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Flexibility in Enabling education: The equity/efficiency trade-off

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Flexibility in Enabling education provides greater equity by making the programs more accessible to a wider range of people. This study covers a variety of accessibility options for Enabling and demonstrates that the more flexible an Enabling program is in terms of enrolment, mode of delivery and expectations with respect to completion dates the lower the outcomes in terms of completions of the program and articulations to undergraduate study. Flexibility induces a much higher enrolment that costs more in terms of Commonwealth funding but the outcomes are far lower than for more structured offerings. The very strength of flexibility can also be its weakness.

Widening access to tertiary qualifications for disadvantaged groups in Australia was enshrined in the 1990 policy discussion paper 'A fair chance for all' and has been a national objective for over two decades (Dept. Employment, Education and Training 1990). Access to university education involves notions of equity as fairness and justice (Gale & Tranter 2011). University education confers higher lifetime earnings benefits to the individual (Chapman 2011; James 2002) as well as personal development, social status and enhanced career possibilities (James 2008).

University Enabling programs are an access and equity initiative incorporating social justice ideals (Trow 1974, 1981) and serve an important role in delivering equity in access to higher education for people from disadvantaged[1] groups (Willans & Seary 2011; Miyamoto 2005; Ross & Gray 2005). Enabling programs provide a mechanism for advancing equity in access to higher education by providing the requisites for entry to university study but there are tensions and trade-offs between equity and efficiency goals. Although greater economic efficiency is gained by funding of educational interventions early in life (Heckman 2000), equity considerations require that the needs of those whose education has been disrupted are not ignored.

The need for a national "systematic evaluation" on the efficacy of alternative entry programs was recognised nearly two decades ago (Cobbin and Barlow 1993, p.ix) and continues with Aird et al. (2010 p.iv) calling for research on Enabling programs to undergo the scrutiny of academic peer-review. In their final report on the higher

[1] Six equity categories of disadvantage are defined as Low socioeconomic status (LowSES), rural and isolated (R&I), Aboriginal and Torres Strait Islander (ATSI), Non-English speaking background (NESB), people with disability (PWD) and women in non-traditional areas of study (Women non-Trad) were defined in the government publication 'A fair chance for all' (DEET 1990)

education base funding review, Lomax-Smith, Watson and Webster (2011) stated that "Enabling courses are not part of the Australian Qualifications Framework and seem not to have been subject to a targeted review of effectiveness despite having existed since 1990" (p.122).

Most research on Enabling education in Australia has been qualitative, focussed upon the teaching and learning aspects and identifying significant personal outcomes for students such as increased self-confidence and self-esteem (see for example Cantwell & Grayson 2002; Debbenham & May 2005; Cullity 2006; Spreadbury 2007; Stone 2008; Willans & Seary 2011).

While Enabling education for its own sake has private benefits and increases in self-confidence are important, these studies do not necessarily demonstrate improvements in individuals' human capital as defined by Becker (1964) that can be marketed into the professional workforce. Nor do they provide direct returns back to the tax payers or the university making considerable "in-kind" investments. Ramsay (2008) lamented that, despite 180% expansion in Enabling programs 1989-1999, there remained no national coordination or monitoring. Giving attention to the end product of providing free Enabling programs is important as competing claims of success may draw debate away from the primary objective of widening participation in university and encouraging accumulation of human capital.

In an attempt to achieve both equity and efficiency there can be trade-offs with some economists believing greater equity comes at the inevitable cost of a loss of efficiency consistent with Okun's (1975) 'leaky bucket' concept[2]. However, Blank (2002) demonstrates circumstances in which equity-increasing transfers can occur without seriously reducing efficiency "…if the behavioral [sic] changes induced …are large and positive … transfers can produce both greater equity and greater efficiency" (p.12). Public investment in improving human capital accumulation by increasing access to education for the disadvantaged can be a win-win situation (Berg & Ostry 2011; Blank 2002).

Equity for individuals is defined in this case by the notion of inclusion based upon the principle of personal agency as espoused by Sen (2009) which emphasises developing individual's capabilities Sen (2008). This is measured by completion of Enabling and progression into university level study through which significant human capital may be accumulated.

Economic efficiency relates to the use of society's resources for achieving the maximum possible production of goods and services. This can also be measured by completion of Enabling and articulation to university level study with respect to the levels of Australian government funding for Enabling programs. This measure is consistent with the Australian government's definition of an Enabling program for which Commonwealth funding is received and that is to enable "…the person to

[2] Okun's "leaky bucket" concept relates to social welfare and income redistributions. He posits that the full amount of any dollars transferred from rich to poor individuals will not be received due to administrative costs and changes in work and investment behaviours by individuals. Okun declared that "….the conflict between equality and economic efficiency is inescapable" (Okun 1975 p.120).

undertake a course leading to a higher education award…" (HE Support Act 2012 p.302). Therefore, Enabling programs can be considered as an intermediate good assisting in the achievement of targets recommended by the Bradley Review of Higher Education (Bradley et.al 2008).

In his review of Enabling at CQUniversity, Professor King defined success of Enabling programs as moving students through to university study. "The ultimate test of an enabling program is the proportion of students who move from it to take an undergraduate place and subsequently graduate" (2011 p. 8). This is also consistent with the Higher Education Support Act 2003 definition of an Enabling program.

Since the dual goals of equity and efficiency can both be evaluated by the same measure of completion and articulation, this provides an indication how well either goals are being met. Analysing the outcomes of university Enabling programs though an economic lens this quantitative study shows that providing greater flexibility in study options provides more equity in access but also demonstrates the loss of economic efficiency in doing so.

Context

Enabling education at CQUniversity has been operating since 1986 and there are many anecdotal stories of lives changed (Doyle 2006). However, as with programs offered at other Australian universities, there has been no systematic evaluation of the outcomes. By 2011, Enabling at CQUniversity included Skills for Tertiary Education Preparatory Studies (STEPS), Women Into Science and Technology (WIST) and Lifting the Boundaries to University (LIFT) programs, each with different structures and levels of flexibility (see table 1). The only aspect in common is that they were all offered free of charge to participants.

Applicants for both STEPS and LIFT completed intake testing. There was no intake test for WIST. The application, enrolment and course assessment of STEPS and LIFT students complied with set dates from the CQUniversity academic calendar for terms 1 and 2 with LIFT also offered during term 3.

STEPS had a set curriculum and students were expected to complete all courses listed under the program. LIFT made only one course compulsory but students had to complete at least two courses. WIST applicants could enrol at any time during the year and commence study almost immediately on only the courses they wished to study. There was no set minimum number of courses and students could study at their own pace.

While STEPS offerings included distance study it was the only one of these Enabling programs that provided internal study options. WIST and LIFT were taught exclusively by distance.

The WIST program provided the greatest contrast having been designed to fit flexibly around women's busy lifestyles of employment and/or family responsibilities allowing enrolment at any time of the year and self-paced study.

Table 1: STEPS, WIST, LIFT Enabling programs at CQUniversity 2001-2011

	STEPS	WIST	LIFT
Commenced	1986	1990	2008
Target group	Males & females	Females (Males from 2009-2011)	Males & females
Intake test	Yes	No	Yes
Application/Enrolment	Term 1 & 2	Enrol anytime	Term 1, 2, &3
Assessment timing	Submission dates set	Self-paced	Submission dates set
Curriculum (courses)	Set number of courses for each offering	Flexible number of courses according to interest/need	Flexible number of courses according to need – one was compulsory
Study mode	Internal and DE	DE only	DE only

Although STEPS, WIST and LIFT were combined in 2012 into a single program offering, the archival data allows for comparisons of completion and articulation rates for each program type. The data analysis commences from 2001 as it was from this time that Enabling students were provided with a student number allowing for centralisation of electronic enrolment records and finish at 2011 after which no further enrolments in WIST or LIFT were taken.

Enrolments

A total of 9820 discrete enrolments (including inverse enrolments[3]) were accepted into STEPS, WIST and LIFT Enabling programs from 2001 to 2011. Total enrolment numbers were fairly stable at around 600 in each of the years from 2001 to 2006.

Until 2006 STEPS had enrolled almost twice as many students as WIST. However, from 2006 onwards this changed with enrolments in WIST escalating from 339 in 2006 to 510 in 2011. WIST enrolments had increased three-fold from 201 in 2001 to 670 in 2011 with the highest enrolment number of 746 in 2009.

Table 2 provides overall enrolments for each separate STEPS program and then aggregates these for comparison with WIST and LIFT for each of the years 2001 to 2011.

[3] Inverse enrolment is when students had initially commenced an undergraduate program and subsequently enrolled in Enabling program study.

Table 2: Enrolments for STEPS, WIST, LIFT 2001-2011

Program Label	Year enrolled											Total
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
CZ01 : STEPS Accelerated	208	173	174	228	184	139	157	150	167	168	141	1889
CZ04 : STEPS Extended	141	173	162	178	112	163	109	94	144	144	149	1569
CZ05 : STEPS Flex	18	2	0	0	62	37	33	39	32	37	27	287
CZ06 : STEPS (Ext)	38	23	0	0	0	0	197	0	0	0	0	258
CZ09 : STEPS External	0	0	0	0	0	0	100	195	268	215	193	971
STEPS (all modes)	405	371	336	406	358	339	596	478	611	564	510	4974
CZ02 : WIST	221	172	202	216	201	241	396	484	746	693	670	4242
CZ10 : Lift	0	0	0	0	0	0	0	0	36	270	298	604
Total	626	543	538	622	559	580	992	962	1393	1527	1478	9820

Figure 1 maps the increasing enrolments over the years 2001 to 2011 by Enabling program Label. The front (blue) row of columns indicates STEPS enrolments. The second (red) row of columns shows WIST enrolments and the third (green) row behind maps the enrolment in LIFT from 2009 to 2001.While both STEPS and LIFT increased their enrolments after 2007, it was the WIST program that accounted for the greatest increase.

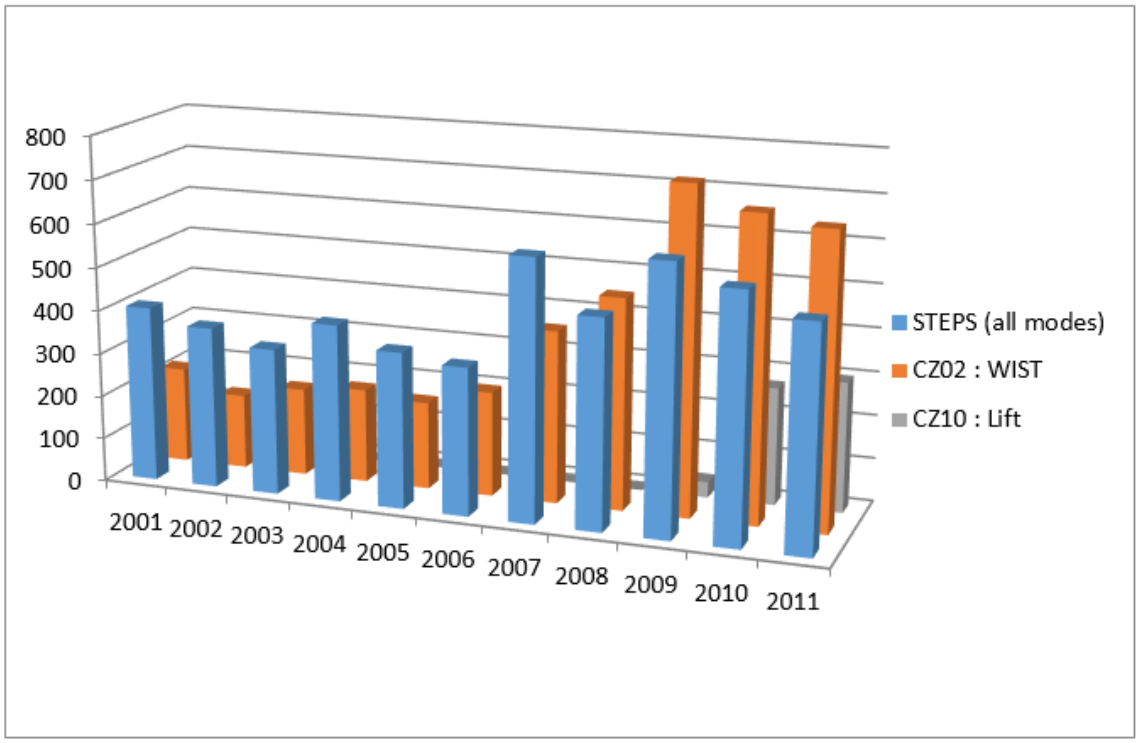

Figure 1: Increasing enrolments by Enabling program Label 2001–2011

Completions

Only the 9493 records of first enrolments in Enabling were used to calculate completion and articulation rates to avoid skewing the findings since those who enrolled inversely in Enabling were already in undergraduate study.

Enabling program completions increased from 39.2% in 2001 to peak at 52.9% in 2005. From 2006, as enrolments experienced a sustained increase, the completion rate fell reaching a low of 30% in 2008. Although completions improved in the ensuing years was still only a 39.1% completion rate in 2011.

STEPS offerings taught in a mode that included face-to-face teaching had higher completion rates. CZ01 STEPS Accelerated and CZ04 STEPS Extended were both taught by internal day classes and provided the most successful with a completion rate of 72.5% and 59.8% respectively. CZ05 STEPS Flex which included night classes had a 55% completion rate. Where STEPS was taught by distance the completion rates were lower than when taught face-to-face mode with CZ06 STEPS (Ext) at 40.2% and CZ09 STEPS (Exte) at 42.9%.

Table 3: Program Label and Completion cross tabulation

Program	Mode of study	Did not complete EP	Completed EP	% Completed	Total
CZ01 : STEPS Acc	Internal (day classes)	509	1344	72.5%	1853
CZ04 : STEPS Ext	Internal (day classes)	625	930	59.8%	1555

CZ05 : STEPS Flex	External (Night classes)	127	155	55.0%	282
CZ06 : STEPS (Ext)	Distance study	153	103	40.2%	256
CZ09 : STEPS Exte	Distance study	545	409	42.9%	954
STEPS all	Combined offerings	1959	2941	60.0%	4900
CZ02 : WIST	Distance study	3484	530	13.2%	4014
CZ10 : Lift	Distance study	305	274	47.3%	579

While the WIST program had demonstrated the sharpest escalation in enrolment numbers post 2005, and was the most flexibly structured offering of all Enabling programs, it experienced the lowest completion rate of just 13.2%. The low completion rate for WIST may be partly explained by being a distance offering since all students studying enabling by distance had lower completion rates. However, LIFT was also offered by distance only. Despite this, LIFT demonstrated a 47.3% student completion rate for the three years this program operated

Table 3 contains the counts and percentages of completions by program type. The results of a Chi-square test for independence reveals a significant association between Enabling program type and completion (X^2 (6, N = 9493) = 2324.462, p = 0.000). With seven categories *Cramer's V* of .495 is well above Cohen's (1988) criteria of 0.29 and indicates a large effect.

Articulations

Inverse enrolments were not considered when analysing articulations as these students were already in undergraduate prior to undertaking Enabling study and to include them would have overstated the figures.

The articulation figures in this section should be read with some minor caution because students who undertake an Enabling program may subsequently enrol in an undergraduate program with another university. However, in the eleven-year time frame of this study QTAC advise that only 241 (2.5%) applicants accepted an offer to other Queensland universities where STEPS, WIST or LIFT formed the basis of their Tertiary Entrance Ranking (TER).

Table 4: Articulations to undergraduate study at any Queensland university

Year	Enabling enrolments at CQU 2001-2011	Articulated to CQU	Percent	QTAC offer accepted	Total articulated to undergraduate	Percent
2001	620	292	47.1%	6	298	48.1%
2002	542	233	43.0%	12	245	45.2%
2003	536	239	44.6%	20	259	48.3%
2004	606	307	50.7%	6	313	51.6%
2005	546	284	52.0%	18	302	55.3%

2006	561	228	40.6%	13	241	43.0%
2007	953	311	32.6%	25	336	35.3%
2008	931	294	31.6%	24	318	34.2%
2009	1336	416	31.1%	31	447	33.5%
2010	1469	460	31.3%	54	514	35.0%
2011	1393	394	28.3%	32	426	30.6%
Total	9493	3458	36.4%	241	3699	39.0%

The figures in Table 4 include the QTAC data on offers to study at other universities revealing that, from 2006 onwards there was a steady decline in articulations to university study resulting from enrolments in Enabling.

Just as the year 2005 was most successful in terms of completion of Enabling so too was 2005 the most successful in terms of study progression with 55.3% articulating from Enabling to undergraduate level study. However, table 4 also reveals that, as enrolments rose after 2005, the percentages of students articulating from Enabling programs to undergraduate study experienced a sustained decline to a low of 30.6% in 2011.

Despite the stated lack of coordination in reporting of outcomes from university Enabling programs, Lomax-Smith, Watson and Webster stated that "…in 2010, there were 4,061 students who had progressed to a Bachelor degree level course out of the 12,411 students who undertook a pathway Enabling course in 2009" (2011 p.123) representing 32.72% of the 2010 Enabling cohort. CQUniversity's articulation rate from Enabling to Undergraduate of 35.0% in 2010 compares favourably since it is 2.28 percentage points above this figure.

Cost of Enabling programs and the outcomes

Prior to 2005 Enabling programs were funded from the CQUniversity budget with no specific funding model directly contributing towards Enabling. This analysis of Enabling costs is only in regard to the specific Commonwealth 'Enabling loading' received from when it commenced in 2005 up until 2011. It was not possible to determine the cost of "in kind" support provided by CQUniversity to these programs over the time frame.

Specific Commonwealth funding of 'Enabling loading' commenced 2005 and the allocations to each university are listed on the DEEWR web site. Over the seven years from 2005 to 2011 CQUniversity received $19,648,295 in Commonwealth funding to support provision of STEPS, WIST and LIFT Enabling programs.

Table 5 provides the enrolment figures, completions and articulations together with the commonwealth funding allocation for each of the years 2005 to 2011. Calculating the cost to the Commonwealth for each enrolment, completion and articulation was a simple division of the specific Enabling funding allocation to CQUniversity for

Enabling programs for the year divided by the total Enabling enrolment, completions and articulations from that year.

These calculations demonstrate an increasing cost per enrolment in Enabling from the commencement of funding in 2005. The cost per enrolment peaked in 2009 at $3,106. The average cost per Enabling enrolment over the years 2005 to 2011 was $2,623. 2009 was also the most expensive year in terms of the cost of completions at $9,489 with an average cost over the seven years of $7,093 per completion. The cost of articulations rose from $3,284 in 2005 to $8,585 in 2009 with average articulation cost of $6,808.

Table 5: Cost of Enabling enrolments, completions and articulations

Year	Commonwealth Funding	Enabling enrolment	Cost per enrolment	Completion of Enabling	Cost per completion	Articulation to university	Cost per articulation
2005	$1,034,496	559	$1,851	294	$3,519	315	$3,284
2006	$1,271,596	580	$2,192	247	$5,148	260	$4,891
2007	$2,258,074	992	$2,276	331	$6,822	375	$6,022
2008	$2,577,557	962	$2,679	284	$9,076	349	$7,386
2009	$4,327,004	1393	$3,106	456	$9,489	504	$8,585
2010	$4,059,149	1527	$2,658	591	$6,868	572	$7,096
2011	$4,120,418	1478	$2,788	567	$7,267	511	$8,063
Total	$19,648,295	7491	$2,623	2770	$7,093	2886	$6,808

That the average cost of articulations is lower than the average cost of completions is the subject of further analysis as the records indicated that some Enabling students articulated to undergraduate even though they did not complete the Enabling program. This anomaly relates mostly to the WIST program as demonstrated in the individual program calculations below.

CQUniversity Financial Services Department (FSD) provided the internal figures to show how much of the Commonwealth funding was allocated to each of the programs STEPS, WIST and LIFT. The Enabling loading received in 2005 was not applied to any specific program. Since enrolments attracted funding so programs with highest enrolments received the largest proportion. This meant that as WIST enrolments grew so too did the allocation of funding to this program. Since completions and articulations from WIST decreased over this time the cost of these outcomes increased.

Table 6: Cost for WIST of enrolment, completion and articulations

Year	Funding allocation	Enrolment numbers	Cost per Enrolment	Completion numbers	Cost per Completion	Articulation numbers	Cost per Articulation
2006	$544,856	241	$2,260.81	18	$30,269.78	61	$8,932
2007	$970,836	396	$2,451.61	30	$32,361.20	96	$10,113
2008	$1,359,407	484	$2,808.69	30	$45,313.57	112	$12,138

2009	$2,420,782	746	$3,245.02	85	$28,479.79	160	$15,130
2010	$2,059,940	693	$2,972.50	142	$14,506.62	158	$13,038
2011	$4,120,418	670	$6,149.88	116	$35,520.84	124	$33,229
Total	$11,476,239	3230	$3,553.02	421	$27,259.48	711	$16,141

Table 6 demonstrates that the average cost of enrolment in WIST was $3,553.02 per student. Due to the low completion rate the average cost of completion was $27,259.48. The average cost of articulation was calculated at $16,141. This figure is lower than the cost of completions because there were 290 students who enrolled in WIST without completing any study but did articulate into university.

Table 7: Cost for STEPS of enrolment, completion and articulations

Year	Funding allocation	Enrolment numbers	Cost per Enrolment	Completion numbers	Cost per Completion	Articulation numbers	Cost per Articulation
2006	$726,741	339	$2,143.78	221	$3,288	167	$4,351.74
2007	$1,287,239	596	$2,159.80	297	$4,334	215	$5,987.16
2008	$1,218,151	478	$2,548.43	249	$4,892	182	$6,693.14
2009	$1,671,817	611	$2,736.20	350	$4,777	240	$6,965.90
2010	$1,571,845	564	$2,786.96	301	$5,222	203	$7,743.08
2011	$1,378,601	510	$2,703.14	293	$4,705	182	$7,574.73
Total	$7,854,394	3098	$2,535.31	1711	$4,591	1189	$6,605.88

Table 7 reveals the average cost of enrolment in STEPS was less than the WIST program at $2,535.31 per student. For STEPS the average cost of completion was $4,591 and the average cost of articulation $6,605.88.

LIFT was only offered for the three years from 2009 to 2011. The first year with a small enrolment of 36 demonstrates high costs of enrolment, completion and articulation. This would include significant start-up costs as this program was implemented. However, it can be seen that after the first year the cost of enrolments, completions and articulations was significantly lower than for either STEPS or WIST with the average cost of these measures being very similar to the costs of STEPS outcomes.

Table 8: Cost for LIFT of enrolment, completion and articulations

Year	Funding allocation	Enrolment numbers	Cost per Enrolment	Completion numbers	Cost per Completion	Articulation numbers	Cost per Articulation
2009	$234,404	36	$6,511	14	$16,743	16	$14,650
2010	$427,365	270	$1,583	125	$3,419	99	$4,317
2011	$593,845	298	$1,993	135	$4,399	88	$6,748
Total	$1,255,614	604	$2,079	274	$4,583	203	$6,185

Conclusions and recommendations

While all Enabling programs were free to participants, WIST had the most flexible structure of all the programs with no intake testing, entry at any time of the year and self-paced study. Table 2 and Figure 1 both demonstrated that this had the effect of inducing increasing enrolments. However, this increase in equity of access did not translate into increased completions or articulations.

As with WIST, LIFT was taught only by distance. However, both STEPS and LIFT involved intake testing, structured application procedures and enrolment according to the CQUniversity academic calendar and set deadlines for submission of assessment items. The more structured approach of the STEPS and LIFT programs had the effect of ensuring higher completion and articulation rates.

Providing greater flexibility in the structure of enabling programs has been demonstrated in this study to improve equity, in terms of increasing student access, but may have a negative effect on the proportions of those students achieving successful outcomes. This suggests that the more flexible the structure of an Enabling program, the greater may be the trade-off between equity and economic efficiency.

The analysis demonstrated much higher costs, in terms of commonwealth funding, for successful completions and articulations from WIST in comparison to the STEPS and LIFT programs. However, further research to eliminate other factors including differences in curriculum, student demographics and the effect of teaching staff would be required before a conclusive assertion can be made with regards to causation.

How some students articulated from WIST into undergraduate study without completing the Enabling program is already the subject of further research by the authors. Further understanding of why some students who successfully complete Enabling do not progress to university study will also be gained from a large scale survey of past and present enabling students currently being undertaken.

Further research into the learning styles of Enabling students with respect to intrinsic versus extrinsic motivation might shed further light on why greater flexibility in access and structure does not provide greater equity or efficiency in terms of positive outcomes; particularly since undertaking Enabling by internal study had the most positive outcomes.

References

Aird, R, Miller E, van Meden, K & Buys, L 2010, 'Issues for students navigating alternative pathways to higher education: barriers, access an d equity', A literature review prepared for the Adult Learner Social Inclusion Project, Queensland University of Technology, bridgetostudy.com.au, 01.01.10, http://www.academia.edu/834001/Issues_for_students_navigating_alternative_pathways_to_higher_education_Barriers_access_and_equity accessed 17.01.12.

Becker, G1964, Human Capital, National Bureau for Economic Research, New York.

Berg, A & Ostry, D 2011, 'Equality and efficiency: is there a trade-off between the two or do they do hand in hand?", Finance and Development, Sept. 2011, pp.12-15.

Blank, R 2002, 'Can equity and efficiency complement each other?', Labour Economics, Sept. 2002, vol. 9, no. 4, pp.451-468.

Bradley, D, Noonan, P, Nugent, H, & Scales, B 2008, 'Review of Australian Higher Education: Final Report', Canberra: Commonwealth of Australia, http://www.innovation.gov.au/HigherEducation/ResourcesAndPublications/ReviewOfAustralianHigherEducation/Pages/ReviewOfAustralianHigherEducationReport.aspx accessed 01.11.12.

Cantwell, R & Grayson, R 2002, 'Individual differences among enabling students: A comparison across three enabling programmes', Journal of Further and Higher Education, vol. 26, no 4, pp.293–306.

Chapman, B 2011 'The Australian University Student Financing System: The rationale for, and experience with, income-contingent loans', in Financing Higher Education and Economic Development in East Asia, Armstrong, S and Chapman, B (eds), ANU Epress, Australia, 2011@ http://epress.anu.edu.au/financing_citation.html, viewed 17.02.12.

Cobbin, D & Barlow, A 1993, Executive summary in Cobbin and Barlow (Eds), 'Tertiary access and equity initiatives: a handbook for evaluative research', AGPS, Canberra, pp.ix-x.

Cohen, J 1988, Statistical power analysis for the behavioral sciences (2nd Ed), Hillsdale, NJ: Lawrence Erlbaum Associates.

Cullity, M 2006, 'Challenges in understanding and assisting mature-age students who participate in alternative entry programs', Australian Journal of Adult Learning, vol.46, no. 2, pp.175–201.

Debbenham, J, & May, J 2005, 'Making connections: A dialogue about learning and teaching in a tertiary enabling program', Australian Journal of Adult Learning, vol.45, no. 1, pp.83-105.

Department of Employment, Education and Training (DEET) 1990, '*A Fair Chance for All',* National and Institutional Planning for Equity in Higher Education, A Discussion Paper, Feb. 1990, AGPS, Canberra.

Doyle, S 2006, STEPS celebrating 20 years 1986 – 2006, Central Queensland University, Rockhampton, Qld.

Gale, T & Tranter, D 2011, 'Social justice in Australian higher education policy: an historical and conceptual account of student participation', Critical Studies in Education, vol. 52, no. 1, pp.29-46.

Heckman, J 2000, 'Policies to foster human capital', Research in Economics, vol. 54, no. 1, pp.3-56.

Higher Education Support Act No. 149 of 2003 as amended, compilation prepared 9 March 2012, Australian Government Common Law, http://www.comlaw.gov.au/Details/C2012C00679 accessed 27.06.12.

James, R 2008, 'Achieving social inclusion and universal participation: towards new conceptions of higher education, New Zealand Annual Review of Education, Vol. 18, pp.47-63.

James, R 2002, 'Socioeconomic background and higher education participation: An analysis of school students' aspirations and expectations', Department of Education, Science and Training, Commonwealth of Australia.

Miyamoto, K 2005, 'Promoting adult learning', Organisation for Economic Co-operation and Development, Paris.

Okun, A 1975, 'Equality and Efficiency: the big tradeoff', Brookings Institution Press, Washington, USA.

Ramsay, E 2008, 'Australian Higher Education Equity: Current challenges & emerging opportunities for bridging and enabling education', Presentation to the National Conference of the New Zealand Association of Bridging Educators, Bridging Education – a pathway to the future. Waiariki Institute of Technology, Rotorua, 10 October 2008.

Okun, A 1975, 'Equality and Efficiency: the big tradeoff', Brookings Institution Press, Washington, USA.

Ross, S & Gray, J 2005,'Transitions and re-engagement through second chance education', The Australian Educational Researcher, vol. 32, no. 3, Dec. 2005, pp.103-140.

Sen, A 2008, 'The idea of justice', Journal of Human Development, vol. 9, no. 3, pp.331-342.

Sen, A 2009, 'The idea of justice', Penguin, London.

Spreadbury, S 2007, 'Liberal learning and working-class adults: The meaningfulness of education', Continuing Higher Education Review, vol. 71, pp.71–89.

Stone, C 2008, 'Listening to individual voices and stories – the mature-age student experience', Australian Journal of Adult Learning, vol. 48, no. 2, pp.263–290.

Trow, M 1981, 'Comparative perspectives on access' in Fulton, O (Ed.), Access to higher education, pp.89-121, Milton Keynes, England: The SRHE & Open University Press.

Trow, M 1974, 'Problems in the transition from elite to mass higher education', in Conference on Future Structures of Post-Secondary Education: General report, pp.51-101, Paris: OECD.

Willans, J & Seary, K 2011, 'I feel like I'm being hit from all directions: Enduring the bombardment as a mature age learner returning to formal learning', Australian Journal of Adult Learning, vol. 51, no. 1, pp.119-142.