This presentation was made at the California Association for Institutional Research Conference on November 9, 2011.

Importance of Topic

- WASC Institutional Review Process (IRP) - Graduation and Retention – Two Questions:*

  - What do data show about the graduation rates and time to degree for different groups/programs?

  - What more should we be doing to improve retention and graduation rates, time to graduation?

*See Page 81 of WASC *Evaluator Visit Guide (Resource Book for Fall 2011 Visits)*

SMC Task Force on Student Success

Composition/Charge:

- Chaired by Provost, includes faculty and co-curricular administrators.
- Focusses on improving student retention and graduation rates, after reviewing data on relevant to the topic.

Addresses:

- WASC Criterion for Review (CFR) 4.6: Leadership at all levels is committed to improvement based on the results of the inquiry, evaluation and assessment that is used throughout the institution.

- WASC CFR 4.5: Institutional Research addresses strategic data needs, is disseminated in a timely manner, and is incorporated into institutional reviews and decision making processes.

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Who was Saint John Baptist de La Salle?

He was a French priest in the 17th century who came from a well-to-do family and was on the fast-track of a priestly career when he became involved with a group of men who were teaching poor children in parish charity schools and within about five years he became completely devoted to the education of these children .

Early on, De La Salle and the Brothers decided that they would best serve their mission of service to the poor and the "underdog" by concentrating entirely on the ministry of teaching.

Saint Mary's College of California is a private, not-for-profit institution of higher education. It is run by the Christian Brothers, which is a religious educational group founded in the mid17th century by Saint John Baptist de La Salle. De La Salle was a French priest whose family was considered very wealthy. When he ultimately discovered his true mission was to serve the poor and underprivileged through education, he gave away his money and formed the Christian Brothers.

The Vocation of the Christian Brothers

A religious commitment to
"**association for the service of the poor through education.**"

No Brother other than de La Salle has been ordained into the priesthood.

So, what is a Christian Brother? He is a man who has decided to put all his powers towards the educational service of children and young people – especially the poor.

A Brother is "lay" religious. He is never an ordained priest--because the reason for his ministry is not to preside at liturgical services or to administer the sacraments, but to educate his students, especially those poor students.
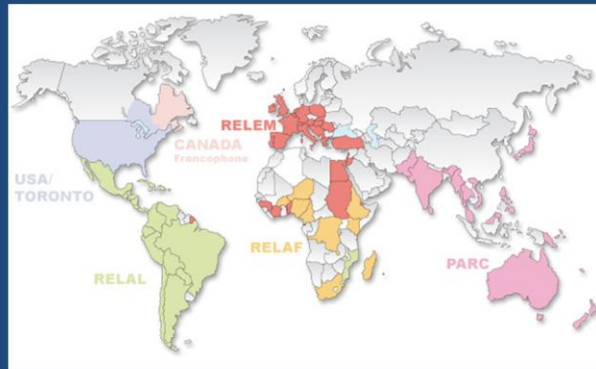
Lasallian Education and the Christian Brothers are present in 82 countries, and have more than 1000 teaching establishments – including 64 colleges and universities – where 1,000,000 students are educated.

The Christian Brothers are now present in 82 countries, and have more than 1000 teaching establishments – including 64 colleges and universities – where 1,000,000 students are educated.

The United States is home to 7 colleges/universities. US A/Toronto Region: Baltimore - Long Island-New England - Midwest - New Orleans-Santa Fe - New York/Toronto - San Francisco

Worldwide, there are 64 colleges/universities.

New schools and educational outreach efforts devoted to the lives of young people--especially the poor--continue to be established every year.

CW…EACH OF THE DISTRICTS ARE NOTED ABOVE.

The Saint Mary's campus is picturesque and welcoming, nestled in the Moraga Valley 20 miles east of San Francisco.

Saint Mary's College is located in Moraga, California. Moraga is a small suburb of the San Francisco-Oakland/BAY AREA with approximately 16,650 residents.

FACTS & FIGURES – 2011-2012

Tuition and fees: $37,150
Room and board: $12,840
Percentage of full-time undergraduates receiving financial aid: 72%
Average freshman financial aid package: $27,954
Pell Eligible: 31% of Traditional Undergraduates
First Generation College: 36% of Traditional Undergraduates
First Time Freshmen: 77% of Traditional Undergraduates

TOTAL ENROLLMENT = 4,099

Trad. UG	UG Prof.	Graduate
2,823	173	1,103

PERCENT OF UNDERGRADUATES LIVING ON CAMPUS:
Freshmen: 99%
Freshmen & upperclassmen: 62%

AVERAGE CLASS SIZE: 20

STUDENT-FACULTY RATIO: 13:1

FRESHMAN DISTRIBUTIONS
Female: 62%   Male: 38%

Minority: 48%, White: 46%, Foreign: 1%, Unknown: 5%,
 (Latino: 25%)

Highest of SAT or ACT: 25th: 1030, 50th: 1110, 75th: 1210
High School GPA: 25th: 3.24, 50th: 3.53, 75th: 3.85

We can now consider ourselves "a minority-majority campus" with 48% of our Fall 2011 freshman class ethnic minorities (25% Latino) and 46% of our freshmen reported as Caucasian.

Most of our entering freshman are from Northern California (over 70%) of which half come from the Bay Area.

One percent (1%) are International students.

Christian Brother (Lasallian) Philosophy:

Quality Education – For the Underprivileged –
- For the Average Student -
- NOT only for the Best and the Brightest -

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Let's look at our freshman graduation and retention rates

What is the Problem?

Let's look at our freshman graduation and retention rates

SMC Fall Freshman Retention and Graduation Rates

ENTERING COHORT TERM	Number In Entering Class (at Fall Census)*	RETENTION RATES**				SMC GRADUATION RATES							
		After 1 Year	After 2 Years	After 3 Years	After 4 Years	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
Fall 2000	614	85.0%	76.7%	75.1%	65.6%	0.8%	58.6%	66.0%	67.9%	68.4%	68.7%	69.5%	70.2%
Fall 2001	576	86.1%	78.5%	74.3%	65.6%	0.3%	58.7%	68.1%	69.6%	70.0%	70.1%	70.5%	70.7%
Fall 2002	644	85.4%	77.0%	75.9%	66.3%	0.5%	57.5%	66.5%	68.2%	68.9%	69.6%	69.6%	
Fall 2003	560	82.1%	72.9%	68.4%	58.4%	0.5%	49.5%	59.8%	62.1%	62.9%	63.4%		
Fall 2004	595	83.9%	77.3%	74.8%	61.3%	0.5%	53.6%	62.2%	63.7%	64.4%			
Fall 2005	629	83.6%	74.4%	71.4%	60.7%	1.0%	51.8%	59.1%	60.7%				
Fall 2006	585	78.1%	70.3%	67.9%	55.6%	0.2%	48.5%	54.9%					
Fall 2007	566	82.3%	71.9%	69.8%	54.9%	0.5%	47.9%						
Fall 2008	627	83.6%	75.9%	72.9%		0.6%							
Fall 2009	532	86.8%	80.5%										
Fall 2010	636	86.8%											

Initial Questions About SMC Freshman Graduation and Retention Rates

1) Do the students who do NOT graduate from Saint Mary's finish at other colleges?

2) Are the Graduation Rates above or below what is "expected", given the composition of the entering classes?

3) When do the dropouts leave SMC?

4) What are the characteristics of early vs. late leavers?
   a) Why to seniors leave?
   b) Why do freshmen/sophomores leave?

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SMC Fall Freshman "Enhanced" Graduation Rates with Clearinghouse Graduates from Other 4-Year Colleges

ENTERING COHORT TERM	Number In Entering Class (at Fall Census)*	SMC GRADUATION RATES								Number of Graduates from SMC (thru June 20,2011)	Number of ADDITIONAL Graduates from Other Colleges (thru March	Total Number of Graduates from SMC + Other (thru March	Graduation Rates Including Those Graduating from Other Four Year Colleges****
		3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year				
Fall 2000	614	0.8%	58.6%	66.0%	67.9%	68.4%	68.7%	69.5%	70.2%	431	72	503	81.9%
Fall 2001	576	0.3%	58.7%	68.1%	69.6%	70.0%	70.1%	70.5%	70.7%	407	70	477	82.8%
Fall 2002	644	0.5%	57.5%	66.5%	68.2%	68.9%	69.6%	69.6%		445	83	528	82.4%
Fall 2003	560	0.5%	49.5%	59.8%	62.1%	62.9%	63.4%			355	85	440	78.6%
Fall 2004	595	0.5%	53.6%	62.2%	63.7%	64.4%				383	60	443	74.5%
Fall 2005	629	1.0%	51.8%	59.1%	60.7%					382	48	430	68.4%
Fall 2006	585	0.2%	48.5%	54.9%						320	33	353	60.4%
Fall 2007	566	0.5%	47.9%							271	1	272	48.1%
Fall 2008	627	0.6%								4			
Fall 2009	532												
Fall 2010	636												

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Top Institutions from Clearinghouse Where SMC Freshmen Leavers Obtained 4-Year Degrees ("The Usual Suspects")

Insitution	7-Year Total
SAN FRANCISCO STATE UNIVERSITY	21
CALIFORNIA STATE UNIVERSITY - SACRAMENTO	19
UNIVERSITY OF SAN FRANCISCO	19
UNIVERSITY OF SAN DIEGO	18
CALIFORNIA STATE UNIVERSITY - CHICO	16
CALIFORNIA STATE UNIVERSITY - EAST BAY	15
UNIVERSITY OF CALIFORNIA-DAVIS	14
SANTA CLARA UNIVERSITY	11
UNIVERSITY OF CALIFORNIA-SANTA BARBARA	11
LOYOLA MARYMOUNT UNIVERSITY	10
CHAPMAN UNIVERSITY-ORANGE	7
PORTLAND STATE UNIVERSITY	7
SAN JOSE STATE UNIVERSITY	7
SONOMA STATE UNIVERSITY	7
UNIVERSITY OF CALIFORNIA-BERKELEY	7
ARIZONA STATE UNIVERSITY	6
CALIFORNIA POLYTECHNIC STATE UNIVERSITY	6
UNIVERSITY OF HAWAII AT MANOA	6
UNIVERSITY OF NEVADA LAS VEGAS	6
UNIVERSITY OF OREGON, MAIN CAMPUS	6
UNIVERSITY OF SOUTHERN CALIFORNIA	6

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The institutions from which freshmen leavers obtain college degrees are, for the most part, but not entirely the schools Saint Mary's College competes with in freshmen admission. Excludes 2+2 Nursing and 3+2 Engineering programs. Biggest numbers are for colleges nearby.

ARE SMC GRADUATION RATES "BETTER" OR "WORSE THAN EXPECTED?
SMC "Predicted" vs. Actual 6-Year Graduation Rates via Linear
Regression with 51 Other WASC "Private Not For Profit Schools"
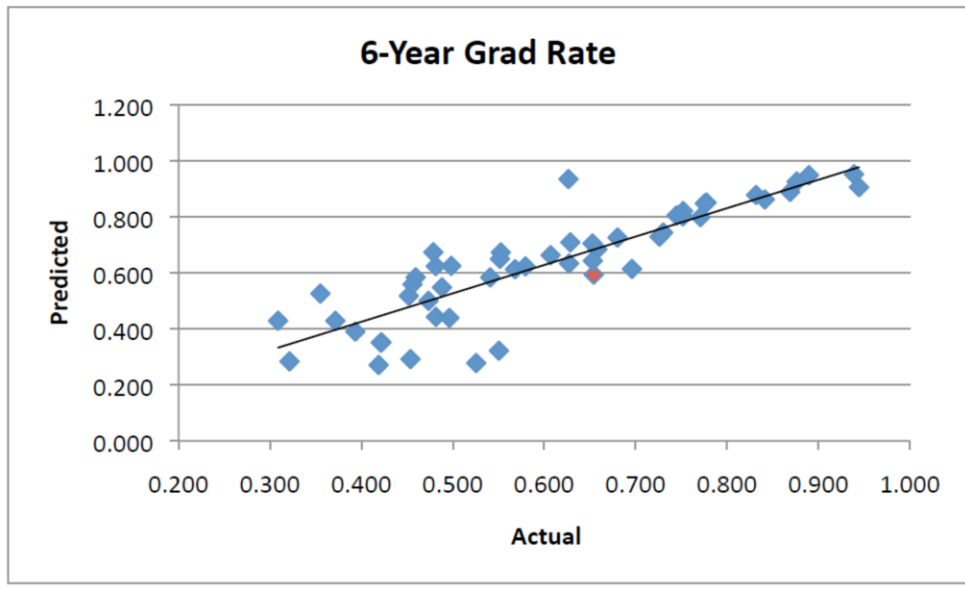
6-Year Grad Rate

SMC is slightly below the prediction compared with 51 other WASC "Private Not for Profit Schools", using common data obtained from the Education Trust on 8 measures.

SMC "Predicted" vs. Actual 6-Year Graduation Rates: Mean "Institutional" SAT Carries Greatest Weight

But improving selectivity to improve SAT Score, which in turn will improve graduation rates, would NOT be a goal of Saint Mary's College. Opposite of our Lasallian tradition. Must improve graduation rates through other means for the population we serve.

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-0.27627	.355		-.779	.441
% Pell Recipients Among Freshmen	-0.27168	.286	-.149	-.951	.347
Estimated Median SAT / ACT	**0.00080**	**.000**	**.654**	**3.496**	**.001**
% Underrepresented Minority	0.55280	.224	.286	2.465	.018
% Age 25+	-0.33965	.291	-.236	-1.168	.250
% Part-Time	0.11423	.306	.064	.373	.711
% Admitted	0.06219	.128	.068	.487	.629
Federal Loan Default Rate	-1.29042	1.092	-.131	-1.181	.244
Instructional Expenditures / Total FTE	0.00000	.000	-.002	-.022	.983

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The mean institution level SAT Score plays by far most important role in this regression. i.e. The best way to improve graduation rates is to "enroll better students". But this strategy would never be the main goal of Saint Mary's College. Is in direct opposition to the Lasallian traditions of the College.

High School GPA is the "Best Pre-Admission" Predictor of Graduation Rates at Saint Mary's (Fall 2000 – Fall 2006)

Graduation In SIX Years (N= 3,505)				Graduation In FOUR Years (N=4,073)			
Factor Considered in Logistic Regression	Nagelkerke R-square=		5.7%	**Factor Considered in Logistic Regression**	Nagelkerke R-square=		8.0%
	B	Wald	p <		B	Wald	p <
High School GPA	0.850	**72.0**	**0.000**	**High School GPA**	0.993	**123.5**	**0.000**
Highest of SAT or ACT	-0.001	**7.0**	**0.008**	**Highest of SAT or ACT**	-0.001	**6.4**	**0.011**
Is Male?	-0.045	0.3	0.563	Is Male?	-0.106	2.4	0.124
Is African American?	-0.177	0.8	0.374	Is African American?	-0.291	2.5	0.113
Is Latino?	0.181	1.2	0.269	Is Latino?	0.093	0.4	0.532
Is Asian?	0.109	0.4	0.540	Is Asian?	0.073	0.2	0.650
Is White?	0.411	**7.7**	**0.005**	**Is White?**	0.317	**5.6**	**0.018**
Is High Potential Admit?	-0.100	0.4	0.540	Is High Potential Admit?	-0.122	0.6	0.421
Is Honors at Entrance?	-0.014	0.0	0.933	Is Honors at Entrance?	0.025	0.0	0.864
Is Pell Eligible?	-0.239	3.3	0.071	**Is Pell Eligible?**	-0.290	**6.8**	**0.009**
Is an Athlete?	0.274	1.0	0.328	Is an Athlete?	-0.168	0.7	0.401
Constant	-1.330	7.0	0.008	Constant	-2.326	28.0	0.000

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But, at SMC High school GPA rather than SAT carries the greatest weight predicting graduation rates. Note "negative" weight for "SAT/ACT" Score in the prediction!!?   This is likely occurring because SAT is serving as a "correction" for the strong positive weight given to high school GPA (a co-linearity issue). Also note the that these "pre-admission" predictors don't predict graduation as well as they do "first year GPA" (Nagelkerke R-square of 5.7% for 6-year graduation, a little better, 8.0%, for 4-year graduation.   Analyses limited by the fact that some measures (e.g. first generation college, financial aid measures other than Pell Eligibilty, were not available prior to Fall 2004).

Are the Lower SMC Fall 2006 and Fall 2007 Freshman 4-Year Graduation Rates Better or Worse than what would be Predicted?
(Effect of Shift in Student Demographic/Academic Characteristics)

Using Logistic Regression Weights from Previous Slide:

Term	Predicted 4-year Graduation Rate	Actual 4-Year Graduation Rate
Fall 2006	48.8%	48.5%
Fall 2007	48.8%	47.9%

Conclusion: 4-Year SMC Graduation Rates are a just a little lower than expected given the demographics and academic characteristics of these two entering classes.

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NOTES: Here is the SPSS code for those wishing to create predicted probabilities of this type. The variable "prob4yrgrad" (below) is a probability of graduation in 4-years based, on the logistic regression equation, for each freshman entrant, which when averaged for a given class or group gives provides the "predicted 4-year graduation rate" for that class or group.

compute pred4yrgradscore=(0.993*hs.gpa)+(-0.001*satacthighest)+(-0.106*male)+(-0.291*black)
 +(0.093*latino)+(0.073*asian)+(0.317*white)+(-0.122*hpx)+(0.025*honorsatentrance)+(-0.290*pelladmit)
 +(-0.168*athlete)-2.326.
compute prob4yrgrad=exp(pred4yrgradscore)/(1+exp(pred4yrgradscore)).
Execute.

When Freshmen Leave: Early vs. Late Drops

While most students leave in the first two years, there has been an increasing trend in recent years of "Seniors" not completing their degree. Few students drop between Junior and Senior year.

Entering Cohort	PERCENTAGE OF COHORT						Total
	Dropout After **1** Year	Dropout After **2** Years	Dropout After **3** Years	Dropout After **4** Years	Still Retained into 5th Year	**Graduated**	
Fall 2000	14.9%	8.3%	1.1%	3.2%	1.9%	70.5%	616
Fall 2001	13.9%	7.6%	4.0%	2.8%	1.0%	70.7%	576
Fall 2002	14.8%	8.3%	1.1%	4.2%	2.2%	69.4%	647
Fall 2003	17.9%	9.3%	3.9%	4.1%	1.4%	63.4%	560
Fall 2004	16.3%	6.5%	2.0%	**8.2%**	2.5%	64.4%	596
Fall 2005	16.4%	9.2%	3.0%	**6.8%**	3.8%	60.7%	629
Fall 2006	**21.9%**	**7.9%**	2.4%	**9.2%**	3.8%	54.9%	585
Fall 2007	**17.7%**	**10.4%**	2.1%	**14.8%**	7.1%	47.9%	566
Fall 2008	16.4%	7.7%	3.0%	0.0%	72.2%	0.6%	627
Fall 2009	**13.2%**	**6.4%**	0.0%	0.0%	80.5%	0.0%	532
Fall 2010	**13.2%**	0.0%	0.0%	0.0%	86.8%	0.0%	637

Dropout excludes 2+2 Associate Degree in Nursing and 3+2 Engineering programs where student typically leave after 2 or 3 years, respectively.   We will study the "Senior" phenomena separately from the early dropout phenomena.

Note: For Freshman Classes entering in Fall 2008 through Fall 2010 "Still Retained into 5th Year" means "Still Retained" (there is no fifth year for these classes yet.)

Profile of Early vs. Senior Leavers - Pre-Entrance Measures
(Freshman Entrants: Fall 2004 – Fall 2007)

Freshmen that leave in the first two years are wealthier, less first generation college, fewer underrepresented minorities than those leaving as seniors.

Measure	NOT Retained After 1 - 2 Years	NOT Retained After Senior Year	Statistical Signficance
Number Studied	**630**	**230**	
% Male	39%	41%	
% African American	**6%**	**15%**	p < .001
% Latino	**20%**	**27%**	p < .05
% Asian	**13%**	**8%**	p < .05
% White	51%	45%	p < .10
% First Generation College	**34%**	**47%**	p < .001
% High Potential	**5%**	**17%**	p < .001
% Catholic	45%	50%	
% Scholarship Athlete	**8%**	**2%**	p < .001
% Pell Eligible	**21%**	**36%**	p < .001
Mean Family Income (for those applying for Fin. Aid)	**$101,474**	**$78,209**	p < .01
Mean Highest of SAT or ACT	**1065**	**1021**	p < .001
Mean High School GPA	**3.20**	**3.07**	p < .001

Profile of Early vs. Senior Leavers – Post-Enrollment Measures
(Freshman Entrants: Fall 2004 – Fall 2007)

Those leaving in/after their senior year have a checkered academic history but persisted – have a higher Social Self Concept. Lack of success in Introductory Seminar class (Greek Thought) plays a greater role for those dropping early.

Measure	NOT Retained After 1 - 2 Years	NOT Retained After Senior Year	Statistical Signficance
Number Studied	630	230	
% EVER on Probation or Subject to Disqualification	26%	40%	p < .001
% with at least one "F" Grade	37%	64%	p < .001
% with 2 or More "F" Grades	22%	43%	p < .001
% with at least one "D" Grade	42%	73%	p < .001
% with at least one "F" or "D" Grade	55%	82%	p < .001
% with 2 or More "F" or "D" Grades	38%	70%	p < .001
% with at least one "W" Grade	49%	65%	p < .001
% with 2 or More "W" Grades	25%	40%	p < .001
% F, D, W or I Grades in Introductory Chemistry	52%	68%	
% Fail (W or I) in Introductory Chemistry	38%	41%	
% F, D, W or I Grades in Seminar: Greek Thought	18%	11%	p < .01
% Fail (W or I) in Seminar: Greek Thought	11%	3%	p < .001
% F, D, W or I Grades in Introductory Math	49%	57%	
% Fail (W or I) in Introductory Math	40%	41%	
TFS Habits of Mind Score*	50.2	49.7	
TFS Academic Self-Concept Score*	46.5	46.4	
TFS Social Self-Concept Score*	50.6	54.3	p < .01
TFS Social Agency Score*	51.4	53.9	
TFS College Reputation Orientation Score*	48.5	48.5	
TFS Likelihood of College Involvement Score*	52.2	54.0	

*NOTE: CIRP Freshman Survey Scores (TFS) have a mean of 50 and a standard deviation of 10.

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Task Force on Student Success Decision
FIX SENIOR COMPLETION FIRST

Profile of 500 Seniors "On Schedule" to Graduate on March 24, 2011 - 1

But only 73% graduate by October. Lower academic profiles for those who don't finish. Not declaring major an issue. 50% of African American seniors don't finish.

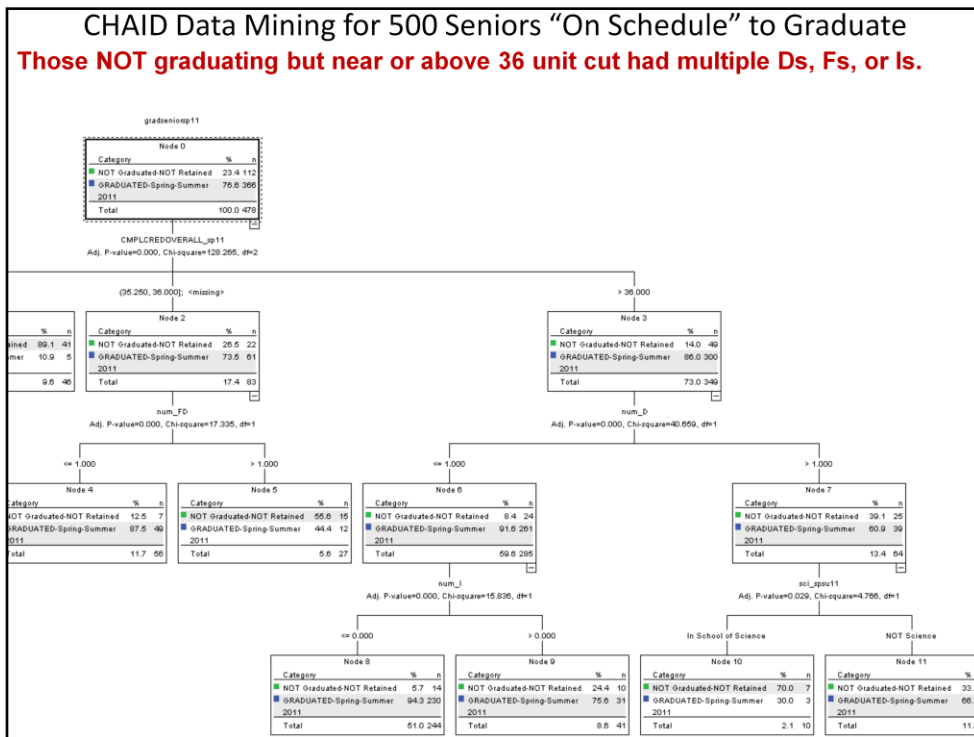| Measure	NOT Graduated and NOT Retained	NOT Graduated RETAINED in Fall 2011	GRADUATED in Spring or Summer 2011	Total	Percent Graduated	Statistical Signficance
Number Studied	112	22	366	500	73%	
% January or Spring Term Admit (rather than Fall Term)	9%	9%	2%	4%	33%	p < .001
% Transfer (rather than Freshman Entrant)	29%	23%	21%	23%	67%	
% Male	39%	59%	38%	39%	71%	
% African American	12%	0%	4%	5%	50%	p < .01
% Latino	28%	18%	19%	21%	66%	
% Asian	6%	0%	8%	8%	82%	
% White	46%	73%	60%	58%	76%	p < .05
% First Generation College	42%	27%	36%	37%	71%	
% High Potential	12%	5%	4%	6%	50%	p < .05
% Catholic	45%	18%	45%	43%	75%	p < .10
% Honors at Entrance	5%	9%	16%	14%	88%	p < .01
% Scholarship Athlete	4%	23%	8%	8%	76%	p < .01
% Pell Eligible	36%	14%	22%	25%	65%	p < .01
Mean Family Income (for those applying for Fin. Aid)	$79,101	$141,519	$98,177	$95,117	Not Applcable	p < .05
Mean Highest of SAT or ACT	996	1094	1076	1060	Not Applcable	p < .001
Mean High School GPA	3.09	3.36	3.36	3.31	Not Applcable	p < .001
Cumulative GPA thru Spring or Summer 2011	2.80	3.02	3.17	3.08	Not Applcable	p < .001
% School of Business Major	27%	23%	29%	28%	75%	
% Liberal Arts Major	46%	59%	54%	53%	75%	
% School of Science Major	15%	14%	16%	16%	74%	
% No Major Identified (or Dual Major in 2 Schools)	12%	5%	1%	3%	18%	p < .001

Profile of 500 Seniors "On Schedule" to Graduate on March 24, 2011 - 2

Half of those not graduating did not obtain the 36 units required by end-of term.
Higher levels of failure & Academic Disengagement among seniors not graduating.

Measure	NOT Graduated and NOT Retained	NOT Graduated-RETAINED in Fall 2011	GRADUATED in Spring or Summer 2011	Total	Percent Graduated	Statistical Signficance
Number Studied	112	22	366	500	73%	
% EVER on Probation or Subject to Disqualification	26%	23%	7%	12%	44%	p < .001
% with 36+ Total Credits at end-of-Spring Term 2011	50%	36%	98%	84%	85%	p < .001
% with *fewer than* 17 SMC Credits at end-of-Spring	96%	91%	99%	98%	33%	p < .05
% with at least one "F" Grade	50%	45%	15%	24%	45%	p < .001
% with 2 or More "F" Grades	28%	27%	5%	11%	35%	p < .001
% with at least one "D" Grade	65%	45%	30%	39%	57%	p < .001
% with 2 or More "D" Grades	46%	36%	14%	22%	46%	p < .001
% with at least one "F" or "D" Grade	74%	64%	34%	45%	57%	p < .001
% with 2 or More "F" or "D" Grades	61%	45%	19%	29%	47%	p < .001
% with at least one "W" Grade	54%	27%	30%	35%	62%	p < .001
% with 2 or More "W" Grades	24%	9%	11%	14%	59%	p < .01
% with at least one "I" Grade	32%	14%	14%	18%	57%	p < .001
% with 2 or More "I" Grades	13%	0%	3%	5%	44%	p < .001
% Fail (W or I) in Introductory Chemistry	8%	0%	3%	4%	55%	p < .05
% F, D, W or I Grades in First Seminar Course (Greek)	6%	5%	2%	3%	50%	p < .10
% Fail (W or I) in Introductory Math Courses	12%	0%	4%	5%	52%	p < .01
CSS Academic Disengagement Score*	52.7	59.0	50.6	51.2	Not Applcable	p < .05
CSS Student-Faculty Interaction Score*	53.2	49.6	54.0	53.8	Not Applcable	
CSS Satisfaction with Courses Score*	53.2	41.4	52.7	52.5	Not Applcable	p < .10
CSS Overall Satisfaction Score*	51.4	55.3	52.4	52.3	Not Applcable	
CSS Sense of Belonging Score*	46.6	54.1	50.6	50.1	Not Applcable	p < .10
CSS Positive Cross-Racial Interaction Score*	56.3	47.3	55.6	55.6	Not Applcable	
CSS Negative Cross-Racial Interaction Score*	57.9	48.5	52.7	53.4	Not Applcable	p < .05
CSS Civic Awareness Score*	52.7	51.0	54.0	53.7	Not Applcable	
CSS Leadership Score*	54.4	51.0	53.6	53.6	Not Applcable	

*NOTE: CIRP College Senior Survey Scores (CSS) have a mean of 50 and a standard deviation of 10.

Introductory courses in Chemistry, Math, Seminar much less of a factor for seniors not graduating, but the history shows still was an issue for some.

CHAID Data Mining for 500 Seniors "On Schedule" to Graduate
Those NOT graduating but near or above 36 unit cut had multiple Ds, Fs, or Is.

gradseniorsp11

Node 0

Category	%	n
◼ NOT Graduated-NOT Retained	23.4	112
◼ GRADUATED-Spring-Summer 2011	76.6	366
Total	100.0	478

CMPLCREDOVERALL_sp11
Adj. P-value=0.000, Chi-square=128.265, df=2

(35.250, 36.000]; <missing> | > 36.000

Node 2

Category	%	n
◼ NOT Graduated-NOT Retained	26.5	22
◼ GRADUATED-Spring-Summer 2011	73.5	61
Total	17.4	83

Node 3

Category	%	n
◼ NOT Graduated-NOT Retained	14.0	49
◼ GRADUATED-Spring-Summer 2011	86.0	300
Total	73.0	349

num_FD
Adj. P-value=0.000, Chi-square=17.335, df=1

num_D
Adj. P-value=0.000, Chi-square=40.659, df=1

<= 1.000 | > 1.000   <= 1.000 | > 1.000

Node 4

Category	%	n
NOT Graduated-NOT Retained	12.5	7
GRADUATED-Spring-Summer 2011	87.5	49
Total	11.7	56

Node 5

Category	%	n
◼ NOT Graduated-NOT Retained	55.6	15
◼ GRADUATED-Spring-Summer 2011	44.4	12
Total	5.6	27

Node 6

Category	%	n
◼ NOT Graduated-NOT Retained	8.4	24
◼ GRADUATED-Spring-Summer 2011	91.6	261
Total	59.6	285

Node 7

Category	%	n
◼ NOT Graduated-NOT Retained	39.1	25
◼ GRADUATED-Spring-Summer 2011	60.9	39
Total	13.4	64

num_I
Adj. P-value=0.000, Chi-square=15.835, df=1

sci_ssou11
Adj. P-value=0.029, Chi-square=4.766, df=1

<= 0.000 | > 0.000   In School of Science | NOT Science

Node 8

Category	%	n
◼ NOT Graduated-NOT Retained	5.7	14
◼ GRADUATED-Spring-Summer 2011	94.3	230
Total	51.0	244

Node 9

Category	%	n
◼ NOT Graduated-NOT Retained	24.4	10
◼ GRADUATED-Spring-Summer 2011	75.6	31
Total	8.6	41

Node 10

Category	%	n
◼ NOT Graduated-NOT Retained	70.0	7
◼ GRADUATED-Spring-Summer 2011	30.0	3
Total	2.1	10

Node 11

Category	%
◼ NOT Graduated-NOT Retained	33.3
◼ GRADUATED-Spring-Summer 2011	66.7
Total	11.3

Methodological NOTES: Data mining is partly a "art" as well as a science, which requires decisions be made in several areas, including, which variables to include/exclude in the analyses, how many branches of the tree to allow ("pruning"), evaluation of "error", and which data mining methodology to select.

All variables in the senior profile on previous slides were used in the data mining save for the CIRP CSS scales (due to smaller N). When CSS scales were include "Academic Disengagement" played a role in disaggregating those with more than 36 units – replaced number 'I' grades on right side of tree, though for a smaller number of cases. Used CHAID (Automatic Interaction Detector) data mining methodology via SPSS Trees module and not the much more expensive and sophisticated "Clementine" product. CHAID was more effective at parsing this data se than the C&RT (Classification and Regression Trees) data mining methodology also available in SPSS.

Additional Analyses Focused on Seniors

- **IR provides detailed case-by-case listings** – shows that students with *more than minimum* 36 units needed to graduate frequently did not earn these credits at SMC. – Credits didn't necessarily translate to SMC. (Students take these classes elsewhere to save money and because offered at a more convenient time. – Is hard to "make up" courses at SMC).

- **Registrar uses DEGREE AUDIT** - determines which courses are barriers for seniors. These seniors, especially those with more than 36 units, were missing some key prerequisites they did not know they were missing.

-

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Next Steps for "Fixing" Senior Completion

ACTIONS BY SMC STUDENT SUCCESS TASK FORCE:

- Require that students have "declaration of major" filed earlier.

- Change the requirements for participation in Spring commencement from 3 courses remaining to 2.

- Require the signature of the appropriate department chair, as well as the instructor of record, for students who wish to waive a prerequisite for courses in their major.

- Allow additional flexibility in students 4-1-4 schedule to allow students to more easily "make up" classes they fail, withdraw, etc.

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The first three actions on this list require Academic Senate committee approval.

Task Force on Student Success Next Focus
Identify/Fix Barriers to Retention
for Freshmen and Sophomores

EXAMINE:

- Success on Specific Courses:
    - Introductory Chemistry - Required for all science or pre-med majors
    - Introductory Math Course - several different options
    - FIRST Seminar Courses – Greek Thought and Roman/Medieval Thought (Taken in two semesters of freshman year. - Required of ALL entrants)

- Look at reasons students leave from **Student Withdrawal Survey** – especially for students who leave who are NOT in academic difficulty

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Profile of Fall 2009 Freshmen NOT Retained vs. Retained – Acad./Demo.

Pre-admission academics play role in retention. But typically "at risk" groups (e.g. First Generation, Pell eligible) save for "Males", are retained at same rates as others. Latinos retained at higher rates. Result of First Year Experience Program?

Measure	NOT Retained	Retained in Fall 2011	Total	Percent Retained	Statistical Signficance
Number Studied	104	428	532	80%	
% Male	49%	35%	38%	75%	p < .01
% African American	11%	6%	7%	71%	
% Latino	16%	26%	24%	87%	p < .05
% Asian	15%	11%	12%	74%	
% White	42%	46%	45%	82%	
% First Generation College	43%	41%	41%	80%	
% High Potential	9%	8%	8%	79%	
% Catholic	51%	53%	53%	81%	
% Honors at Entrance	9%	17%	15%	89%	p < .05
% Scholarship Athlete	16%	7%	9%	65%	p < .01
% Pell Eligible	32%	34%	34%	82%	
Mean Family Income (for those applying for Fin. Aid)	$99,098	$100,484	$100,226	Not Applcable	
Mean Highest of SAT or ACT	1053	1088	1081	Not Applcable	p < .05
Mean High School GPA	3.19	3.41	3.36	Not Applcable	p < .001
Cumulative GPA thru Spring or Summer 2010 (1-Year GPA)	2.32	2.97	2.84	Not Applcable	p < .001
Cumulative GPA thru Spring or Summer 2011 (2-Year GPA)	2.33	3.02	2.89	Not Applcable	p < .001
Mean Number of TOTAL Credits at end-of-Spring Term 2011	16.7	19.3	19.2	Not Applcable	p < .001
Mean Number of SMC Credits at end of-Spring Term 2011	16.4	18.2	18.1	Not Applcable	p < .001

Notes: SMC participates in College Board Study of first year GPA and retention. First study using linear regression and logistic regression on Fall 2009 class shows pre-admission academics, especially high school GPA plays role in prediction of first year GPA and retention. College Board examining more factors and second year retention and GPA this year.

Profile of Fall 2009 Freshmen NOT Retained vs. Retained – Course/Grades

Academic failure plays a role in Non-Retention for about 40%-50% of these students. Failure (or D's/W's/I's) in First Seminar Course (Greek Thought) and Second Seminar Course (Roman/Medieval) are high.

Measure	NOT Retained	Retained in Fall 2011	Total	Percent Retained	Statistical Signficance
Number Studied	104	428	532	80%	
% EVER on Probation or Subject to Disqualification	39%	14%	19%	59%	p < .001
% with at least one "F" Grade	41%	14%	19%	58%	p < .001
% with 2 or More "F" Grades	24%	6%	10%	51%	p < .001
% with at least one "D" Grade	42%	32%	34%	76%	p < .05
% with 2 or More "D" Grades	25%	16%	18%	72%	p < .05
% with at least one "F" or "D" Grade	55%	36%	40%	73%	p < .001
% with 2 or More "F" or "D" Grades	42%	20%	24%	66%	p < .001
% with at least one "W" Grade	49%	25%	30%	68%	p < .001
% with 2 or More "W" Grades	29%	12%	16%	64%	p < .001
% F, D, W or I Grades in Introductory Chemistry Course	11%	9%	9%	77%	
% Fail (W or I) in Introductory Chemistry Course	9%	7%	7%	76%	
% F, D, W or I Grades in Introductory Math Courses	12%	7%	8%	65%	p < .10
% Fail (W or I) in Introductory Math Courses	9%	4%	5%	59%	p < .05
% F, D, W or I Grades in First Seminar (Greek Thought)	30%	4%	9%	37%	p < .001
% Fail (W or I) in First Seminar (Greek Thought)	17%	1%	5%	25%	p < .001
% F, D, W or I Grades in 1st (Greek) -OR- 2nd Seminar (Roman)	37%	9%	14%	49%	p < .001
% Fail (W or I) Grades in 1st (Greek) -OR- 2nd Seminar (Roman)	26%	4%	8%	37%	p < .001

Notes: Introductory Seminar courses are required of all freshmen. Introductory math courses may not have been taken by all students. A grade of "C" or better in introductory Chemistry course required of all students seeking to major in sciences or be "pre-med".

Profile of Fall 2009 Freshmen NOT Retained vs. Retained – SURVEYS

Non-Retained have generally more positive ratings of SMC than retained on the ASQ+ Surveys administered prior to enrollment. May be disappointment if SMC doesn't meet their expectations. Higher Social Self Concept score on CIRP TFS for non-retained may indicate they are leaders but not academically oriented.
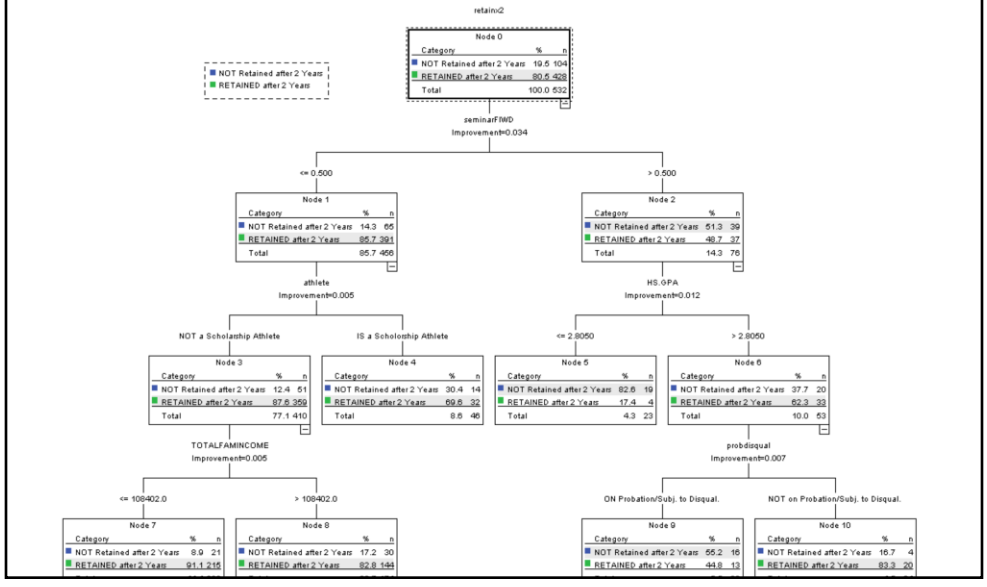
Measure	NOT Retained	Retained in Fall 2011	Total	Statistical Signficance
Number Studied	104	428	532	
ASQ+ Survey: % Rating SMC as their 1st Choice	84%	78%	79%	
ASQ+ Survey: % Say SMC is "Career Oriented"	**58%**	**34%**	38%	$p < .01$
ASQ+ Survey: % Say SMC is "Spirit School"	**32%**	**59%**	54%	$p < .01$
ASQ+ Survey: Rating (1-4 Scale) - SMC Academic Reputation	3.63	3.37	3.42	$p < .10$
ASQ+ Survey: Rating (1-4 Scale) - SMC Academic Facilities	**3.65**	**3.32**	3.38	$p < .05$
ASQ+ Survey: Rating (1-4 Scale) - SMC Cost to Family	2.50	2.88	2.81	$p < .10$
ASQ+ Survey: Rating (1-4 Scale) - SMC Prominent Inter Athletics	**3.67**	**3.35**	3.41	$p < .05$
TFS Habits of Mind Score*	49.3	50.2	50.0	
TFS Academic Self-Concept Score*	47.6	48.6	48.4	
TFS Social Self-Concept Score*	**53.5**	**49.5**	50.3	$p < .01$
TFS Pluralistic Orientation Score*	53.6	52.5	52.7	
TFS Social Agency Score*	51.3	51.3	51.3	
TFS College Reputation Orientation Score*	48.4	50.0	49.7	
TFS Likelihood of College Involvement Score*	52.4	52.2	52.2	

*NOTE: CIRP Freshman Survey Scores (TFS) have a mean of 50 and a standard deviation of 10.

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Notes: Response to ASQ+ Survey is 36%. Response to CIRP TFS (Freshmen Survey) is 98%, BUT only 30% of student ids match to information in SMC data base. Not all ASQ+ results are shown here.

C&RT Data Mining for Fall 2009 Freshmen NOT Retained vs. Retained

Over half of those receiving F/D/W/I grades in either of first two Seminar courses were not retained. Those who did not fail or get a D in seminar were less likely to be retained if they were scholarship athletes –OR- from high income families.
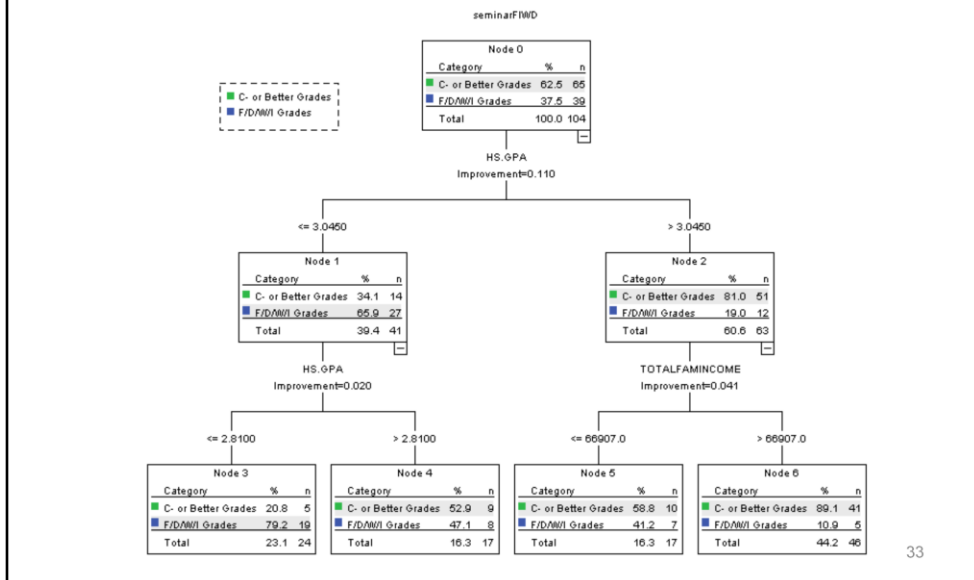
Methodological NOTES: Data mining is partly a "art" as well as a science, which requires decisions be made in several areas, including, which variables to include/exclude in the analyses, how many branches of the tree to allow ("pruning"), evaluation of "error", and which data mining methodology to select.

Variables used in this C&RT (Classification and Regression Trees) analysis include most from freshman retention profile on previous slide, excluding the ASQ+ Survey and TFS (Freshman) Survey due to small N, and aggregate SMC credits and grades. Used C&RT (Classification and Regression Trees) data mining methodology via SPSS Trees module and not the much more expensive and sophisticated "Clementine" product. C&RT was more effective at parsing this data than the CHAID (Automatic Interaction Detector) data mining methodology also available in SPSS.

C&RT Data Mining for Fall 2009 Freshmen – NOT Retained – Seminar

Of the non-retained, those with High School GPAs of less than 3.05 more likely to get poor or failing grades one of their two first first Seminar courses.

seminarFIWD

Legend:
- ■ C- or Better Grades
- ■ F/D/W/I Grades

Node 0

Category	%	n
■ C- or Better Grades	62.5	65
■ F/D/W/I Grades	37.5	39
Total	100.0	104

HS.GPA
Improvement=0.110

<= 3.0450 → **Node 1**

Category	%	n
■ C- or Better Grades	34.1	14
■ F/D/W/I Grades	65.9	27
Total	39.4	41

> 3.0450 → **Node 2**

Category	%	n
■ C- or Better Grades	81.0	51
■ F/D/W/I Grades	19.0	12
Total	60.6	63

HS.GPA
Improvement=0.020

<= 2.8100 → **Node 3**

Category	%	n
■ C- or Better Grades	20.8	5
■ F/D/W/I Grades	79.2	19
Total	23.1	24

> 2.8100 → **Node 4**

Category	%	n
■ C- or Better Grades	52.9	9
■ F/D/W/I Grades	47.1	8
Total	16.3	17

TOTALFAMINCOME
Improvement=0.041

<= 66907.0 → **Node 5**

Category	%	n
■ C- or Better Grades	58.8	10
■ F/D/W/I Grades	41.2	7
Total	16.3	17

> 66907.0 → **Node 6**

Category	%	n
■ C- or Better Grades	89.1	41
■ F/D/W/I Grades	10.9	5
Total	44.2	46

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Methodological NOTES: Data mining is partly a "art" as well as a science, which requires decisions be made in several areas, including, which variables to include/exclude in the analyses, how many branches of the tree to allow ("pruning"), evaluation of "error", and which data mining methodology to select.

Variables used in this C&RT (Classification and Regression Trees) analysis include most from freshman retention profile on previous slide, excluding the ASQ+ Survey and TFS (Freshman) Survey due to small N, and aggregate SMC credits and grades. Used C&RT (Classification and Regression Trees) data mining methodology via SPSS Trees module and not the much more expensive and sophisticated "Clementine" product. C&RT was more effective at parsing this data than the CHAID (Automatic Interaction Detector) data mining methodology also available in SPSS.

Student Withdrawal Survey
Non-Academic Reasons for Withdrawal in Freshmen and Sophomore Years

FALL 2009 AND FALL 2010 COHORT WD	09/FA	10/FA
Total # Withdrawals	120	88
Paper & Online WD Surveys	33	40

35%-40% of the freshmen entrants withdrawing in their freshman or sophomore years were in <u>academic difficulty</u>.
But what about the <u>other students who withdrew</u>? What were their reasons?

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We have data on students who leave due to Academic Difficulty, which means students who had been "placed on academic probation", "subject to dismissal", or "dismissed".

In analyzing withdrawal rates of students who had not been in academic difficulty, I looked at our freshman cohorts from 2009 and 2010.

I've combined data from two versions of a Student Withdrawal Survey. The first one was a cumbersome paper survey tool ; the second one electronic.

In short, the paper survey was replaced by an online survey in the hopes that (1) more students would participate in the survey, and, (2) more relevant data could be collected.

Withdrawn Students NOT in Academic Difficulty
Non-Academic Reasons for Withdrawal

Categories from withdrawal surveys (online & paper)	% 09/FA	% 10/FA
Roommate(s) conflicts	4%	10%
Experienced emotional problems while at SMC	31%	30%
Health-related issues/problem (family or personal)	12%	30%
Wanted to live nearer to parents or loved ones	23%	27%
Wanted to travel	19%	13%
The campus is too isolated / Felt alone or isolated	38%	47%
Courses were too difficult	12%	0%
Courses were too easy / Courses were not challenging	8%	0%
Unexpected expenses	15%	10%

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Percentages of the students responses show potential reasons for withdrawal from SMC within the first two (2) years.

One thing stands out in preliminary data collected from the fall 2009 and 2010:

Feelings of being "isolated" and the occurrences of emotional and health-related problems.

In addition, and contrary to the findings Sam pointed out earlier when he spoke of seniors who withdrew, is that money does not appear to be an issue for this group.

Withdrawn Students NOT in Academic Difficulty
Non-Academic Reasons for Withdrawal

Categories from withdrawal surveys (online & paper)	% 09/FA	% 10/FA
Uncertain about the value of a college education	23%	23%
Financial aid received was inadequate	15%	17%
Conflicts between work and school	8%	10%
Felt racial/ethnic tension	8%	3%
Not able to balance family responsibilities with school	12%	3%
Unhappy with College's rules and regulations	12%	3%
Dissatisfied with grades	12%	10%
Class scheduling problems	15%	7%
Academic advising (e.g., tutoring) was inadequate	8%	3%

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A few other reason cited on the withdrawal surveys.

Withdrawn Students NOT in Academic Difficulty
Relevant ASQ+ Survey Results

Categories from ASQ+ Surveys	09/FA	10/FA
Image of US: ISOLATED	35%	26%
Image of US: RELIGIOUS	22%	52%
Image of US: FUN	35%	52%
Image of US: NOT WELL-KNOWN	17%	43%
Image of US: ATHLETICS	39%	57%
Image of US: PARTYING	9%	0%
Image of US: EXCITING	26%	48%
QUALITY OF SOCIAL LIFE – Rating of US	3.50	3.39
OFF-CAMPUS ACTIVITIES – Rating of US	3.26	3.29
PROMINENT INTERCOLLEGIATE ATHLETICS – Rating of US	3.83	3.47
COST TO FAMILY – Rating of US	2.45	2.16

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Responses from the ASQ+ national survey show what this group of students felt about SMC PRIOR to attending.

Roughly 2/3rds in 2009 and 3/4ths in 2010 DID NOT feel that Saint Mary's was "isolated" before they got here.

"Fun" and "exciting" images of the College showed respectable percentages.

 Even the "Quality of Social Life" ratings of 3.50 and 3.39 (on a scale of 1 to 4) reflects promise.

Profile of Fall 2009 and Fall 2010 _Non-Retained Freshman_ by Whether they Left in Academic Difficulty

Categories from SMC Registrar/Data Files	NOT in Academic Difficulty	IN Academic Difficulty	Stat. Signif.
Number of Non-Retainees	122	66	
Male	44%	64%	$p < .01$
Female	56%	36%	$p < .01$
High Potential	16%	11%	$p < .01$
Catholic	41%	58%	$p < .05$
Scholarship Athlete	17%	3%	$p < .01$
First Semester SEMINAR Course "F", "I", "W" or "D"	8%	53%	$p < .001$
First Math Course "F", "I", "W" or "D"	6%	27%	$p < .001$
Intro. Chemistry 008 Course "F", "I", "W" or "D"	10%	20%	$p < .06$
Highest of SAT or ACT	1076	1069	Not Sig.
High School GPA	3.35	3.02	$p < .001$
Cumulative GPA – 1st Year	2.90	1.16	$p < .001$

Some interesting findings when comparing the demographics of students who were withdrew as a result of academic difficulty versus those who were not in academic difficulty:

1) Gender is interesting… More males than females withdrew due to academic difficulty; fewer males withdrew for non-academic reasons.

2) Greater percentages of Scholarship Athletes who left were NOT in academic difficulty

3) Over half (53%) of those who left in academic difficulty received "D", "F" or "I" or "W" grades in their first semester Seminar course.

4) Being in academic difficulty would not have been predicted from the SAT/ACT scores, though there are significant differences between the groups in High School GPA.

5) Again, the absence of any financial issues within this group is an interesting finding.

The Saint Mary's campus is picturesque and welcoming, nestled in the Moraga Valley 20 miles east of San Francisco.

ISOLATED   HOMESICK   NOTHING TO DO ON WEEKENDS

WANT TO TRAVEL   WANT TO LIVE CLOSER TO HOME

HEALTH PROBLEMS   FELT ALONE   EMOTIONAL PROBLEMS

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Here's what some of the survey responses were from our freshmen and sophomores who withdrew for reasons other than academic difficulty. Saint Mary's, in their eyes, is too "isolated".

Next Steps for "Fixing" Freshman Retention

ACTIONS *(TO DATE)* BY SMC STUDENT SUCCESS TASK FORCE:

- Preregister incoming students prior to Orientation, such that Orientation sessions can be used for modifications to first-semester course schedules as necessary, on an individual or small-group basis.

- Require complete declaration of major form by end-of-Freshman year, even if major is "undeclared".

More could follow after further review of data. Have not seen all of this data yet, especially the reasons for leaving have not been shared….

ACTION *TAKEN BY SMC ACADEMIC SENATE:*

- In a close vote, Senate approved adding "non-Western" courses to Seminar series.

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Uncertain how Senate action to liberalize the Seminar curriculum will impact retention.