Embedding academic support within an academic discipline: A teaching model

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Abstract
This article reports on an innovative teaching intervention model involving the integration of geographical content into academic literacy programmes and vice versa at the University of Johannesburg (UJ). This model involved the ‘movement’ of academic literacy support as an independent and isolated function of the Academic Development and Support (ADS) Unit to one fully integrated into an academic discipline. The process of collaboration was driven by the lecturer, who engaged actively with the ADS facilitators on a continuous basis. This sustained the intervention by directing the nature of the academic support required. In the end, the sharing of ADS and discipline specific duties, as staff ‘boundary hopped’ between disciplines, allowed both for the co-creation of curricula and for a true teaching partnership to evolve. Both ADS and the academic discipline were enriched, to the benefit of staff and students.

Keywords: academic literacy, under-preparedness, extended degree, teaching intervention, academic support model

INTRODUCTION
This article reports on a teaching intervention undertaken by a Geography lecturer at the University of Johannesburg (UJ) in conjunction with academic staff associated with the Academic Development Support (ADS) Unit, and in particular, those members teaching the UJ Language for Science (LFS) module. Through this arrangement, an academic ‘insider’ (a Geography lecturer) was able to engage in a strategic and collaborative partnership in order to facilitate epistemological access by students. The partnership was to provide scaffolded learning opportunities for extended degree students to improve their level of academic literacy. This intervention was informed by the notion that each academic discipline constitutes its own discourse community and that access to that particular community must be mediated by an ‘insider’. The purpose of the intervention was to increase real access to the discipline of Geography.

Generally, most of the students enrolled for a first-year Geography course are ‘under-prepared’ in terms of their skills base and their knowledge of the content of the subject. As a result, first-year students are extremely vulnerable to failure (Du
Plessis and Gerber 2012). Thus, effective teaching interventions, such as scaffolded support, are crucial ways for reducing failure.

**THE SOUTH AFRICAN HIGHER EDUCATION CONTENT**

Research conducted by Eiselen and Geyser (2003), Lourens and Smit (2003), Grussendorff, Liebenberg and Houston (2004), Du Plessis, Müller and Prinsloo (2005) and Coughlan (2006) indicates that the typical first-year failure rate in South Africa stands at the 30 per cent mark at least, with instances of up to 77 per cent having been recorded. While there are many reasons for this high failure rate, one option for reducing it is to find ways to bridge the gap between the levels of high school and university education (Cross and Carpentier 2009). The width of this gap is often associated with the level of academic literacy attained. For students whose home language is not the language of teaching and learning (LoLT), or who have come from poorly-resourced homes or schools, one of the biggest struggles in terms of acquiring academic literacy is the cultural capital ‘mismatch’ between what the students have at their disposal and what is required for success at university (Hutchings 2005; Mqgwashu 2009). Naturally, critics such as Bourdieu, Passeron and De Saint Martin (1994) are correct in their opinion that most academic practices are either ‘alien’ or culturally very different from the cultural repertoire of most of the students. As a result, usually all students need some assistance in acquiring the relevant skills and insights.

Bridging the gap requires that the conventions implicit in academic literacy or programmes, which are usually taken for granted by the ‘insiders’ or academicians, are explicitly taught (Lillis 2001). Teaching such conventions can take the form of scaffolding, whereby new students are socialised into a particular academic discipline. In other words, ‘insiders’ in the community of practice grant the new students legitimate peripheral participant (LPP) status. Without the granting of such forms of status by the insiders, failure is common (Barrass 2002; Choi and Hannafin 1995; Cottrell 2001; Young 1993). ‘Insiders’, such as lecturers, are, therefore, tasked with assisting LPPs by creating or facilitating opportunities for participation in an academic community (Archer 2008; Cummins 1996; Zamel 1998). That this does involve acculturation is acknowledged, and as such, insiders need to be mindful thereof. The intervention has also been influenced by the work of Ballard and Clanchy (1988; 1991) and Gee (1996). These authors call for the empowerment of students through the intervention of academicians, whereby students are explicitly taught to read within a discipline, and to apply the essential methods and features of specific academic disciplines.

**The teaching context**

The students involved in the intervention were all registered for an extended (four-year) degree in Science at UJ. Some took Geography as a service module; others were majoring in it. Throughout the period over which this programme
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was conducted, the classes were always multiracial, with black students forming the majority. Geographically, students came from all over South Africa, with the exception of Western Cape and Northern Cape, but the majority hailed from Gauteng. While the gender imbalance improved over the years, female students were always in the minority. All had passed Mathematics and Physical Science at Matric level, with marks of over 50 per cent for each subject. Thus, in spite of Van der Berg and Louw’s (2006) observation that poor attainment at secondary school level is largely determined by race and class in South Africa, these students represent an ‘elite’ minority who have passed secondary school with Higher Grade Mathematics, Physical Science and a matriculation endorsement (Fiske and Ladd 2006). Thus, to exclude such students from tertiary education would be contrary to both the ideologies of transformation and equity (Essack and Quayle 2007). Furthermore, universities are compelled by the Higher Education Act (No. 101, 1997) to broaden access and to support equity through appropriate admission policies and criteria (Koch and Foxcroft 2003), further reinforcing the need to facilitate access to such students.

Students who are ‘at risk’, such as those pursuing an extended degree, cannot, however, simply be enrolled into higher education, without having their context taken into account (Cliff, Yeld and Hanslo 2005; De Beer 2006). Thus, access needs to be structured for success, otherwise the under-preparedness of such students for university will undermine their potential (Craig 1996). To counter this, extended degree programmes teach the first year of the Science degree over a period of two years. The main purpose of the extended time is to open up teaching and learning ‘space’ for academic support and scaffolding. This extended time is supplemented with support and scaffolding to ensure that access also means success (Essack and Quayle 2007; Wood and Lithauer 2005). The extended degree also takes cognisance of further studies by giving attention to the skills and knowledge that students will need in order to succeed in their second and third years of study. Academic literacy skills, such as essay writing, referencing, solving complex problems, statistical analysis and reading for understanding, are but a few areas of academic development covered from the first year. Overall, the emphasis is on success – hopefully leading to retention and ‘throughput’ (De Klerk, Van Deventer and Van Schalkwyk 2006; Rogers 2004; Van den Berg 2006).

ACADEMIC LITERACY AND LANGUAGE

Cottrell (2001) identifies language difficulties as a significant potential barrier to learning. This may certainly be the case at UJ, where most students reported that English was not their home language. For the extended degree students, most learnt English as a second or third language, usually with teachers who themselves did not have English as a home language. While some extended students matriculated from suburban English-medium schools, even they usually had only colloquial competency rather than academic competency in the language of teaching and
learning. As language plays a crucial role in enabling a student to engage in an in-depth approach to learning, English language skills need to be overtly taught (Biggs 2003; Cummins 1996; Zamel 1998). This is confirmed by Barrass (2002), who noted that science students usually need complex language skills and an academic vocabulary in order to communicate within the academic sphere, and it cannot be assumed that the experience of English at school level gives students a sufficient grounding for these skills.

**METHODOLOGY**

The teaching intervention in the context of this particular study assumed the form of an action research project over a five-year period between 2006 and 2010. This type of methodology was selected as being the most appropriate for this project as it allowed for a reflective cyclical process to be used to solve a practical teaching and learning problem (Opie 2004). The small-scale nature of the extended degree class, along with the collaborative nature of the intervention, also lent itself to this type of methodology (Zuber-Skerritt 1996). The implementation and monitoring, however, were assessed on the basis of critical reflections by the academics involved (Larrivee 2000). After critical reflection, the findings were analysed and, where necessary, the original intervention was modified. The two most dramatic periods of modification occurred in the planning of the 2007 and 2010 academic years respectively. The advantage of action research is that it allows for formalised, systematic and careful reflection by the academics involved of the nature of the teaching intervention in a manner more rigorous than the typical assessments that most educators undertake (Cohen, Manion and Morrison 2000). Thus, the model espoused by Opie (2004, 80) was used, with the sequence of steps followed as set out below:

1. Analysis of the problem: In this case, how to provide scaffolded support for extended degree students that would assure them of success;
2. Designing a suitable intervention: In this case, the provision of academic literacy support by incorporating Geography content in the LFS curriculum and LFS content in the Geography curriculum;
3. Implementation of the intervention: In this case, it was implemented in three main phases, namely: (a) in 2006; (b) in the form of modifications from 2007 to 2009; and (c) in 2010;
4. Monitoring: In this case, through critical reflection; and
5. Analysis and evaluation: In this case, with modification taking place ahead of the periods 2007 and 2010.

Critical reflection (CR) was selected as a methodology because it particularly encourages educators to reflect on their personal and professional belief systems (Larrivee 2000). This dovetailed well with the chosen theoretical framework of communities of practice, which itself reflected the personal and professional belief systems of the academics involved. That is, the academics ‘see’ themselves as knowledgeable ‘insiders’ whose task it is to shepherd LPPs (students) from the
periphery of the academic discipline towards the centre. Importantly, CR enables academics to identify the components of their work that lead to successful outcomes, as well as those that inhibit or ‘disenable’ success (Osterman and Kottkamp 1993). Both of these fit in well with the theory of community of practice, where ‘insiders’ need to make the tacit or unspoken codes of practices available to the LPPs. However, this is not a simple process, as the insiders themselves are not always aware of what these hidden codes mean or what the practices are. CR, enables insiders by holding up a ‘mirror’ to academic practices, enabling hidden codes to be revealed.

**DESCRIPTION OF THE TEACHING INTERVENTION**


My interactions with the ADS Unit began in 2004 when it presented a one-day workshop on ‘responding to students’ writing’. In 2005, the interaction continued with the ADS Unit offering a number of one-day workshops concerning the topic of student development. On the whole, the interaction was informal, and confined to raising awareness.


The year 2006 saw the launch of formal interactions with the ADS staff. This involved a number of formal activities: firstly, my acquisition of an advanced teaching qualification, namely, a Postgraduate Diploma in Tertiary Teaching at the University of the Witwatersrand (since the course is not offered by UJ); and, secondly, working with the ADS staff to explore how they work with students, and to establish how ADS teaching and learning aspects are managed. Once this was done, the points of entry for Geography into the ADS curriculum could be identified. There were three important interventions, namely: (1) jointly planning work schedules; (2) incorporating some geographical content into the LFS curriculum; and (3) holding joint tests.

At the end of the 2006 academic year, both the ADS staff and the staff in the Geography Department completed a reflection exercise to establish what had worked and what had not. Although some issues raised were structural in nature (timetable and venue issues) and so could not be addressed through a teaching intervention, others were. These included:

1. Plagiarism problems, in particular students ‘cutting and pasting’ from the internet and then failing to either reference or reference correctly;
2. A lack of measurable data as to whether or not the teaching intervention was working to build academic skills or not; and
3. The need to strengthen the teaching invention to incorporate academic literacy skills in the Geography curriculum.

To these ends, teaching in the 2007 academic year was adapted to include:
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(a) Overt teaching of the meaning and implications of plagiarism and making students sign a Plagiarism Declaration, which is still currently in use;
(b) Using the Placement Test in English for Educational Purposes (PTEEP) as a tool to provide a baseline against which acquired academic skills could be compared; and
(c) Restructuring the Geography tutorials to incorporate the teaching of academic literacy.

The tutorials focused on reading for understanding, mind mapping and contextual analysis.

Although the main ADS collaborator resigned from UJ at the end of 2007, new members of the ADS staff were able to continue with the teaching intervention as a formal curriculum had evolved and was being put in place. Unfortunately, over time, the extensive loss of ADS staff began to take its toll on the collaborative project and ADS support for this project terminated during the 2009 academic year.

Implementation of Phase 2: Re-invention (2010)

By chance, an ADS staff member, who was also a Geography graduate, was then appointed in 2010. Thus, fostered by kindred interests, the ADS/Geography joint teaching intervention was able to continue. To do this, a number of strategies were employed:

1. Joint Team workplans were developed with some geographical content once again being incorporated into the LFS curriculum, and activities that would deliberately develop academic literacy skills being identified; and
2. Regular meetings were held between the ADS staff and the Geography lecturer to reflect upon the intervention that had taken place and to ‘fine-tune’ further interventions. This success was short-lived, as the ADS staff member also resigned at the end of 2010. However, on account of the success of the working relationship between the two departments, and the ADS member’s qualifications in Geography, a whole new (and unique) intervention was then able to take place. This former ADS staff member was employed on a part-time basis by the Geography Department and became fully responsible for the extended degree Geography modules, with the Geography staff member playing the role of internal moderator. Unfortunately this collaboration ended in June 2013 with her resignation from UJ.

DISCUSSION


The holding of awareness workshops by ADS staff is crucial to alerting academics to issues pertaining to academic literacy and exposing lecturers to the theory and practice of education. The workshops also performed the function of forging a system of networks between the academicians and the ADS staff, thus providing the foundation upon which the intervention is structured. This is crucial, because this teaching intervention has proved to be strongly people-driven.

The acquisition of a further qualification in education, in tertiary teaching in particular, also proved to be important, as it enabled the Geography academic to embark upon a journey into the scholarly nature of teaching. The results of which not only improve the actual practice of teaching, but also allow for successful conference presentations. The joint planning between the ADS Unit and the Geography Department contributed to the strengthening of the curriculum of both modules – with particular focus being on skills development. For example, the Geography lecturer gained insight into how the ‘hidden’ or unspoken rituals and practices of Geography need to be made explicit to students.

The final combined LFS and GGR formal semester test at the end of the year proved most insightful. The test was written by all LFS students, regardless of whether they were registered for Geography or not. Although the test covered the entire LFS curriculum so that no student would have an advantage, it was clear that the results of the LFS students who had benefited from the integrated LFS and Geography modules were much better than those for the students who had not. Thus, integration specifically improved the acquisition of academic literacy.

The four possible reasons to explain this follow:
1. The Geography students had the benefit of multiple opportunities to acquire academic literacy, that is, in the Geography class and in the LFS class, while the other students did not have this advantage.
2. The Geography students ‘bought into’ the LFS module much more than the other students did as it appeared to be more relevant to them on account of its particular integration with Geography.
3. Academic literacy cannot (and should not) be separated from the academic discipline within which it needs to be acquired, as the nature of the acquisition and of the literacy is driven by the nature of the specific academic discipline.
4. The Geography lecturer, as an ‘insider’ of the discipline, was purposefully using LFS as a vehicle to introduce the students, as LPPs, into the discipline by applying the theory of community of practice.

Additional lessons learnt
1. PTEEP: The use of PTEEP to provide a baseline against which to measure acquired academic skills proved to be useful in that it became possible to track students’ progress in new ways. Importantly, students with low PTEEP skills need a great deal of support and time to acquire academic literacy. Sadly, some are unable to do so within the space of a year and this is clearly evident from the throughput rates (see Table 1).
2. Tutors: Although the restructuring of the Geography tutorials brought significant improvements to the acquisition of academic literacy, this process was not without
its own unique challenges. Firstly, a great deal of work is required by the academic, who must schedule the tutorials, write the material for them, appoint and manage the tutors. Secondly, problems arise in appointing tutors. While this is partly a function of the budget – as there was no budget in the 2006–2007 period – so the lecturer had to run them herself. There is also the issue of choosing suitable candidates as tutors. Low salaries, coupled with the fact that postgraduate students are notoriously loathe to tutor, as well as needing staff who have the right ‘mix’ of personality and skills for the position, makes finding tutors difficult. Over the 2008–2009 period, while some good tutors were appointed, the low salaries, overcrowded classrooms and alternative work opportunities meant that most did not stay. Not surprisingly, poor tutors do stay, but managing or removing them is challenging. Overall, tutor staff turnover proved to be a significant problem. Over time, the tutor salaries have increased, the number of tutors appointed has increased and tutor training has been made compulsory. In the Faculty of Science, tutors are now appointed on a semester basis only, so that those who perform poorly do not get their contracts renewed, and more detailed work contracts have to be signed. Still, there are unresolved problems, particularly, demand for tutors exceeds supply.

3. **Staff and curriculum:** Ultimately, teaching collaborations proved to be a long and complex road to be travelled and they depend heavily on staff capacity. With the high staff turnover in the ADS between the years 2008 and 2009, partly because of temporary staff appointments, an unexpected discovery was made concerning the important role that structure and curriculum planning can play. As different staff members came and went, those who adhered to the planned, integrated curriculum developed in 2006/2007, made it possible for the teaching intervention to continue. However, once a new ADS curriculum replaced the former one, with significantly less integration, and the appointed staff revealed less capacity and fewer skills to create new opportunities for Geography and LFS to cooperate and combine their resources, the collaborative nature of the intervention came to exist in name only. This was in fact the case by the end of 2009.

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of students</td>
<td>35</td>
<td>40</td>
<td>29</td>
<td>92</td>
<td>59</td>
<td>51</td>
</tr>
<tr>
<td>Throughput</td>
<td>68.5%</td>
<td>65%</td>
<td>66.7%</td>
<td>63%</td>
<td>69%</td>
<td>66.4%</td>
</tr>
<tr>
<td>Mean</td>
<td>50.9%</td>
<td>48.8%</td>
<td>47.3%</td>
<td>38.4%</td>
<td>47.3%</td>
<td>46.54%</td>
</tr>
<tr>
<td>% that could not write the final exam</td>
<td>3%</td>
<td>10%</td>
<td>10%</td>
<td>33%</td>
<td>19%</td>
<td>19%</td>
</tr>
</tbody>
</table>

**Implementation of Phase 2: Re-invention (2010)**

The appointment of an ADS staff member, who is also a Geography graduate, allowed for the resuscitation of the teaching intervention. The fact that two people, who were ‘insiders’ and who belonged to two distinct communities of practice, that is, Academic Literacy and Geography simultaneously, were working in the same
space, confirms how the theory of community of practice can be reflected in reality. Kindred interests and a mutual desire to enable students to become LPPs contributed to the accomplishment of a strategy to quickly and easily revive the collaboration between the two departments. The joint planning for each semester went very well in that there was seldom much need for lengthy discussions between the two ‘insiders’ who had a common understanding and purpose as guidelines. Thus, by 2010, the roles of the ADS and Geography academics could be completely reversed, with the ADS facilitator taking over the teaching of the Geography module! While it is clear that this is a fairly unique case, it does offer insight into what makes a community of practice work, and how a teaching intervention can be implemented quickly, easily and with huge success. To conclude: the academic can foster a teaching intervention by formally learning the discipline of academic literacy; alternatively, the academic literacy practitioner can formally become part of the academic discipline. Either way, such collaboration will work.

**FINDINGS**

**Change ‘ways of doing’**

One finding of the teaching intervention was that academic staff both in the ADS and in the Geography Department had to adapt and change certain of their practices or ‘ways of doing things’ in order to allow students to acquire epistemological access. In particular, the Geography academic had to incorporate the teaching of academic literacy skills into the academic discipline, while the ADS academics had to incorporate at least some aspects of the Geography discipline into the ADS discipline. Ultimately, the most successful way of achieving this would be to either improve the teaching qualifications of the academic (Geographer or ADS) or to employ an academic literacy specialist who is also a discipline specialist, or in this case, both.

**Embed academic literacy teaching into the discipline**

Another finding was that the mediation of discipline-specific method of writing helped students to engage more deeply with the discipline of Geography, in a way envisaged by Gibbs (1992). But, in support of Henning, Mamiane and Pheme (2001) and Van Eeden, De Beer and Coetzee (2001), academic literacy depends upon explicit teaching. As Henning et al. (2001) argue, and this intervention supports their argument, academic language support must be given *within* the discipline in order to immerse students in the discourse of the discipline.

**Time and human resource intensive**

A third finding was that despite the integration of Geography and LFS in terms of shared projects, material and content, the development of academic literacy is a complex and time-consuming process to which both parties (the ADS and the
academic discipline specialists) have to be committed. In addition, it is clear from the students’ results that not all students acquire academic literacy within the space of a year. Thus, the provision of such support cannot guarantee academic success. This type of intervention has a serious weakness in that it is both labour- and time-intensive, which can be problematical when classes become too big and the staff-to-student ratio changes from 1:35 to 1:92 (in this case). From Figure 1 it is clearly evident that when class numbers more than doubled, the ability of academics to provide the support required by students became extremely challenging, even when this support was embraced by the curriculum and tutors were employed. Thus, the enrolment of students must be balanced against the availability of human resources, that is, registration should be made subject to the ‘carrying capacity’ of the university. There are limits to the number of students that venues can accommodate and that lecturers can cope with, and limits to the degree to which lecturers can juggle the additional tasks allocated to their positions (such as administrative duties and research tasks) with their teaching load. The works of Springer, Stanne and Donovan (1999); Waldrrip and Fisher (2001); Bennet et al. (2001); Stonyer et al. (2001) and Zepke et al. (2005) all clearly show that active participation by students in small classes significantly enhances learning and student retention in the sciences, possibly because active participation promotes deep learning (Gerstman and Rex 2001). The implications are that enrolment in the extended degree will need to be restricted for logistical purposes.

![Figure 1: Graph showing the relationship between class size and class average](image)

**CONCLUSION**

Geography is a discipline that relies heavily on language, same as for other scientific
disciplines. As a result, many of the language skills required for entry into scientific discourses need to be deliberately integrated into the Geography extended degree curriculum, together with the active teaching and application of mind maps; critical reading for understanding; essay writing in an academic register; and some mechanics (spelling, sentence structure and vocabulary). In line with the recommendations of Gee (2001), the extensive scaffolding, via the teaching collaboration of Geography with LFS, was designed to enable additional-language English speakers to access the text, expand their scientific register, and become familiar with academic discourse (Du Plessis and Janse van Rensburg 2006; Uys et al. 2007; Weideman and Van Rensburg 2002). This incorporation of language skills into the course is a successful strategy that corresponds well with practices at other South African universities, such as the University of Natal (Grayson 1997). The model, of having an ADS staff member, who is also a Geographer, teaching the module worked successfully at UJ and it is recommended that other universities consider it as an option to provide academic support to their extended degree students.

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NOTES

1. In all, to date, there have been eight conference presentations, excluding the one at which this paper was presented, and one publication (see Appendix).

REFERENCES


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**APPENDIX**


