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TRIANGULATION OF DATA IN STUDENT RETENTION RESEARCH


Vanguard University of Southern California

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* DOES THIS SOUND FAMILIAR?


How many of you had these conversations:

- We do not believe your data. Your sample is too small.
- That was a bad survey question.
- Your survey was administered at a bad time.
- We do not really trust our Database. Data is entered poorly.
- Student exit interviews is bad data. Students are not telling the truth.
- We know what is going on. We need action! (not more data).



OUR CONTEXT

- Vanguard University of Southern California
 - Private, not-for-profit, faith based
 - Founded 1920
 - Traditional Undergraduate enrollment 1464, total enrollment 2309



* 2009-2010

- Missing Data
- Small Samples
- Data Validity Issues
- Myths
- Little Data, Strong Opinions
- (Political) Sacred Cows

* WHAT TO DO??

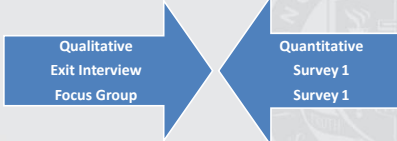
Triangulation – popular approach in assessment.

History:

- Campbell & Fiske (1959): multitrait/multimethod matrix.
- Denzin (1978):
 - Data triangulation (several data sources)
 - Investigator triangulation
 - Methodological Triangulation:
 - Theoretical triangulation (not really)

* WHAT TO DO??

“Triangulating methods of analysis is commonly recommended to overcome validity problems. . . . The idea is a simple one; when multiple threats to validity of measures emerge, use multiple sources of data generated by multiple methods of analysis to meet them. If the different methods seem to lead to similar conclusions, then the level of uncertainty is reduced.”
 (Thomas, Lightcap and Rosencranz, 2005).



* WHAT TO DO??

Mathison (1988) extended understanding of triangulation beyond establishing convergence.

*“The value of triangulation lies in providing evidence – whether **convergent**, **inconsistent**, or **contradictory** – such that the researcher can construct good explanations of the social phenomena from which they arise....*

...This conception shifts the focus on triangulation away from a technological solution for ensuring validity and places responsibility with the researcher for the construction of plausible explanations about the phenomena being studied”.

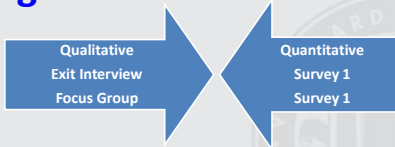
(Mathison,1988).

* WHAT TO DO??

- Could triangulation help provide quality explanation for the social phenomena of retention patterns?
- Could it help with (perceptions of) low validity and quality of data?
- Could it help in decision making?



Triangulation and Pursuit of Convergence



* MYTHS AND ASSUMPTIONS

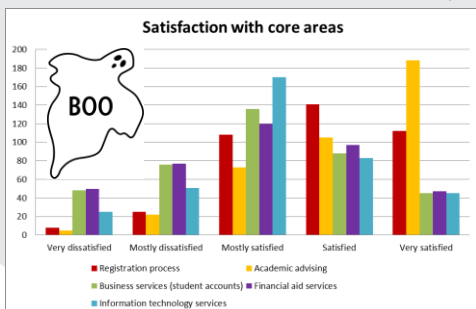
- The Bad Advisor Myth
 - Students are leaving because advising is bad
 - We need to fix advising!!



<http://blonde-designs.squarespace.com/blonde-designs-blog/2009/10/13/neighborhood-boo.html>

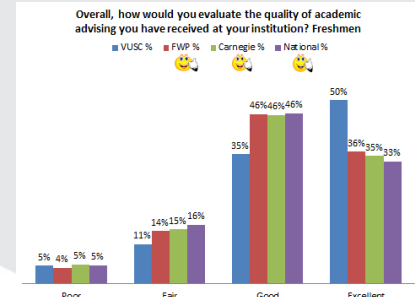
* THE BAD ADVISOR MYTH

- Fall 2009 home-made Student Satisfaction Survey



* THE BAD ADVISOR MYTH

- NSSE, Spring 2010 Satisfaction with advising significantly above comparison groups (**freshmen**).



* THE BAD ADVISOR MYTH

NSSE, Spring 2010 Satisfaction with advising significantly above comparison groups (seniors).

Overall, how would you evaluate the quality of academic advising you have received at your institution? Seniors

Category	VUISC %	FWP %	Carnegie %	National %
Poor	3%	7%	7%	9%
Fair	16%	17%	16%	19%
Good	35%	39%	40%	40%
Excellent	46%	36%	37%	32%

* THE BAD ADVISOR MYTH

- Spring 2011 SSI
- Vanguard Satisfaction with Advising Significantly above regional and national comparisons (at the .001 level).

Group	Score
Vanguard	6.07
Western	5.28
National	5.38

- Spring 2012 SSI
- Vanguard Satisfaction with Advising Significantly above regional and national comparisons (at the .001 level)

* A SERVICE AREA THAT SHALL NOT BE NAMED

- Fall 2009 home-made Satisfaction Survey – low ratings, negative comments.
- “This was a bad survey”
- Spring 2011 SSI – low ratings; negative comments
- “This was a bad time to administer a survey”
- Spring 2012 SSI - low ratings; negative comments (slightly better than 2011)

* THE “SECRET GRUDGE” ASSUMPTION

- Exit interviews with students often indicate finances as the main reason for leaving.
- “Student exit interviews is bad data. Students are not telling the truth.”
- YFCY Spring 2011 data - Do you have any concern about your ability to finance your college education? (1=None, 2=Some, 3=Major) with Fall 2011 Retention $g = -.73^{***}$

* THE FACULTY ROLE BELIEF

- Exit Interviews/Surveys indicate the prominent role of relationship with the Faculty in success and graduation.

Contributor Towards Graduation 2011-2012

Contributor	Count
Capstone	1
Helpful staff	2
Chapel	2
Extracurricular activities	3
Counseling Center	4
Residence Life	4
Missions Trips	3
Quality Classes	14
Sense of Community	20
Spiritual Growth	12
Career Center Assistance	2
Small Class Size	10
Personal relationships...	19
Professors	68

* THE FACULTY ROLE BELIEF

- Is internal qualitative data good enough?
- SSI data

Items are rated on a scale 1-7. Differences between Vanguard and comparison groups are statistically significant at the .001 level

Nearly all of the faculty are knowledgeable in their field

Group	Score
Vanguard	6.28
Western	5.83
National	5.78

* THE FACULTY ROLE BELIEF

- Is internal qualitative data good enough?
- NSSE data

Quality of relationships with faculty members (Seniors)

Relationship Quality	VUSC %	FWP %	Carnegie %	National %
1 Unavailable, Unhelpful, Unsympathetic	2%	1%	1%	1%
2	2%	1%	1%	1%
3	1%	1%	1%	1%
4	4%	1%	1%	1%
5	21%	21%	22%	22%
6	28%	28%	27%	26%
7 Available, Helpful, Sympathetic	38%	38%	38%	34%

* Triangulation and Pursuit of Explanation

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    graph LR
      Qual[Qualitative  
Exit Interview  
Focus Group] --> Quant[Quantitative  
Survey 1  
Survey 1]
  
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* GENDER RESEARCH: DISAGGREGATED

- Why are males more at risk? Database data.

Gender (aggregated 4 year data, FT freshmen)

Gender	Percent Returned
Male	70.50%
Female	75.10%

* GENDER RESEARCH: DISAGGREGATED

- Motivational Data (CIRP 2009):
- Intention: "very good" or "some" chance that you will transfer to another institution 27.1 (M) vs. 23.8 (F).
- "Very good" chance that you will be satisfied with your college: 57.7 (M) vs. 62.5% (F).
- Motivational Interventions:
 - Intention interviews
 - Focus on graduation during orientation

* GENDER RESEARCH: DISAGGREGATED

- Interview data: personal value fit is important
- Spiritual/values Fit Data: fit of freshmen males declined (CIRP; spirituality survey)

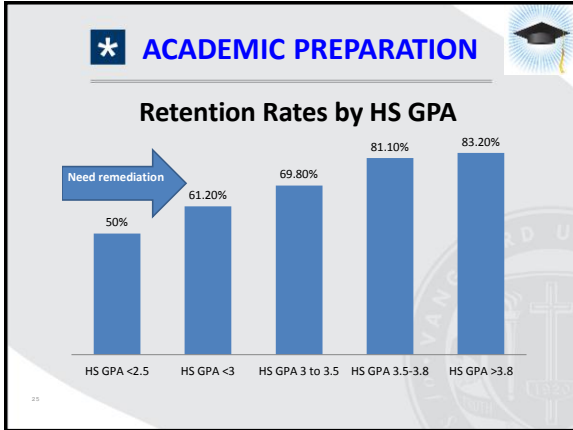
Freshmen Male Response 2008, 2009, 2010

Year	faith match	financial aid	size	campus visit	academic rep
2008	~65	~65	~45	~35	~25
2009	~60	~60	~40	~30	~20
2010	~65	~65	~45	~35	~25

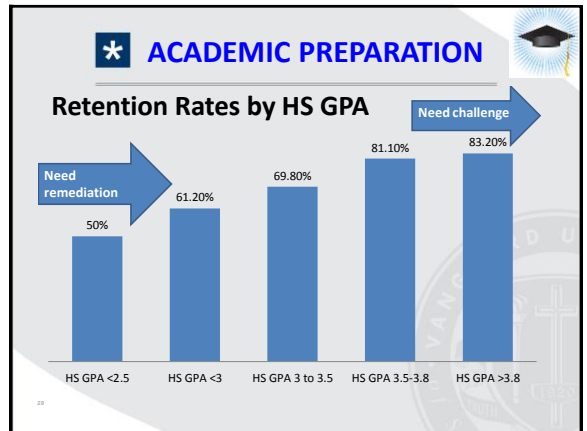
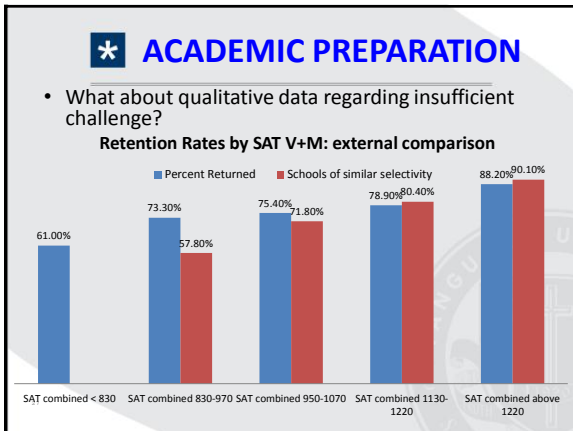
- CIRP indicators of poor fit ("drank beer") - g -.45 ***; value fit with (faith based) institution g .42 *** with retention
- Spiritual Intervention
- YFCY "Strengthened your religious convictions" $\phi = .31^{**}$; $\phi = .30^{**}$

* ACADEMIC PREPARATION

- Exit data:
 - "Not very challenging".
- Focus Groups:
 - "Would like to have more challenge".
- Yet** also leaving due to low grades.



- ### * ACADEMIC PREPARATION
- Remediation interventions
 - Writing-intensive freshmen orientation course for students who need writing assistance
 - Learning skills freshmen orientation course for our least prepared students
 - Tutoring
 - Major and Career Coaching
 - At-risk Student Academic Interventions



- ### * ACADEMIC PREPARATION
- High Academic Preparation Interventions:
 - Honors Courses
 - Major Honors Societies
 - Research Projects

- ### * SUMMARY
- Using multiple methods/triangulation:
 - Increased trust in data
 - Increased likelihood of action on data
 - Allowed for more multifaceted understanding of issues
 - Allowed for more fine-tuned interventions.
- "...the image of data converging upon a single proposition about social phenomenon is a phantom image. More realistically, we end up with data that occasionally converge, but frequently are inconsistent and even contradictory. And we do not throw our hands up in despair ... Rather, we attempt to make sense of what we find and that often requires embedding the empirical data at hand with a holistic understanding of the specific situation and general background knowledge about this class of social phenomena."*
- Mathison, 1988.

* QUESTIONS AND DISCUSSION

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* REFERENCES

Campbell, D.T., Fiske, D.W., (1959) Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 2, 81-105.

Denzin, N.K., (1978) *The Research Act: A Theoretical Introduction to Sociological Methods*. New York: McGraw-Hill

Mathison, S., (1988). Why triangulate? *Educational Researcher*.17, 2, 13-17.

Thomas, B., Lightcap, T. & I. Rosencranz (2005). Taming the hydra: A triangulation approach to assessing an interdisciplinary core curriculum. www.usca.edu/essays/vol152005/EinE5.pdf.

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