic literacies in the disciplines so that students learn a wide range of social practices appropriate to the discipline.

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