Understanding the multidimensional nature of student disadvantage to better inform the provision of 'glocal' learning

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There are growing calls to make equity a focus of research concern in Australian higher education. In turn such research will, it is anticipated, inform the planning, delivery and implementation of education in an era of rapid global and technological change. Yet to undertake such research requires generating a greater understanding of the complex and multidimensional nature of educational disadvantage for the purposes of equity. This paper explores the *Equity Raw-Score Matrix* as a means of capturing economic, geographic and social disadvantage.

Keywords: equity, under-represented groups, educational disadvantage, 'glocal' higher education, *Equity Raw-Score Matrix*.

Introduction

Brave new classrooms,
they will be!
Overcoming experiences
of adversity.
A place for all scholars:
true equity.
Where knowledge and learning
are shared equally.
Brave new classrooms...
Or will they be?
(Willems, 2004a)

Concerns surrounding equity issues in formal education are not new, as the sentiments in the poem above – written six years ago for a student essay, poetry and art competition on the 'University of the Future' – demonstrates. While the poem did not win any of the three offered prizes (a PDA, a USB, or a bookshop voucher), the themes and sentiments encapsulated within it remain topical. ASCILITE 2010 brings these challenges into focus by suggesting the importance of considering potential challenges in an era of rapid change in terms of "better access to quality educational practices for those who are disadvantaged economically, geographically and socially" (ASCILITE 2010). This theme fits with national calls for a refocusing of research on equity in higher education (Bradley et al, 2008; Gale, 2009; Zawacki-Richter, 2009) for the purposes of bringing about an increased participation of under-represented groups in higher education.

However, without a full understanding of the complexities of equity issues and student disadvantage in formal post-secondary education at the macro level, efforts to redress issues of access, equity, and social inclusion at the meso level (including issues relating to educational technology) and micro level (including issues relating to individual learner characteristics and instructional design) may be misdirected, misguided, and/or unsuccessful.

'Glocal' context of higher education

Higher education is in a historical period of influence by rapid technological and global change. Marginson (2008) writes that the globalisation of higher education is influenced by both national and international political and economic influences. As such, universities are 'glocal' – that is, they operate simultaneously in a local, regional and global context. The term 'glocal' was first used to describe the interrelationship between geophysical local-regional-global interactions by Lange (1990). With the further development and reapplication of the term, Wellman (2002) has specifically employed the term glocal to describe the overlapping spheres of society, technology and the World Wide Web (WWW). This leads to the rise of a new global electronic community which transcends "universal, ubiquitous connectivity and international protocols" (Pottruck & Pearce, 2000, p. 3) and provides economic opportunities for institutions of higher learning to compete for market share beyond their local or regional boundaries through the provision of e-learning in formal education.

Yet the glocalisation of education can simultaneously serve to perpetuate the status quo. Quoting Giddens (1990), Anderson (2002) writes that e-learning can work as a prime device of modernisation to disembed the local interactions of social relations and lift these across time and space. In the context of higher education, this means finding ways to support those sub-groups of the broader population who traditionally have had limited access to higher education due to social, economic, geographic or cultural factors. To overcome this perpetuation of inequitable social relations in the broader society in the electronic age, Gale (2009) has argued that equity issues needs to be central on the research agendas of higher education across the globe.

Calls for research into equity in higher education

In the context of Australian higher education, this theme of access, equity and social inclusion has been brought back into focus with the relatively recent *Review of Australian Higher Education* (Bradley et al., 2008). In the report, the former equity groups (Martin, 1994) have been operationally redefined as under-represented groups of students participating in higher education: Indigenous students, regional and remote students, and students from low socio-economic backgrounds. There is insufficient space in this paper to argue the merits or weaknesses of these nationally-identified groups of concern in terms of participation, retention and completion in higher education. However, the former federal Minister for Education has linked the participation of these under-represented groups in institutions of higher education to the funding of government bonuses (Gillard, 2009a), such as the financial rewarding of universities for enrolling students from low SES backgrounds (Gillard, 2009b).

At the same time, and based on the Delphi study conducted Zawacki-Richter (2009), DEHub (http://wikieducator.org/DEHub), an Australian-based institute for research into best sector practices in distance education, has listed three key research themes recommended for research in distance education in the glocal context. These themes are for research and development (from a macro perspective), community and open learning (from a meso perspective), and teaching and learning (from a micro perspective). In relation the macro view of research and development in distance education, one of the five areas for research focus – and a key research theme for 2010 and beyond – is that of student access, equity, and social inclusion.

The problem with equity (under-represented) groups

Yet equity (under-represented) groups of students are not homogenous. In looking at educational disadvantage in terms of distinct groups of students (Day, 1998), such practices shift the focus to the group and not the individual student (McIntyre, 2000; McIntyre et al., 2004). In so doing, educators, institutions of higher education, governments and funding bodies may not understand the true nature of equity issues and educational disadvantage, and thus may not be able to develop timely strategies to truly meet a student's needs (Willems, 2004b) in order to successfully complete their higher education, given that this is now a national priority in Australia (Gillard, 2009a, 2009b).

Student membership of multiple equity groups can compound the experiences of student participation and retention in higher education (Golding & Volkoff, 1998; John, 2004; Watson & Pope, 2000; Watson et al., 2000; Willems, 2004b). In their report, Watson et al. (2000) note specific combinations of multiple equity group membership. They write that "rural and isolated students tend to reflect multiple group disadvantage, as rural dwellers are more likely to be from low socio-economic backgrounds and high proportions of isolated students are Indigenous Australians" (ibid, p. 34). Further, in addition to multiple equity group membership Willems (2004b), building on the work of Golding and Volkoff (1998) and Watson and Pope (2000), has argued for the existence of equity subgroups which cut across existing equity groups. As every student can suffer disadvantage, not just minority groups (Willems, 2004b; Coram, 2007), equity sub-groups shed light on the multiple complexities of student disadvantage.

As such, current practices of viewing equity issues in education are simplistic and do not adequately capture the complexities and overlaps surrounding issues of educational equity and educational disadvantage. Further, equity issues need to be understood in terms of multiple dimensions and multiple layers in a similar way that visual cues, such as depth perception, aid our understanding. To gain this multidimensional view of disadvantage, Willems (2009; forthcoming) has proposed the *Equity Raw-Score Matrix* (Figure 1) as an indicator of potential student disadvantage. The matrix collects student data on their equity group and sub-group membership, generating a raw-score to indicate low, moderate or high levels of potential educational disadvantage. In the initial variant of the matrix (Figure 1), the equity sub-groups were limited to those that could be discerned in a small scale research study (Willems, 2009), however other equity sub-groups have been proposed Willems (forthcoming). The matrix aims to provide information for the generation of pre-emptive strategies for assisting successful outcomes.

Administration of questions to complete the *Equity Raw-Score Matrix* (*ERSM*) is reliant upon student self-disclosure (some of this data could be captured by existing methods). The down-side is that respondents are not obliged to give responses/disclose such personal information. However, it will be explained that the development of an adequate student profile may help to generate better support for each student.

EQUITY RAW-SCORE MATRIX								
ID Number		**Equity Groups**						
Directions: Score '2' for every equity group → and score another '1' for every equity sub-group ↓ represented. Then tally the column subtotals for the raw-score.		Not part of a recognised equity group	Indigenous student	Student who has disabilities	Rural and isolated student	Student from a NESB	Students with a low SES	Females in non-trad/ post-grad study
	Long-term low SES							
	Low educational attainment							
	Low literacy skills							
	Unemployed							
	Chronic Illness							
	Social isolation							
	Anxiety / Low self-esteem							
	Primary care-givers							
Equity Sub-groups	First in the family							
	Learning difficulties							
	Low technology skills							
	Students 55+ years (Employment)							
	Low proficient in language							
	Limited access to technology							
	Problems with power/Internet							
	Earning to support others							
	Separation and divorce							
Sub-totals		0	0	0	0	0	0	0
EQUITY RAW-SCORE TOTAL (Indicator of potential disadvantage) =								0

Figure 1: *Equity Raw-Score Matrix* **(Willems, 2009; Willems, forthcoming)**

Refinement of the *Equity Raw-Score Matrix*

For the purposes of trialling the *ERSM* on student populations, refinement of *ERSM* is now required post the recommendations of the Bradley Report (Bradley et al., 2008), in which the pre-existing six identified equity groups of educational disadvantage in the Australian context (Martin, 1994) have been replaced with the four identified under-represented groups. *ERSM II* could look similar to Figure 2.

EQUITY RAW-SCORE MATRIX II				
ID Number	**Under-represented (equity) Groups**			
Directions: Score '2' for every equity group → and score another '1' for every equity sub-group ↓ represented. Then tally the column subtotals for the raw-score.	Not part of a recognised equity group	Indigenous students	Regional and remote students	Students with a low SES

Figure 2: Possible layout of ERSM II (ERSM II) post Bradley Report (Bradley et al., 2008)

Additionally, as the equity sub-groups defined in *ERSM* are based on those discerned within a small case-study investigation (Willems, 2004b), these equity sub-groups will be expanded to incorporate additional categories as identified in Willems (2009; forthcoming). It is also anticipated that a Delphi study will be run to affirm these categories and to identify any potential additional sub-groups. A further possibility is to design several key or lead questions for enrolling students which could then be further 'drilled down' into in order to obtain key data.

Conclusion

In refining the *Equity Raw-Score Matrix* as a multidimensional data collection instrument to indicate potential student disadvantage in education, several outcomes are anticipated. First, it will generate a more comprehensive understanding of equity issues in higher education and highlight the complexities of multidimensional educational disadvantage. This can then be used to suggest frameworks and guidelines to promote best practice in terms of access, equity and social inclusion in formal education, irrespective of a learner's economic, geographic or socio-cultural context. Thus, the research findings at this macro level could be used to inform the meso level (including issues relating to educational technology) and the micro level (perspectives in teaching and learning) in the context of 'glocal' higher education.

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