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Students with disabilities in higher education

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This study reviews and critically analyses literature from 2000 onwards to obtain a perspective of the latest research trends and interests as well as the theoretical development in the study of students with special education needs in higher education. The diversity of research themes indicates that higher education faces multiple challenges. The research further finds that this field of study is still in an exploratory phase. Qualitative studies in smaller settings are the most popular, and progress towards generalisable theories is still relatively young. It is encouraging to note that research is increasingly addressing the empirical issues experienced in higher education institutions. Suggestions for future research are given.

Studente met gestremdhede in hoër onderwys: 'n analise van resente navorsing en literatuur

Hierdie studie bied 'n oorsig en ontleding van navorsing gepubliseer sedert 2000 om sodoende insig in die mees resente navorsingstendense te verkry, sowel as om te bepaal hoe die teoretiese begroning van studente met spesiale behoeftes in die hoër onderwys gevorder het. Die diversiteit van die navorsingsbevindings dui daarop dat hoër onderwys met veelvoudige uitdagings gekonfronteer word. Hierdie navorsingsterrein is nog in 'n eksploratiewe fase. Kwalitatiewe navorsing blyk veral in kleiner opsette die populêre metode te wees, terwyl vordering met veralgemeenbare teorieë nog in 'n beginfase is. Empiriese kwessies in die hoër onderwys word ook in 'n toenemende mate aangespreek. Voorstelle vir toekomstige navorsing word gedoen.

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Higher education institutions worldwide are required to widen their student bases by attracting minority categories that have to a large extent been excluded in the past.¹ This has resulted in institutions opening up not only to ethnic minorities but also to increasing participation by students with disabilities.²

Many countries have laws in place to suppress discriminatory practices against persons with disabilities. In Britain, the Disability Discrimination Act (DDA) of 1995 was introduced to govern the employment of persons with disabilities, as well as their access to goods and services (Banes & Seale 2002: 1). This Act was amended by the Special Educational Needs and Disability Act (SENDA) of 2001 to include education (Banes & Seale 2002: 1). Similar laws are in force in other countries, such as the Disability Act (ADA) of 1990 in the USA and the Disability Discrimination Act of 1992 in Australia (Roer-Strier 2002: 915, Ryan & Struhs 2004: 74). In South Africa, the Department of Education addresses issues relating to students with disabilities in the National Plan for Higher Education (NPHE) of 2001, as well as in the Education White Paper 6 of 2001 (Howell & Lazarus 2003: 61-2).

Dealing with the special needs of students with disabilities brings new challenges to institutions. Those institutions that want to be recognised for greater inclusivity require a proactive approach that cuts across the total institutional environment. Such an approach should integratively address a range of barriers associated with, for example, the physical structures and access to campus locations; the methods of teaching, assessment and information dissemination, as well as the socio-cultural or attitudinal climate defined by mainstream students and staff. In the past, this broader context was often ignored. It appears that support measures in the 1990s focused to a large extent on finding ways to solve problems and on equipping students to overcome barriers, while ignoring the inherent weaknesses of institutions that prevented them from becoming more fully inclusive (Hall & Tinklin 1998: 4).

1 The authors wish to thank the anonymous reviewers for their valuable suggestions, which have made a positive contribution to the final editing of the article.

2 For the purposes of this article, the term "students with disabilities" is preferred to "students with special educational or learning needs" for its brevity.

Two models of thinking underlie the way in which society approaches persons with disabilities. The traditional medical model emphasises the condition of individuals which prevents them from fully participating in “normal” activities (Crous 2004: 231, Fuller *et al* 2004: 304). By contrast, more recent social model activists, arguing from a social model perspective, have questioned the role played by the social and physical environment in excluding persons with impairments (Crous 2004: 231, Fuller *et al* 2004: 304, Howell 2005: 2, Riddell *et al* 2005: 625). Thus, whereas the medical model would regard disability as a particular person’s deficit, the social model views disability as a set of barriers or discriminatory practices operating within society or within a specific institutional environment. Past practices based on the medical model segregated the so-called “normal” from what appeared to be “abnormal”, often inviting negative labelling or stereotyping (Monaghan 1998: A15). This kind of thinking generally seems to offer little support for solving the challenges facing higher education. In South Africa, the higher education authorities seem to a large extent to endorse the social perspective on disability (Howell 2005: 3).

This study sets out to gain a broader theoretical perspective of this particular field of inquiry. The resulting research focused on reviewing published research in the fields related to disability in higher education. The aim was to provide a critical analysis of the status of extant research. This article reports on the findings of this study.

1. Background

The British Disability Discrimination Act of 1995 (clause 50) defines a person with disability as follows:

... a person has a disability for the purpose of this Act if he has a physical or mental impairment which has a substantial and long-term adverse effect on his ability to carry out normal day-to-day activities.

Shevlin *et al* (2004: 16) state that students with disabilities represent a heterogeneous group, including individuals with sensory, physical, learning, health- (asthma, diabetes or epilepsy), and mental health-related disabilities. Other sources convey similar information about the range of disabilities among students in higher education. Citing

2002 statistics of the British Higher Education Funding Council, Fuller *et al* (2004: 305) report that the most common forms of disability among undergraduates are dyslexia; unseen disabilities; multiple disabilities; hearing impairments; mobility impairments; mental health conditions, and visual impairments.

The problems facing higher education institutions in coping with students with disabilities are well documented. The academic achievements of students with disabilities, for example, are comparatively low (Mull *et al* 2001: 98). Furthermore, students with disabilities are hampered by existing barriers to participation and, despite the availability of support services, often experience feelings of marginalisation and disempowerment (Holloway 2001: 612). Another problem is that staff members at higher education institutions generally lack awareness of the stipulations of anti-discriminatory legislation (Gordon *et al* 2002: 362).

Despite such legislation and the efforts made by many international governments to widen the higher education base, the under-representation of students with disabilities seems to be a general trend (Crous 2004: 229, Shevlin *et al* 2004: 16). Crous (2004: 233) reports that proportionately too few people with disabilities participate in higher education in South Africa. Although the National Plan for Higher Education includes students with disabilities in its definition of “non-traditional students” (Howell & Lazarus 2003: 61), there is some concern that issues of race and gender may have taken precedence over the needs of students with disabilities in the transformation agenda.

The higher education system in South Africa faces several other key concerns, including the following voiced in a report by the Council on Higher Education (Howell 2005):

- the need to overcome a history of unequal provision due to the apartheid legacy;
- the attitudinal barriers at school level, in terms of which disabled students are not viewed as higher education material and, hence, are inadequately prepared for participation in higher education;
- the inadequate provision of services for students with disabilities at many higher education institutions;

- the neglect of teaching and learning processes focused specifically on enhancing the learning abilities of disabled students, and
- the lack of integration of support services for students with disabilities into the core functioning of higher education institutions.

In light of the fact that government efforts to redress the disproportionate representation of students with disabilities in higher education are bound to increase, more unique challenges will inevitably emerge for higher education institutions. Such institutions should therefore understand and proactively prepare themselves for coping with the complexities of such challenges.

2. Research questions

The essence of the research questions was formed by the objective of gaining a broad perspective of research in this field. In order to provide a critical analysis of the nature and status of the research, a number of questions were formulated: Did the research explored conform to accepted norms of research rigour? What is the overall status of the existing body of research? Has a substantial body of generalisable theory already started to form? What are the more popular research themes in the explored body of literature? What are the apparently neglected issues that deserve more attention from researchers?

3. Research methodology

3.1 Sourcing the literature to be reviewed

Certain criteria were established in order to demarcate the scope of the literature reviewed. The important considerations were that the research had to be relatively current and conform with scholarly journal criteria. For practical reasons, the study also had to be restricted in respect of cost and duration. The material was therefore confined to the following source material: studies from 2000 onwards; research published in peer-reviewed journals; full-text articles available via the online databases to which the researchers had access (EBSCOhost Research Databases; Proquest; Infotrac Onefile; ScienceDirect;

Emerald; Eric, and SA ePublications), and articles published in other scholarly journals of which free internet downloads were made available by the respective publishing houses (accessed by way of searches performed via Google and Google Scholar).

Searching occurred between September and November 2006, during which the relevance of a particular type of article, namely the expert contribution, was questioned. Strictly speaking, expert papers do not report on explicitly defined research projects; they mainly reflect accumulated experience and insight over time. However, owing to their relevance in this particular context, as well as their empirical nature, it was decided to include them as a separate category of the material reviewed.

3.2 Criteria for reviewing the material

How to assess the quality of research formed the focus in the study. Spencer *et al* (2003: 6) set out the following four principles to which qualitative research should adhere. It should be:

contributory in advancing wider knowledge or understanding; defensible in design by providing a research strategy which can address the evaluation questions posed; rigorous in conduct through the systematic and transparent collection, analysis and interpretation of qualitative data; credible in claim through offering well-founded and plausible arguments about the significance of the data generated" (Spencer *et al* 2003: 6).

Although these principles specifically address the nature of qualitative research, they to a large extent overlap with the principles of quantitative research. By consulting further literature sources, a framework of research criteria, in terms of which a quality perspective of the research could be taken, was constructed. The main purpose of this framework was to allow the study to derive broad conclusions about the extent to which a sound research process was reported in each article reviewed. Table 1 shows the research criteria selected.

Table 1: Criteria applied for the evaluation of research studies

No	Criteria for judging research	Sources
1	A clearly identified research problem or question, and clear research objectives are stated.	American Medical Association (2000: 1), Des Jarlais <i>et al</i> (2004: 363), Litman (2006: 2), Remenyi & Money (2004: 126)
2	An initial expectation or hypothesis is stated to guide the research.	American Medical Association (2000: 1), Baxter & Eyles (1997: 518), Des Jarlais <i>et al</i> (2004: 363)
3	Research is grounded in current theory.	Des Jarlais <i>et al</i> (2004: 363), Litman (2006: 2), Remenyi & Money (2004: 126-7)
4	The study population is demarcated with clear inclusion and exclusion criteria; the sampling approach followed is properly explained and defended.	Baxter & Eyles (1997: 518), Des Jarlais <i>et al</i> (2004: 363), Spencer <i>et al</i> (2003: 24)
5	The data collection and data analysis processes are clearly recorded and explained.	Baxter & Eyles (1997: 518); Des Jarlais <i>et al</i> (2004: 363), Spencer <i>et al</i> (2003: 25)
6	Possible generalisation of the findings and weaknesses or limitations of the research are discussed.	Baxter & Eyles (1997: 518), Des Jarlais <i>et al</i> (2004: 363), Litman (2006: 2), Remenyi & Money (2004: 127)
7	Clear suggestions for future research are given.	American Medical Association (2000: 1), Moher <i>et al</i> (1999: 1897)

Most of the sources listed in the above table specified criteria for funded research projects which, by nature, are more directed by hypotheses and predetermined objectives rather than qualitative research with an interpretivist character. Therefore, the application of these criteria was somewhat relaxed in order to give due consideration to interpretivist and more exploratory forms of research.

4. Overview of the material studied

4.1 Classification of the material studied

To effectively differentiate between the different kinds of research articles, the material was categorised in five groups:

- Quantitative empirical research involves quantifiable data obtained in an objective way (Remenyi & Money 2004: 61-2) – such research usually targets relatively large samples by means of survey questionnaires, or other sources of quantitative data.
- Qualitative empirical research (interpretivist) involves case studies, interviews or other more in-depth techniques employed in respect of relatively small, purposely selected samples (Remenyi & Money 2004: 62).
- Literature review articles of a theoretical research nature, of which the purpose is to advance thinking by conceptual reasoning often by way of using the collective evidence present in the literature to generate new insights (Remenyi & Money 2004: 58-9).
- Literature review articles with a literature overview emphasis,³ of which the purpose is merely to describe the status of, and trends in, the published material, without trying to generalise the findings therein or to generate new theoretical propositions (Leedy 1989: 4).
- Articles containing expert contributions that reflect longer-term experience rather than reporting on a specific research project.

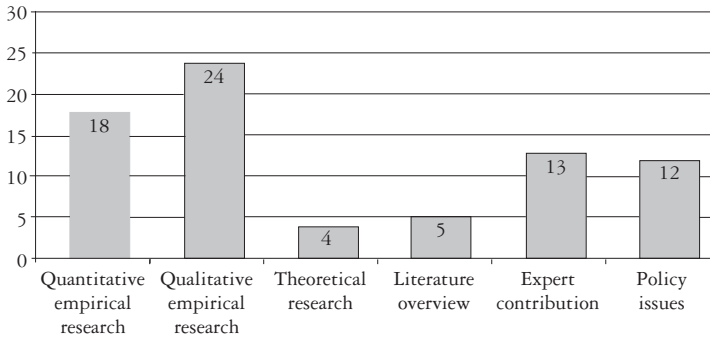
Another genre of article, which deals mainly with policy frameworks and advocacy matters, was also examined, but only for the purposes of comparison.

4.2 Distribution of the material studied

A search conducted within the predetermined search criteria found a total of 76 articles. Figure 1 shows the distribution, in terms of the above categories, including the policy framework types. The majority of articles identified reported on research using qualitative research methods. Quantitative research was the second most popular form. Surprisingly, many studies fell in the expert contribution category, which represents mainly anecdotal evidence and provides little more than tentative insights to the process of theory formulation.

3 The present research falls in this category.

Figure 1: The distribution of literature by category

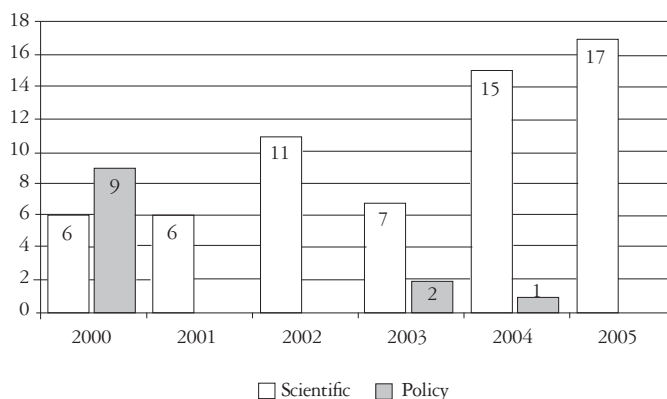


Only four articles fell within the theoretical research category, which suggests that the field is relatively young as far as the development of generalisable theories is concerned. Five of the literature-based articles fell within the literature overview category, as they were found to reflect merely an interest in collecting status information.

In addition, the fact that the majority of empirical study articles reports on qualitative work (the combination of qualitative research and expert accounts) – as opposed to quantitative research – is suggestive of a field that is still more into exploring theories than into confirming theories and hypotheses.

Figure 2 analyses the trend of research activity by showing the number of articles published per year from 2000 to 2005. Because the sourcing of literature took place in the second half of 2006, relatively few articles published in that year were found. Thus Figure 2 does not show the year 2006. In this illustration, it was found useful to compare the activity levels of the research literature reviewed with those of articles of a policy nature, as mentioned in the previous section. The evidence shows that the volume of research (scientific) literature is growing, but that the volume of policy literature has declined rapidly from a position of near dominance in 2000.

Figure 2: Distribution of literature by year of publication



This pattern may indicate a natural evolution of this field of study. Earlier literature reflected a stronger emphasis on the interpretation of legislation and external policies, as well as on defining the broader institutional policy environments in moving closer to societal expectations. As more and more institutions have become involved in implementing disability support programmes, opportunities for scientific research in the field have gradually increased.

5. Critical evaluation of the research material

The detailed analyses, addressing the full list of research articles, are presented in an Appendix to this article. Only the broader conclusions drawn in the case of each research category are revealed in this section.

5.1 Quantitative research

Of the eighteen quantitative research studies reviewed, five (28%) of the articles covered the most popular theme, namely the need to obtain a sounder understanding of the experiences of students with disabilities.⁴ Four studies (22%) dealt with assistive technology (AT),

4 The full analysis of the quantitative research articles is available electronically from the authors.

while another four (22%) performed national status evaluations of either disability services or the academic progress of students with disabilities. The remainder covered other related topics.

Little research appears to have been done so far regarding the impact of specific support or teaching strategies on the achievement of students with disabilities.

The standard of research in this category did not measure too strongly against the set criteria. Sampling was one area of concern. Only half of the studies sampled more than the student population of one or a few institutions, which limits the potential generalisability of the findings. Moreover, few of the studies stated an initial hypothesis as a conceptual guide to the research undertaken. By far the majority of studies did not recommend further research, while many did not discuss the potential for generalisation and the limitations of their findings. Five of the studies (28%) did not convincingly link the research to existing theory. The general conclusion, therefore, is that too many studies lacked the steps associated with rigorous research methods.

A further observation, looking across the research reviewed, is the shortage of widely accepted constructs that could be used for empirical measurement. This may add to the earlier observation made that the field is still in an exploratory phase. Such a situation certainly limits the opportunities for larger-scale surveys. Therefore, any empirical research, even when it makes use of limited or convenience samples, should be welcomed, as long as it promotes deeper insight into the development of theoretical hypotheses.

Overall, the research coverage appears to be highly relevant. It was felt that most of the studies were making a contribution to knowledge in the field. The note of caution is, however, that, by not progressing to more rigorous scientific methods, the exploratory character may well be prolonged.

5.2 Qualitative research

Of the 24 articles reviewed, the most popular topics involve the accessibility of resources such as websites, library resources and other online learning resources.⁵ The seven studies (29%) that dealt with such themes to a large extent reflect the promising progress made in respect of these areas of accessibility. Five studies (21%) investigated the personal needs and experiences of students with disabilities. Such an interest is to be expected in literature that falls within this category, as in-depth interviewing is well-suited for interpreting underlying personal experiences (May 2001: 120). The other studies addressed a variety of themes, including recruitment issues, matters related to support structures, lack of appropriate knowledge among university staff, and societal attitudes and misconceptions.

This category also included the relative scarcity of investigations into the impact of specific support or teaching strategies on student experience.

From a research quality perspective, many studies were found to have been inadequately presented. The following important research matters were seldom addressed: the potential of relating study findings to generalisable theories, the populations to which the findings are assumed to be extrapolated, the limitations of the findings, and indications for future research. Nine of the studies (38%) were not adequately linked to theory, while at least four studies (17%) clarified neither their research questions nor their objectives.

Taking the shortcomings of the research into consideration, its overall value within a theory-building context may be questionable. In addition, many of the studies were only of contextual or temporary relevance. Such studies investigated, for example, problems in a specific context at a specific time, or online accessibility issues, which, by their very nature, are bound to change with ongoing technological advances.

Therefore, as with the previous category, the conclusion must be drawn that the field is still in an exploratory phase. The general contributions made and the overall relevance of topics covered should be

5 The full analysis of the quantitative research articles is available electronically from the authors.

valued. However, further development in the field will depend on the employment of more rigorous research methods and on emphasising the generation of concepts with the potential for generalisation.

5.3 Theoretical research

The four research articles in this category are of an acceptable standard overall.⁶ The themes addressed are the issues of assessment and validity of tests (dealt with by two sources), a synthesis of the range of services available to students with disabilities, and the way in which faculties should be prepared for accommodating students with disabilities.

The study by Mull *et al* (2001: 106-7) draws attention to several vital implications related to disability in higher education: the need to empower students with disabilities to understand their needs and to seek help; the training of students in the use of assistive technology, and the need to address the lack of understanding in secondary schools of how children with disabilities should be prepared to meet post-secondary challenges. The latter is especially relevant to South Africa, where attitudinal barriers at school level have been identified as a major area of concern. Mull *et al* (2001: 106) were concerned to find a lack of research into the effectiveness of support services and accommodation for students with disabilities. This observation is also made by this current review of more recent research, as pointed out in the previous two sections.

5.4 Literature overviews

These five articles were found to provide useful observations concerning the current state of the field. Some noteworthy conclusions drawn by these studies include the fact that past literature revealed greater concern with the scope and nature of barriers associated with disabilities than with the introduction of innovative methods of instruction and support; a comprehensive picture of the themes related to assistive technology had formed, and faculty attitudes had proved to be a persistent problem area.

6 The full analysis of the quantitative research articles is available electronically from the authors.

5.5 Expert contributions

Because this category does not follow a research approach, the seventeen articles were not judged in terms of any of the research criteria.⁷ They are only discussed in terms of their content. Expert contributions rely primarily on anecdotal evidence, but the themes covered in such literature should be viewed as sound indicators of where practical challenges and research opportunities currently lie. The topics addressed in this category are, in brief:

- assessment, assessment compensations, and the equity and validity of assessment methods (three sources covered themes related to assessment);
- lecturing strategies involving students with disabilities;
- the emphasis on accountability in national education and the financial impact of providing disability services;
- access to library, study material, and online resources;
- the role of technology in providing access and support, with respect to both residential and distance learning;
- the international migration of students with disabilities and the differences in support expectations that such students might have of institutions in foreign countries;
- the transition from secondary to post-secondary education, and
- the need for students with disabilities to be equipped with personal coping skills.

It is obvious that assessment compensations and assessment validity issues in the context of students with disabilities receive regular attention. Other similar topics to those prevalent in the theoretical research contributions include access to study information and the role of technology in online systems; how to address the personal skills needs of students with disabilities, and factors that impact on the transition from secondary to post-secondary education. These topics may well indicate those areas that hold many practical challenges for institutions.

7 The full analysis of the quantitative research articles is available electronically from the authors.

6. Summary, conclusions and recommendations

The field of disability in higher education is still in an exploratory phase. There is limited evidence of generalisable theories or testable constructs that enjoy wide recognition. Qualitative inquiry in a broad sense (embracing qualitative research methods, literature studies and expert accounts) appears to be far more popular than quantitative research. Even the quantitative research reviewed focuses on exploring concepts in smaller scale studies rather than on trying to draw conclusions from large representative samples. A relatively weak theoretical foundation and a lack of construct development, together with an apparent absence of hypotheses that could guide research, seem to be the barriers in this regard. In general qualitative and quantitative researchers tend neither to pay sufficient attention to the formation of theoretical concepts, nor to advance hypotheses and suggestions as to potential future research, especially aimed at encouraging larger-scale empirical testing. The underlying concern is that the drive towards the formation of stronger theory may remain weak.

Little or no research is done on several topics, acknowledged in previous research as problem areas for institutions. One of these concerns is the under-representation of students with disabilities in higher education, which seems to be a general trend in several countries, including South Africa. Relatively few studies address methods used to improve, for example, recruitment, high-school preparation and help with the transition from secondary to higher education. Another area of concern is the prevalent lack of research into the effectiveness of services and support measures in use. This was pointed out as a shortcoming in some of the studies reviewed.

On a more positive note, studies on online access and assistive technology indicate that this area of support has made substantial progress in practice. The field of disability in higher education appears to have become more proactive as can be gathered from the increasing publication of research studies.

Notwithstanding the scientific shortcomings, the research reviewed succeeds in emphasising the complexity and holistic nature of the field of disabilities. The major challenges, the range of support

measures and the contextual environment within which support measures are required to function are substantially covered, and explained, in the literature. The topics covered by the majority of articles contribute to the body of knowledge in this field.

The field of disabilities within higher education is most definitely open to further research. The specific areas that have been reported as having been inadequately addressed in the past, or which seem to be in urgent need of answers, are:

- the factors and practices that could positively impact on the recruitment, preparation and transition of students from high school to higher education;
- the theoretical conceptualisation of hypotheses that can be tested empirically;
- the development and testing of survey constructs capable of measuring different variables related to disability services;
- empirical research that can measure the effectiveness or success of different interventions on the experience and accomplishment of students with disabilities, and
- more large-scale research aimed at establishing the needs of students with disabilities and how they experience their immediate circumstances.

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