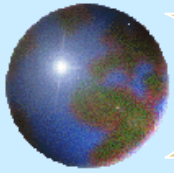


2008
SSIQ Northern Group Conference

The unintended consequences of academic study in a resources boom

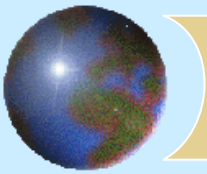
*By: Shane Simmons, Senior Lecturer USQ, B.Surv.(UQ),
G.Dip.Surv.(QUT), G.Dip.Bus.(Property, UQ), G.Cert. (Finance, SIA),
Cadastral Surveyor, MSSIQ.*





Overview (21 slides in total)

- ⊕ Background
- ⊕ Introduction
- ⊕ Analysis enrolments to failures
- ⊕ Exogenous factors
- ⊕ Select the right cadet?
- ⊕ What's an employer to do?
- ⊕ Summary

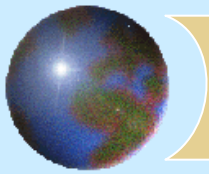


Pick the common element?



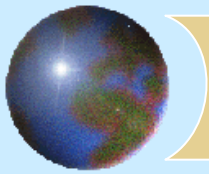
- (a) All male
- (b) All successful
- (c) All identifiable
- (d) All non-graduates
- (e) All of the above
- (f) None of the above

Northern Group Conference 2008 -The unintended consequences of academic study
in a resources boom



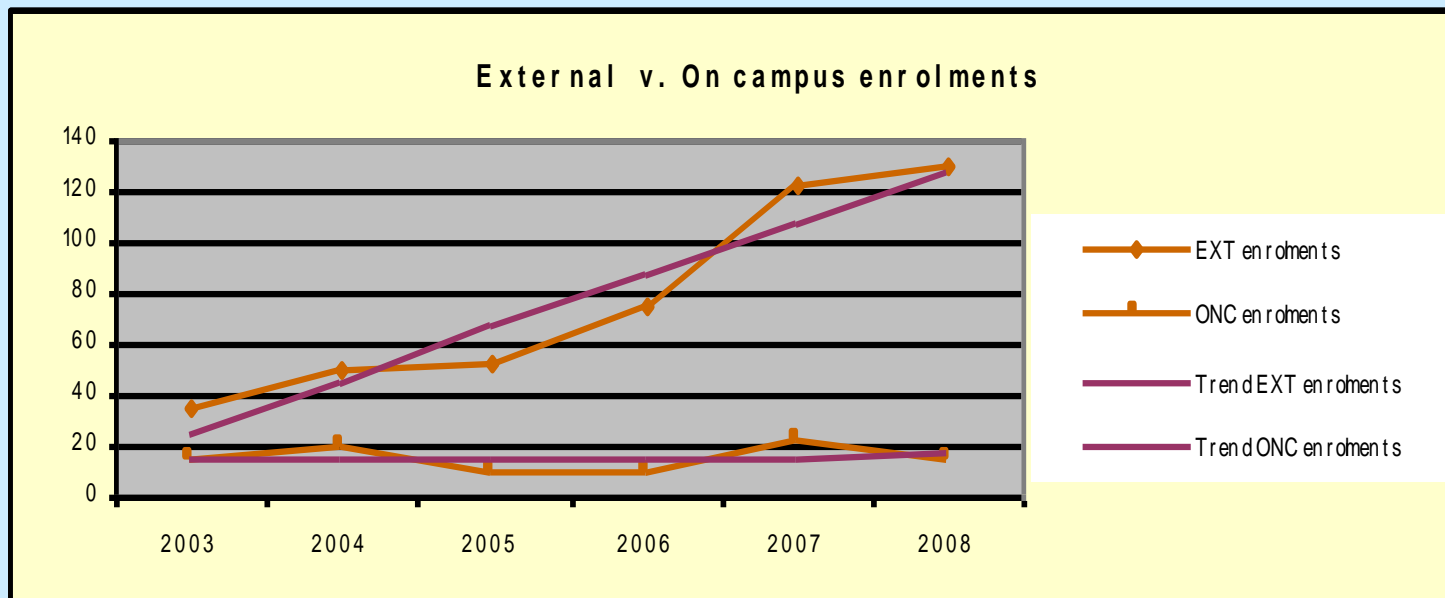
Background

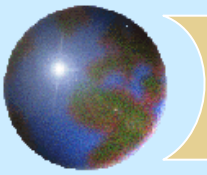
- ✦ Struggle to attract skilled workers and qualified personnel in many industries
- ✦ Many employers training existing staff within the organisation
- ✦ Formalised training arrangements as cadetships (cadetship - paid full-time employment while undertaking part-time study at USQ) or informal support by employers
- ✦ How are students faring in their first year?



Introduction

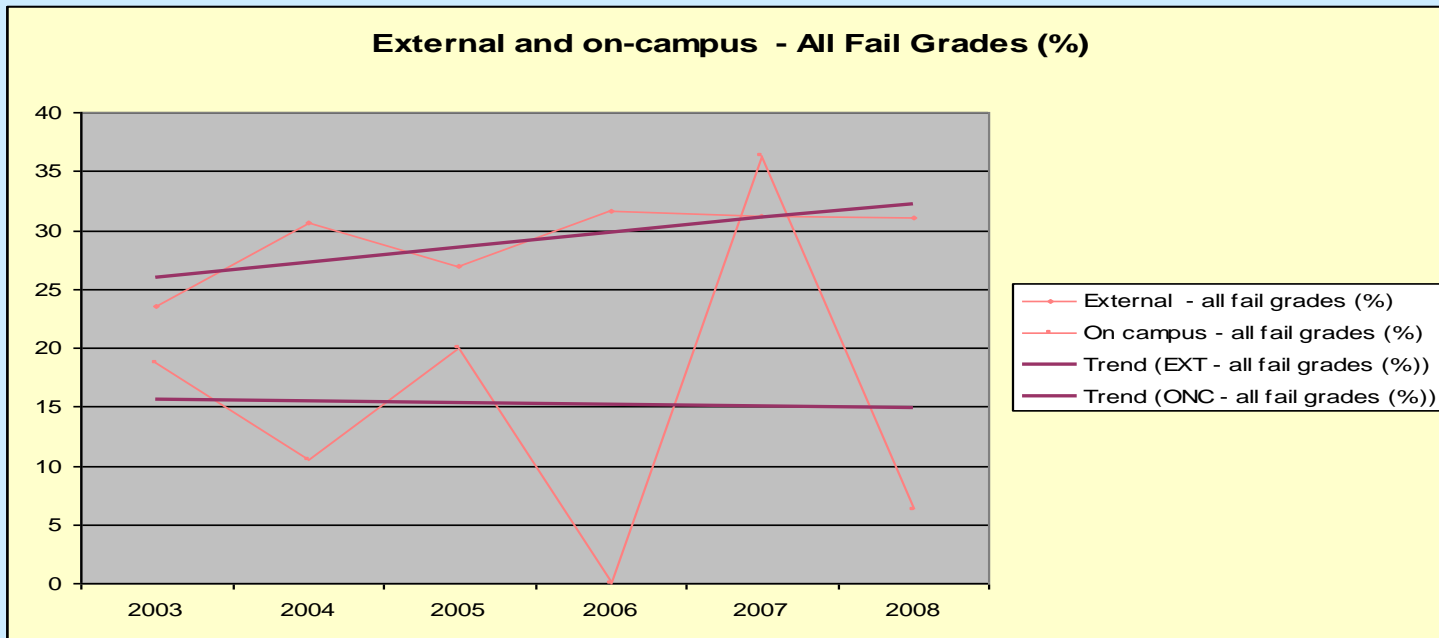
- Good news - rapid escalation of enrolment intake at USQ for spatial science - surveying
- Fourfold increase since 2003, downturn 2009??

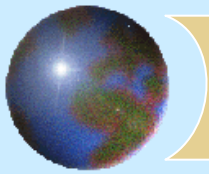




Introduction (cont.)

- Fail rate higher for external students, trending upward, statistically significant Student's t test prob.=0.028 (significant<0.05 for 95% conf.int.)



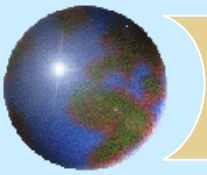


Introduction (cont.)

Four fail grades:

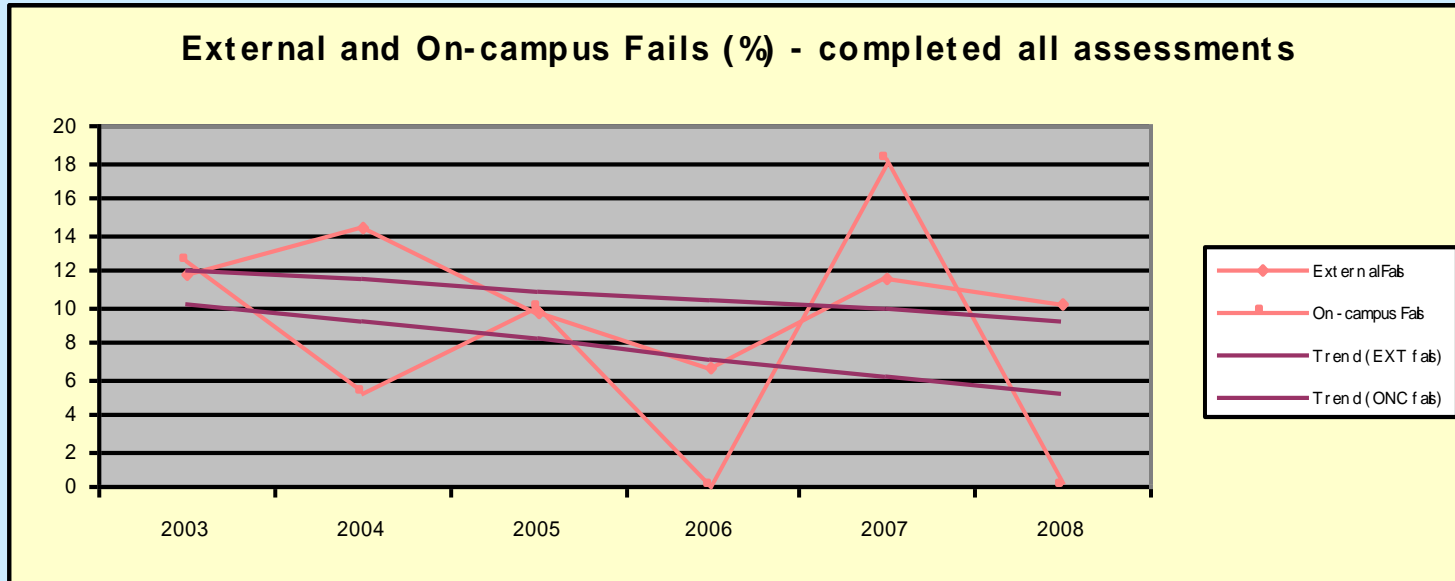
- ❑ F – attempted all assessments
- ❑ FNS – assignments only, no exam
- ❑ FNC – attempt exam, no assignment(s)
- ❑ FNP – attempt nothing

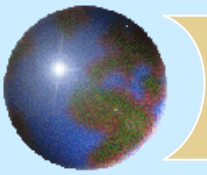
	Ass.1	Ass.2	Exam
	100	100	800
F	40	40	360
FNS	80	80	0
FNC	50	0	390
FNP	0	0	0



Analysis – enrolments/failures

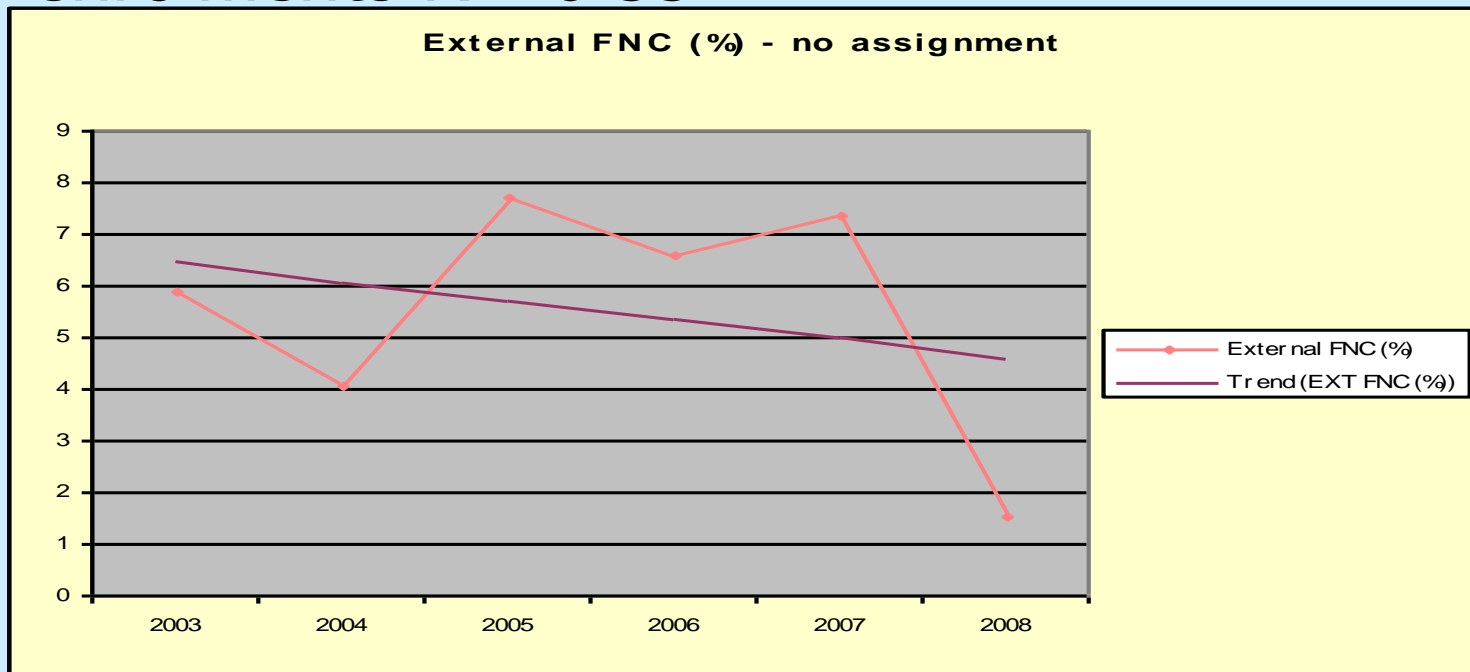
- ❖ F grades % flat as expected, trending downward (on-line resource impact, 50% rule), mild -ve correlation $R=-0.22$ (-1 to 1, 0 is none), not statistically significant Student's $t\text{-test}=0.365$ (significant <0.05)

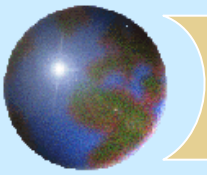




Analysis – enrolments/failures (cont.)

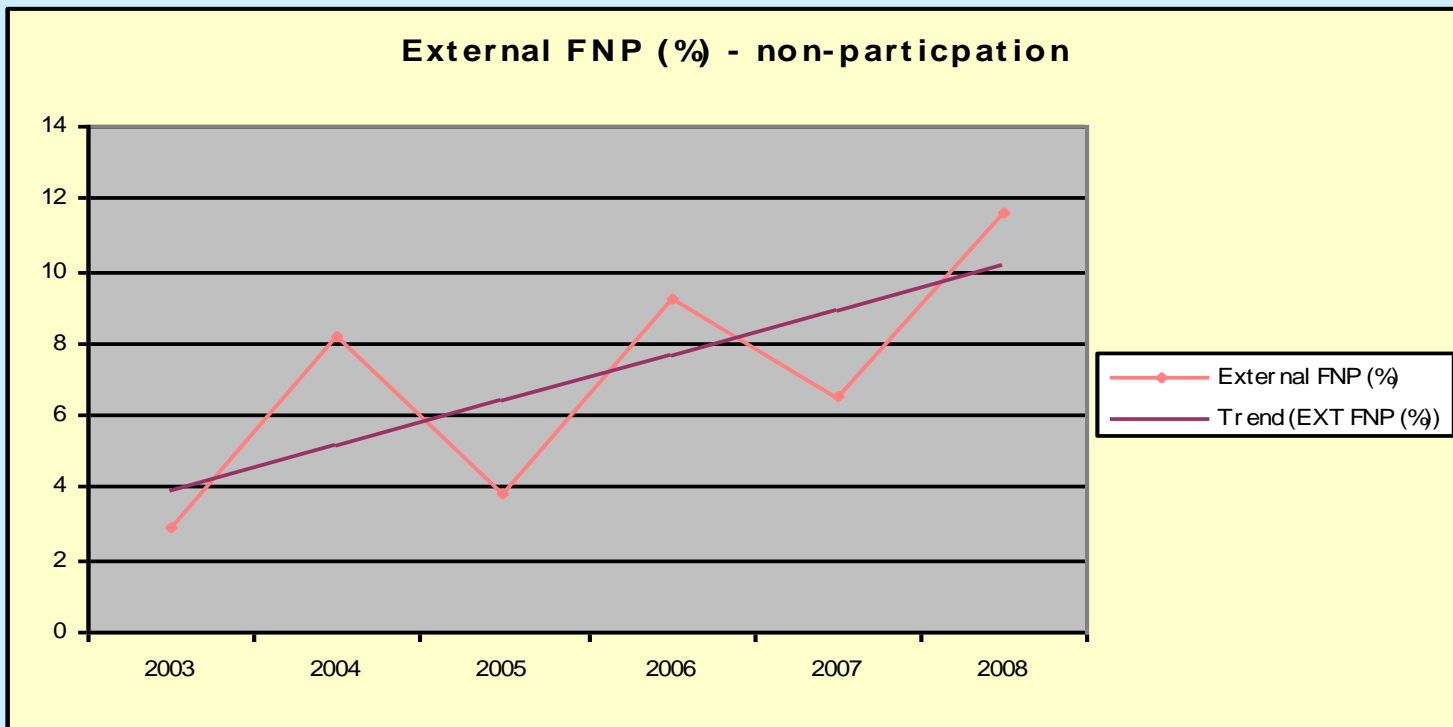
- FNC grades trending downward as expected (50% rule), mild -ve correlation with external enrolments $R=-0.33$

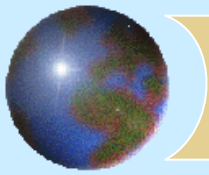




Analysis – enrolments/failures (cont.)

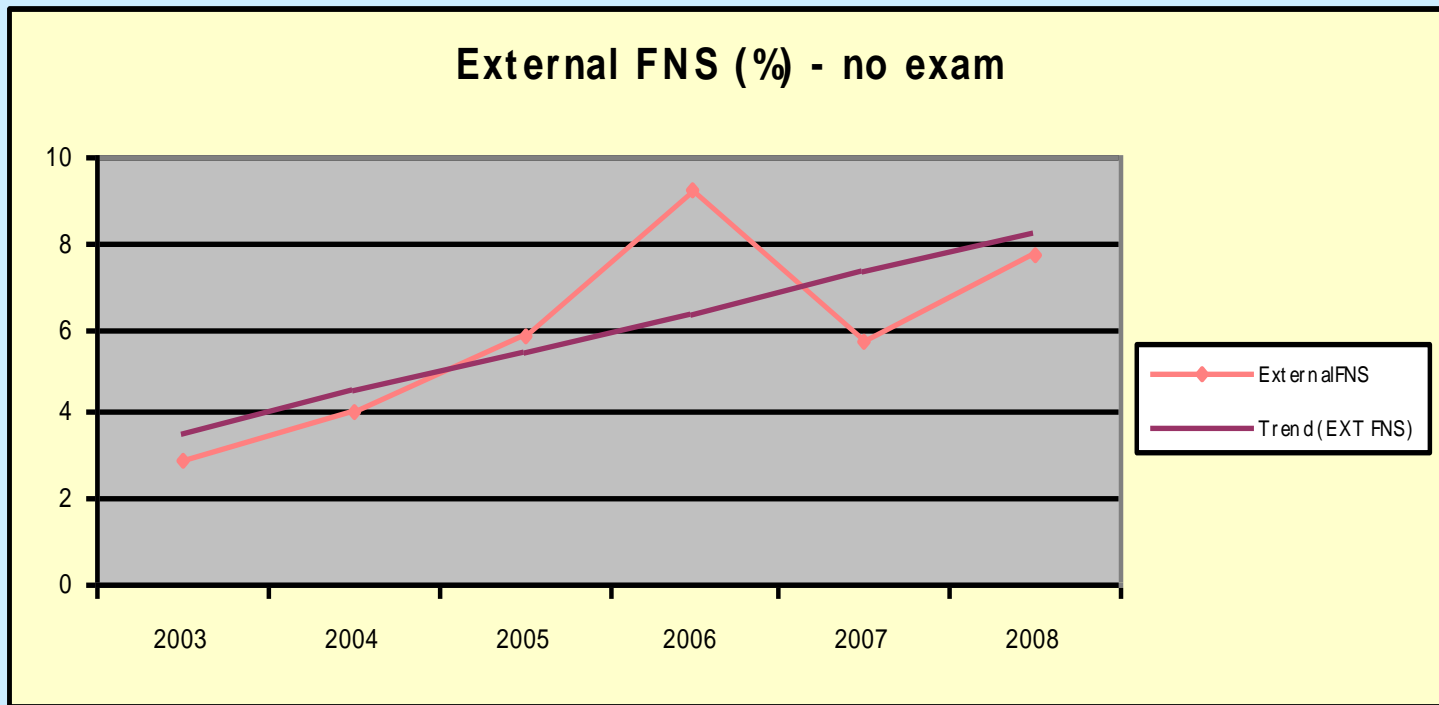
- ✪ FNP trending upward, unexpected, mildly strong +ve correlation external enrolments $R=+0.67$

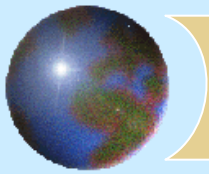




Analysis – enrolments/failures (cont.)

- ✪ FNS trending upward, unexpected, mildly strong +ve correlation external numbers $R=+0.58$

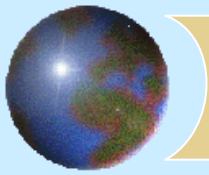




Analysis – enrolments/failures (cont.)

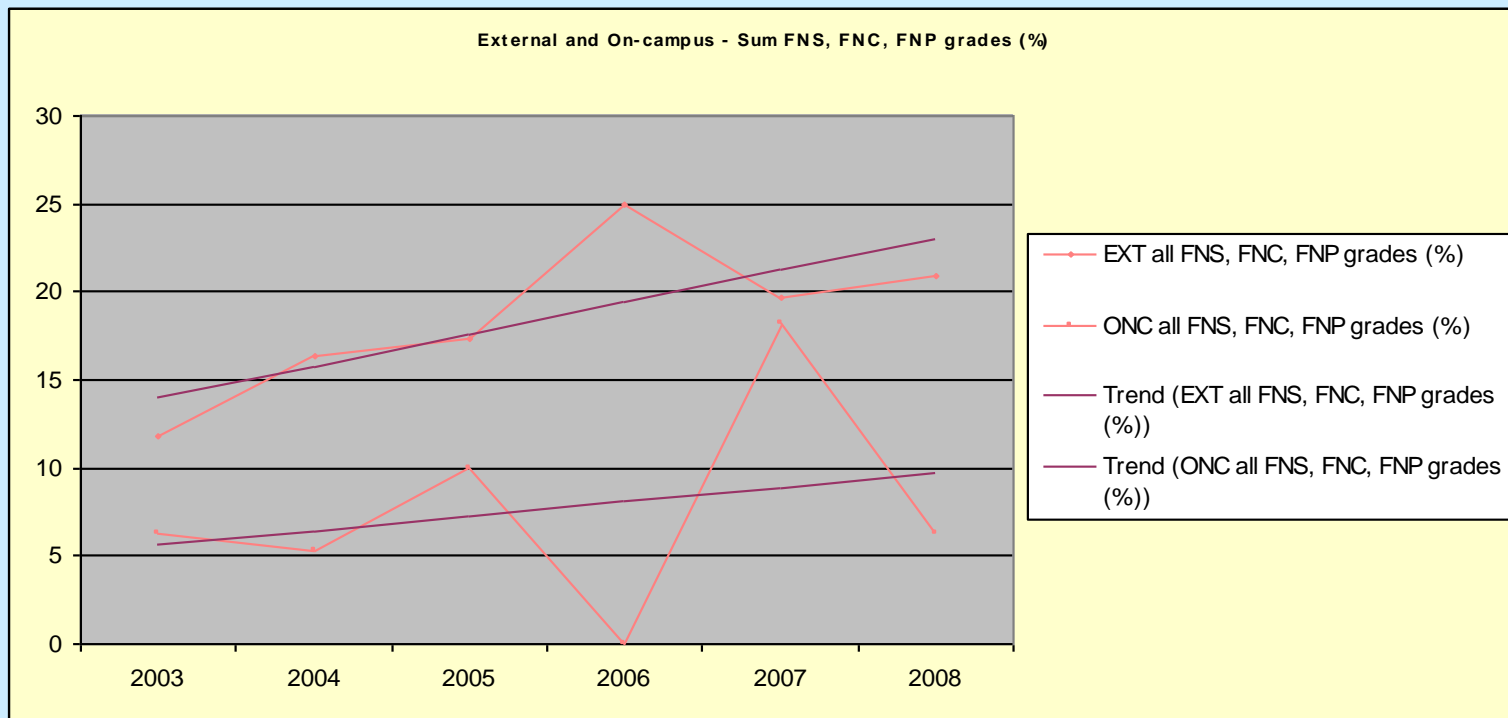
- Correlation co-efficient R values (-1 to 1, 0 is none): should be no correlation in fail % against enrolment increase - unless exogenous factors exist

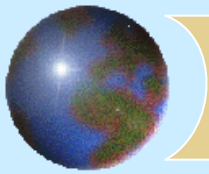
	R correlation	Comment
F	-0.22	mild -ve
FNS	+0.58	mildly strong
FNC	-0.33	mild -ve
FNP	+0.67	mildly strong



Analysis - enrolments to failures

- Statistically significant Student's t-test = 0.006 (significant < 0.05) between EXT and ONC

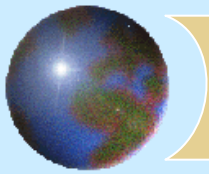




Exogenous factors

- ✚ FNP – underestimate time commitment required to study effectively or realise out of depth
- ✚ Two types of FNS:
 - ✚ Very poor assignments, realise out of depth, consider not worth the effort to sit exams
 - ✚ Pass all assignments, not given time-off to attend exams, too busy with work to sit exam



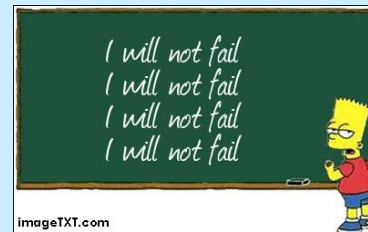


Select the right cadet?

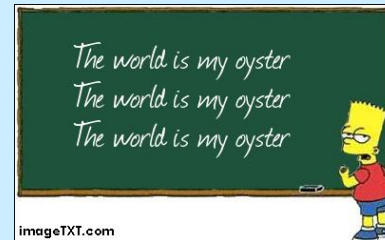
✦ **Mental acuity**



✦ **Application and self-disciplined to study**



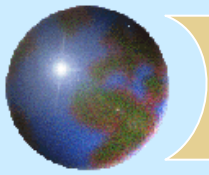
✦ **Personal drive - career goals and ambition**



✦ **Skills in mathematics**



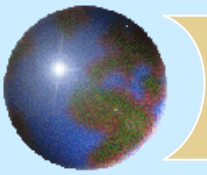
All equally important - but if lacking the ability to solve trigonometric problems???



The wrong cadet – end result

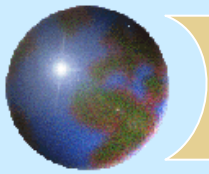
S2, 2003 SVY4306	FNP
S2, 2003 GIS2403	FNC
S2, 2003 SVY3201	FNP
S1, 2003 GIS3404	FNP
S1, 2003 ENV2201	FNS
S1, 2003 SVY3202	FNP
S2, 2002 ENG1101	C
S2, 2002 GIS1401	FNC
S2, 2002 SVY3201	FNP
S1, 2002 ENV2201	FNS
S1, 2002 ENG1001	FNP
S1, 2002 SVY1102	C
S3, 2001 USQ51004	F
S2, 2001 USQ64001	F





What's an employer to do?

- ✦ Assistance for the student (cadet):
 - ✦ provision for examination leave as required; time-off to sit exams at nearest centre and also the working day preceding examination
 - ✦ study time granted whilst in full-time employment - 2 hrs per course per week during semester.
 - ✦ tutorial assistance by mentor/employer and monitoring of progress – taking an active interest

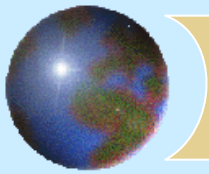


What's an employer to do?

Latest Graduate statistics (2007)

Field of education ranked according to level of starting salary 2003-07					
	2003	2004	2005	2006	2007
Dentistry	1	1	1	1	1
Optometry	2	=2	2	2	2
Medicine	3	=2	3	3	3
Earth sciences	=8	6	=7	5	=4
Engineering	4	3	4	4	=4

- ❖ Reflecting current strength of resources boom, earth sciences (surveying/planning/geology?) moved from 8th in 2003 to equal 4th 2007
- ❖ Earth science median starting salary \$50K (approx. 500 respondents including 139 surveyors) – Gov't \$46K, Practice \$50K, Industry \$53K
- ❖ 2008?? engineering booming 2008



Summary

❖ Problem

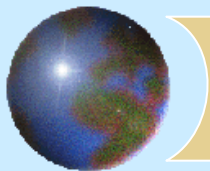
- ❖ Dramatic increase in failure rates for external students
- ❖ Directly related response to skill shortage

❖ Solution

- ❖ Select the right person
- ❖ Provide the required support to succeed

❖ Benefit

- ❖ Investment for increased charge-out rate
- ❖ Establishes relationship/loyalty and succession planning

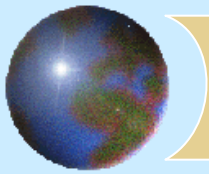


the *Pixar* bonus

	Est.Pop.2001	Est.Growth 2001	Est.Pop.2006	Est.Growth 2006	Curr.Dwellings.	GrowthDwellings	Forecast New Lots
Cairns	125,090	2.00%	139,190	1.80%	53248	54373	1125
Mt Isa	21,723	-0.10%	21,114	0.20%	8077	8118	41
Mackay	78,273	1.40%	90,241	1.70%	34522	35217	695
Atherton	10,808	1.30%	11,558	1.20%	4422	4488	67
Charters Towers	8,800	-0.50%	8,468	-0.20%	3239	3243	3
Ingham	15,629	0.00%	14,384	0.10%	5503	5525	22
Ayr/Home Hill	18,661	-0.30%	18,085	-0.10%	6919	6933	14
Bowen	12,585	-0.50%	13,135	0.70%	5025	5076	51
Cardwell	10,307	2.00%	10,164	1.40%	3888	3955	67
Cooktown	9,089	0.70%	9,307	1.00%	3560	3607	47
Port Douglas/Mossman	11,137	2.30%	11,254	1.70%	4305	4392	87
Whitsunday	15,767	2.10%	18,220	2.30%	6970	7152	182
Sarina	10,318	1.40%	11,368	1.20%	4349	4415	66
Mareeba	19,057	0.70%	19,435	0.50%	7435	7495	60
Eacham	6,468	0.60%	6,771	0.20%	2590	2603	13
Innisfail	20,617	0.80%	19,478	0.10%	7451	7482	30
Townsville/Thuringowa	143,344	1.60%	165,278	1.70%	63228	64500	1272

Source: Office of Economic and Statistical Research, Local Government Profiles

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*You never know the true value of water until
the well runs dry (old English proverb)*

Thank you

