

Metropolitan State University

**Increasing the Data to Ink Ratio:
Lessons from Edward Tufte**

AIRUM Annual Conference
October 27-28, 2011
Cynthia DeVore, Director of Institutional Research

www.metrostate.edu

SAINT PAUL CAMPUS • MINNEAPOLIS CAMPUS • MIDWAY CENTER • BROOKLYN PARK SITE

Agenda

- Vision at Metropolitan State University
- Objectives / Expectations
- Visionaries
- The “Greatest” example
- Two real examples from Metropolitan State University
- Future directions

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Human Beings

1. Don't like being read to if nonfictional content
2. Have great capacity to think and imagine and solve problems
3. Hate wasting time
4. Hate to be bored (see number 1)

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My Expectations

- 20% will have something to try Monday morning
- 50% will visit one of the websites in the next week
- 80% will view slide shows differently


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Devotees

VISUALIZATION OF DATA


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Visionaries

- Forrest W. Young
 - ViSta: the Visual Statistics System
<http://visualstats.org/>
- Hans Rosling
 - <http://youtu.be/jbkSRLYSojo>
- Alex Richards
 - <http://chronicle.com>
- Edward Tufte
- Charles Joseph Minard

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Charles Joseph Minard's Depiction of Napoleon's March to and from
Moscow

THE "GREATEST"

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"Supergraphic"

- Multivariate
- Provides reader individual, intuitive ways to access the information
- Relies on high resolution printers
- Larger paper a plus
- Not PowerPoint friendly
- Can use smaller fonts
- "Easily" replicated
- Works with those who are not "numbers" people

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Example 1

ACCESS, OPPORTUNITY, AND SUCCESS GRANT


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Students Served

Fiscal Year	Term	Under-represented*		Not Targeted		Total
		N	%	N	%	N
2007-2008	Spring 2008	93	63%	54	37%	147
	FY Total	93	63%	54	37%	147
2008-2009	Summer 2008	19	61%	12	39%	31
	Fall 2008	144	55%	118	45%	262
	Spring 2009	143	62%	87	38%	230
	FY Total	306	59%	217	41%	523
2009-2010	Fall 2009	193	71%	78	29%	271
	Spring 2010	159	65%	84	35%	243
	FY Total	352	68%	162	32%	514
2010-2011	Summer 2010	31	63%	18	37%	49
	Fall 2010	190	69%	85	31%	275
	Spring 2011	337	75%	110	25%	447
	FY Total	558	72%	213	28%	771
Total		1309	67%	646	33%	1955

*Under-represented students meet one of the following criteria: student of color, low income, first generation college student.

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Student Outcomes

	Fiscal Year	White	Minority	Difference	p
Course GPA	2007-2008	3.41	3.11	.31	<.001
	2008-2009	3.28	2.87	.41	<.001
	2009-2010	3.22	2.96	.26	<.001
	2010-2011	3.20	2.90	.30	<.001
Cumulative GPA	2007-2008	3.26	2.84	.42	<.001
	2008-2009	3.12	2.69	.43	<.001
	2009-2010	3.06	2.78	.28	<.001
	2010-2011	3.05	2.72	.33	<.001
Subsequently Enrolled	2007-2008	100%	100%	0%	.
	2008-2009	93%	89%	4%	.006
	2009-2010	85%	86%	-1%	.770
	2010-2011	69%	64%	5%	.003
Course Success	2007-2008	89%	80%	9%	.003
	2008-2009	84%	71%	13%	<.001
	2009-2010	82%	79%	3%	.183
	2010-2011	82%	75%	8%	<.001

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Outcomes by Intervention

	Fiscal Year	N			Mean			p
		AOS	non AOS	Total	AOS	non AOS	Total	
Course GPA	2007-2008	40	127	167	3.03	3.13	3.11	.437
	2008-2009	160	351	511	2.98	2.82	2.87	.050
	2009-2010	182	317	499	2.93	2.97	2.96	.587
	2010-2011	269	644	913	2.96	2.87	2.90	.184
Cumulative GPA	2007-2008	50	152	202	2.74	2.87	2.84	.368
	2008-2009	192	487	679	2.86	2.63	2.69	.002
	2009-2010	212	393	605	2.79	2.77	2.78	.812
	2010-2011	326	810	1136	2.69	2.73	2.72	.368
Subsequently Enrolled	2007-2008	50	153	203	100%	100%	100%	.
	2008-2009	197	491	688	92%	88%	89%	.139
	2009-2010	213	399	612	85%	86%	86%	.928
	2010-2011	330	821	1151	60%	66%	64%	.047
Course Success	2007-2008	50	153	203	76%	82%	80%	.382
	2008-2009	197	491	688	79%	68%	71%	.002
	2009-2010	213	399	612	85%	76%	79%	.007
	2010-2011	330	821	1151	78%	73%	75%	.079

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Outcomes within Intervention

	Fiscal Year	Not Targeted	Under-represented	Total	p
Course GPA	2007-2008	3.43	3.24	.19	.007
	2008-2009	3.26	3.05	.21	<.001
	2009-2010	3.20	3.07	.13	.004
	2010-2011	3.26	3.01	.26	<.001
Cumulative GPA	2007-2008	3.25	3.03	.22	.002
	2008-2009	3.13	2.85	.27	<.001
	2009-2010	3.07	2.89	.18	<.001
	2010-2011	3.12	2.83	.28	<.001
Subsequently Enrolled	2007-2008	100%	100%	0%	.
	2008-2009	93%	91%	2%	.107
	2009-2010	85%	85%	0%	.809
	2010-2011	68%	67%	1%	.680
Course Success	2007-2008	87%	85%	2%	.503
	2008-2009	87%	74%	12%	<.001
	2009-2010	84%	79%	5%	.008
	2010-2011	85%	77%	8%	<.001

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Outcomes for Under-represented Students by Treatment Group

Dependent Variable	Fiscal Year	AOS	non AOS	Difference	p
Course GPA	2007-2008	3.18	3.26	-.07	.441
	2008-2009	3.12	3.02	.10	.101
	2009-2010	3.03	3.10	-.07	.216
	2010-2011	3.12	2.97	.15	.001
Cumulative GPA	2007-2008	3.03	3.04	-.01	.910
	2008-2009	2.99	2.81	.18	.002
	2009-2010	2.88	2.89	-.01	.913
	2010-2011	2.83	2.84	-.01	.785
Subsequently Enrolled	2007-2008	100%	100%	0%	.
	2008-2009	92%	90%	2%	.273
	2009-2010	84%	86%	-2%	.486
	2010-2011	63%	69%	-6%	.010
Course Success	2007-2008	82%	86%	-4%	.324
	2008-2009	81%	72%	9%	.003
	2009-2010	85%	76%	9%	.001
	2010-2011	80%	76%	5%	.029

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Course GPA as an outcome a better way

- SPSS for data analysis
- Microsoft Word document
- Imbedded Excel bubble chart
 - X-coordinates manipulated to spread out values
- Tables formatted in columns

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Example 2

REPORTING CLIMATE (RACISM) SURVEY RESULTS

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The Challenges

- Passionate topic
- High visibility
- Color choices significant
- Unquestionable integrity of the analysis

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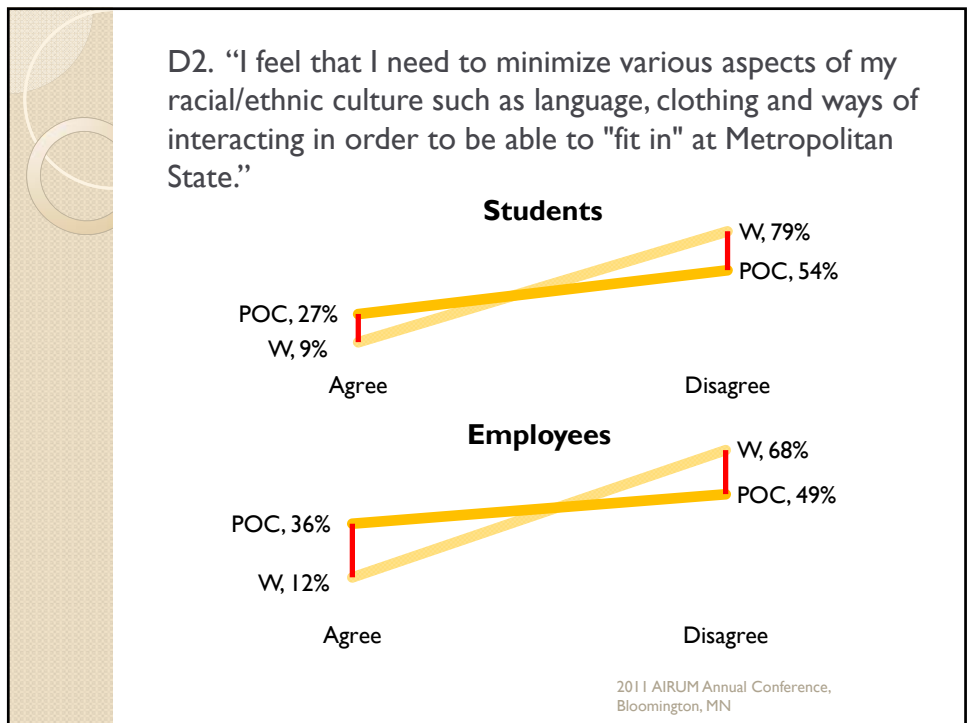
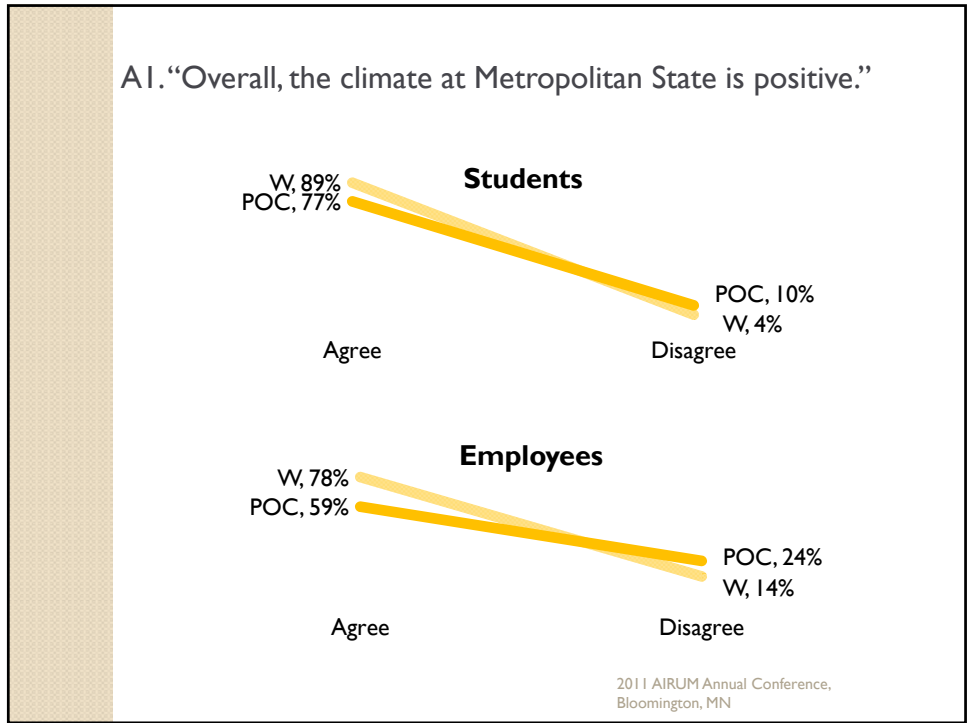
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How it was done

- SPSS for Chi-square tests and initial formatting
- Microsoft Word with imbedded Excel spreadsheet (workbook)
- Excel conditional formatting
- Same scale for all responses
- Specialized PowerPoint format for presentation

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Were My Expectations Met?

- 20% will have something to try Monday morning
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This slide is enclosed in a double-line border. It contains a list of three bullet points and a footer with the conference name and the university's logo and tagline.

More information



- <http://dataslice.custhelp.com/>
- Answers #545, 533

Should this be expanded to a
hands-on AIR pre-forum workshop?

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Increasing the Data to Ink Ratio: Lessons from Edward Tufte
 Cynthia DeVore, Director of Institutional Research, Metropolitan State University
<http://www.metrostate.edu/msweb/choose/oir/index.html>

THE WORK OF EDWARD TUFTTE AND GRAPHICS PRESS
 GRAPHICS PRESS LLC P.O. BOX 430 CHESHIRE, CT 06410 800 822-2454

ET Modern, my new museum/gallery, is open Wednesday through Saturday, 10.00am to 6.00pm, 547 West 20th Street, corner of West 20th Street and 11th Avenue, in New York's Chelsea art district, 212 206-0300. The third major exhibit, *Floats*, displays artworks that reveal the enormous multiplicity of optical experiences generated by three-dimensional sculptures residing in varying light. ET gives artist tours at ET Modern on most Saturdays from 11.00am to 6.00pm. Ad hoc tours are given on some Fridays. Exhibit information is [here](#).



On Saturday November 12 at 4.00pm Edward Tufte will conduct an open forum answering questions about analytical design, art, the creative process, and public service. Free event, ET Modern.

ET sculpture show (5 outdoor works) at George Champion Modern Shop, in Woodbury, Connecticut 06798.

Four video interviews, *Washington Post*, June 2011, ET on [government transparency](#), [analytical thinking](#), [recognizing excellence](#), and [a sense of the relevant](#). Long article in *Washington Monthly*, June 2011, about ET in Washington. **Edward Tufte Presidential appointment announced by White House** *NYTimes*, *Business Week*, *Newsweek*, *Washington Post 1, 2*, *NPR*

**PRESENTING DATA AND INFORMATION:
 A ONE-DAY COURSE TAUGHT BY EDWARD TUFTTE**

Topics covered in this [one-day course](#) include: How to make effective, credible presentations. Fundamental strategies of analytical design. Evaluating evidence used in presentations. Statistical data: tables, graphics, and semigraphics. Business, scientific, research, and financial presentations. Complexity and clarity. Interface design. Use of PowerPoint, video, handouts. Multimedia, websites, animation, scientific visualizations. Many practical examples.

Edward Tufte teaches the entire course. Each student receives all four ET books on information design:



"One visionary day...the insights of this class lead to new levels of understanding both for creators and viewers of visual displays." *WIRED* "The Leonardo da Vinci of data." *THE NEW YORK TIMES* "The Galileo of graphics." *BUSINESS WEEK*

Hyattsville, MD	Nov 8, 2011		
Arlington, VA	Nov 10, 2011	Nov 11, 2011	
San Jose, CA	Dec 5, 2011		
San Francisco, CA	Dec 6, 2011	Dec 7, 2011	Dec 8, 2011
Oakland, CA	Dec 12, 2011		

MODERN



"The man known as ET is an accomplished grand scale sculptor. ... ET's gallery in Chelsea has the look of what might be a playroom for children - at MIT."

Scott Simon, "The Many Faces (And Sculptures) of Edward Tufte," NPR

ART: ET NOTEBOOKS

- Masks Quartet, casting, 2011
- Philosophical Diamond Signs
- Paris1907, forging, 2011
- Artful Feynman Diagrams
- Larkin's Twig



- Rocket Science #2 (Lunar Lander)
- Millstone sculpture, 1-8
- Bouquet sculptures
- Stainless steel engravings
- Buddha with Bird Nest, sculpture
- Rocket Science #1 (Spacecraft)



Magritte's Smile (giant fish)

EDWARD TUFTTE
SCULPTURE FORGINGS



- Sculpture forgings (blacksmith work)
- Sheep visit landscape sculpture

- Tong Bird of Paradise
- Museo-Theater sculptures
- Drawing Center show: ET art
- Spring Arcs, landscape artwork
- Dogs-art: Whose hermeneutic?
- Beautiful Evidence chronicles
- Alley Art
- Geese taking flight (300 frames/second)

- Dog sculptures
- Airspaces sculpture

- Flame Theater
- Scaling and scale models
- Designing a museum garden

- Pioneer space plaque
- Bookprints: 16 new prints
- Table sculptures
- Hogpen Hill #1 landscape sculpture
- Skewed Machine sculpture
- Porta and the Birros (300 frames/second)
- 12 reviews, ET art exhibits
- ZZ Smile (Zerlina's Smile) sculpture

- Babar's dream
- Cubism in medieval France zoning?
- Horizons, vistas, and skylines

- Seeing Around: new ET essay
- Long interview with ET
- Sculpture theory and practice

- Wavefields: HD video data-graphics
- Book design, advice and examples
- Bird Series
- Towers sculpture
- Art Theorists Speak Out Cartoonishly
- Dear Leader sculpture

- Dappled light
- Frank Gehry's ever-changing light
- Elegant water drainage methods: Levi Plaza in San Francisco and elsewhere
- Edge Fluting

SCIENCE: ET NOTEBOOKS

- Sparkline theory and practice
- Sparkline - Steve Jobs - Andy Warhol in Google results
- Slopegraphs for comparing gradients: Slopegraph theory and practice
- Philosophical Diamond Signs

The shape of Saturn is thus as shown
 Saturn Images in Galileo's text
 PowerPoint does rocket science + better techniques for technical reports
 Lousy PowerPoint: Fault of PP users?



- Wavefields: HD video data-graphics
- ET book free PDF: Data Analysis for Policy
- Dashboards: decision displays
- London Underground maps

- Music Animation Machine
- Instructions at the point of need
- Mapped pictures: image annotation
- Lists: design theory and practice
- Artful Feynman Diagrams
- Cancer survival rates: tables, graphs
- Feynman-Tufte principle
- Advice for effective analytical reasoning
- iPhone interface design
- Analytical design and human factors
- Presentation Metaphors: Conway's Law
- Dequantification in scientific images

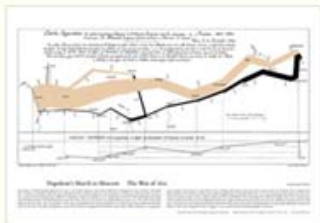
- Megan Jaegerman's brilliant news graphics
- Geese taking flight (300 frames/second)
- Links, networks, causal diagrams
- Microsoft CEO wants ET methods, not PowerPoint!
- Patient-doctor data exchange
- Beautiful Evidence chronicles
- Plagiarism in PP presentations
- Grand truths about human behavior

- Seeing Around: new ET essay
- Project management (Gantt) graphics
- Moderating forums: what's smart, not new

- Pioneer space plaque
- Corrupt presentation techniques
- The magical number 7, plus/minus 2
- Feynman: "Nature cannot be fooled"
- Data displays for self-awareness
- Charles Joseph Minard (1781-1870)
- Sparklines: computer implementations
- Book design: advice and examples

- Dappled light
- Windows phone interface design
- Field color charts: salmon, leaf, dog, ...
- Airport maps and runway incursions
- Galileo sunspot movie (shown in ET course)
- Public concerts: music always too loud?
- Not spying on users should be a feature
- Horizons, vistas, and skylines
- Fudged photos: Mars, OJ, stem-cells, ...
- Minard's data sources
- Visual notation of bird songs
- Washington Post puts map in global context
- Single-number semi-tables for news illustrations
- A visit to John Snow's cholera-infected waterpump in London

POSTERS, ESSAYS, GRAPH PAPER



NAPOLEON'S MARCH POSTER



TRANSLATED NAPOLEON'S MARCH POSTER



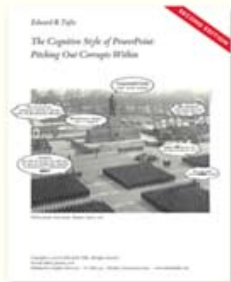
HISTORIC VISUAL DIARY OF SPACEFLIGHT:
CYCLOGRAM POSTER



ESSAY: SEEING AROUND



TEXTBOOKLET: VISUAL AND
STATISTICAL THINKING



ESSAY: THE COGNITIVE STYLE
OF POWERPOINT: PITCHING
OUT CORRUPTS WITHIN

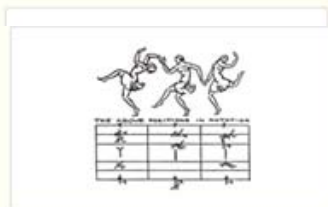


ARCHIVAL GRAPH PAPER FOR
ARTISTS AND SCIENTISTS

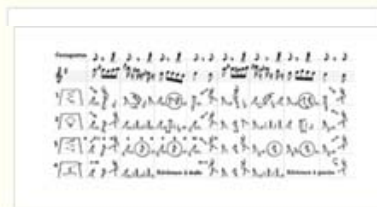
FINE ART PRINTS



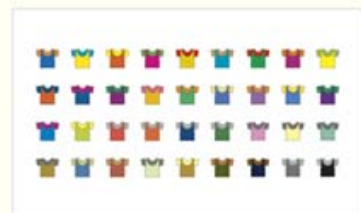
AIRPORT SIGNAL PEOPLE



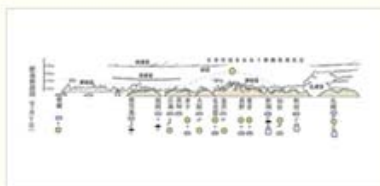
THREE DANCERS WITH DANCE NOTATION



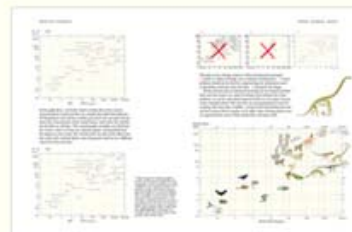
MUSICAL SCORE WITH DANCE NOTATION



TEE-SHIRTS



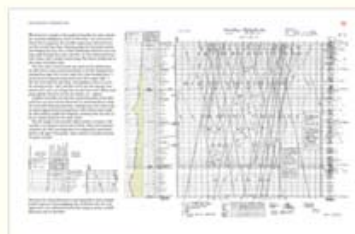
JAPANESE WEATHER MAP



LOG ANIMALS



WINE GLASSES



JAVA RAILROAD



ESCAPING FLATLAND

GRAPHICS PRESS LLC P.O. BOX 430 CHESHIRE, CT 06410 800 822-2454 or 203 272-9187 FAX 203 272-8600

Website designers: Edward Tufte and [Darlane Hunt](#) Developer: Jin Choi Technology: [ArsDigita Community System](#)
Photograph of ET: Robert Del Tredici

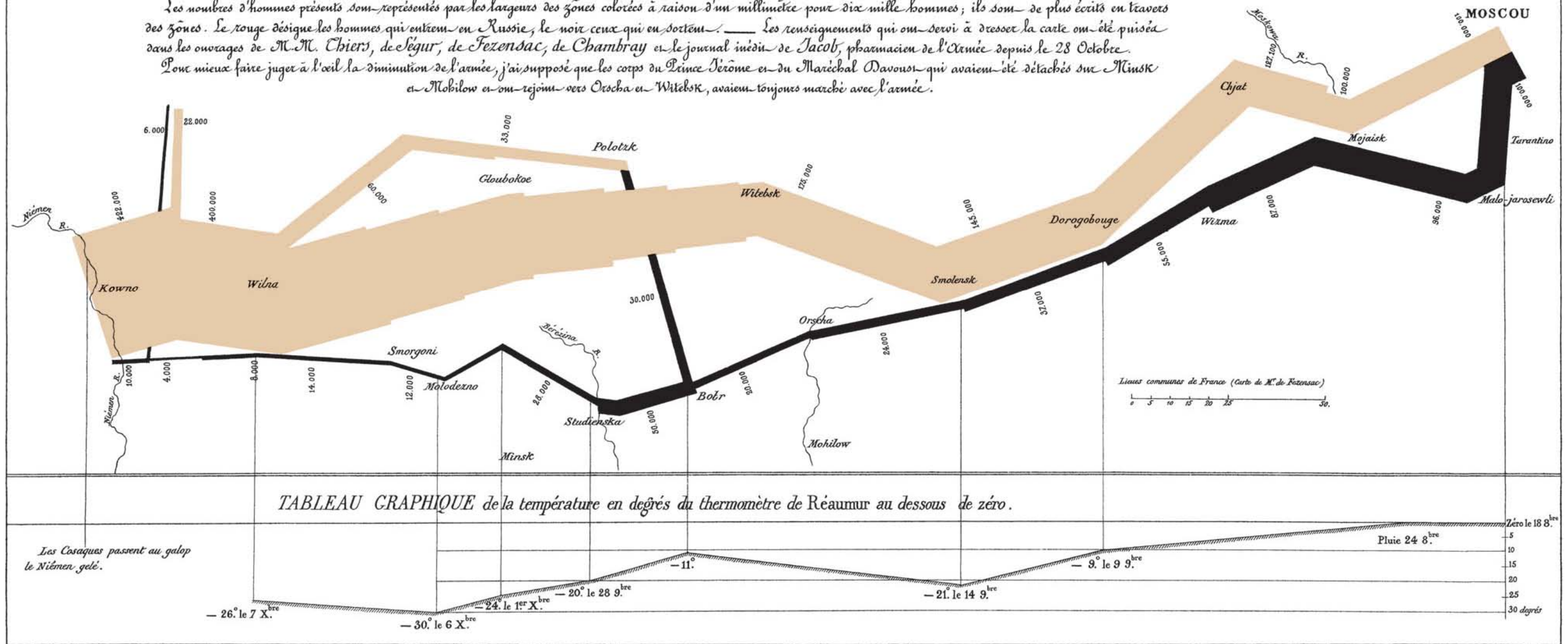
All text and images at this website are copyright © by Edward R. Tufte or by original copyright holders. Material from this website may be reproduced only with the permission of the publisher, Graphics Press LLC.

Carte Figurative des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.

Dressée par M. Minard, Inspecteur Général des Ponts et Chaussées en retraite. Paris, le 20 Novembre 1869.

Les nombres d'hommes présents sont représentés par les largeurs des zones colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en travers des zones. Le rouge désigne les hommes qui entrent en Russie, le noir ceux qui en sortent. — Les renseignements qui ont servi à dresser la carte ont été puisés dans les ouvrages de M.M. Thiers, de Ségur, de Fezensac, de Chambray et le journal inédit de Jacob, pharmacien de l'Armée depuis le 28 Octobre.

Pour mieux faire juger à l'œil la diminution de l'armée, j'ai supposé que les corps du Prince Jérôme et du Maréchal Davout qui avaient été détachés sur Minsk et Mohilow et qui rejoignent vers Orscha et Witebsk, avaient toujours marché avec l'armée.



Autog. par Regnier, 8. Pas. 5^{te} Marie 5^{te} G^{de} à Paris.

Imp. Lith. Regnier et Dourdet.

Can you find the six variables?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Figurative Map of the successive losses in men of the French Army in the Russian campaign 1812 - 1813.

Drawn up by M. Minard, Inspector General of Bridges and Roads in retirement.

Paris, November 20, 1869

The numbers of men present are represented by the widths of the colored zones at a rate of one millimeter for every ten thousand men; they are further written across the zones. The red designates the men who enter into Russia, the black those who leave it. — The information which has served to draw up the map has been extracted from the works of M.M. Thiers, of Ségur, of Fezensac, of Chambray and the unpublished diary of Jacob, pharmacist of the Army since October 28th.

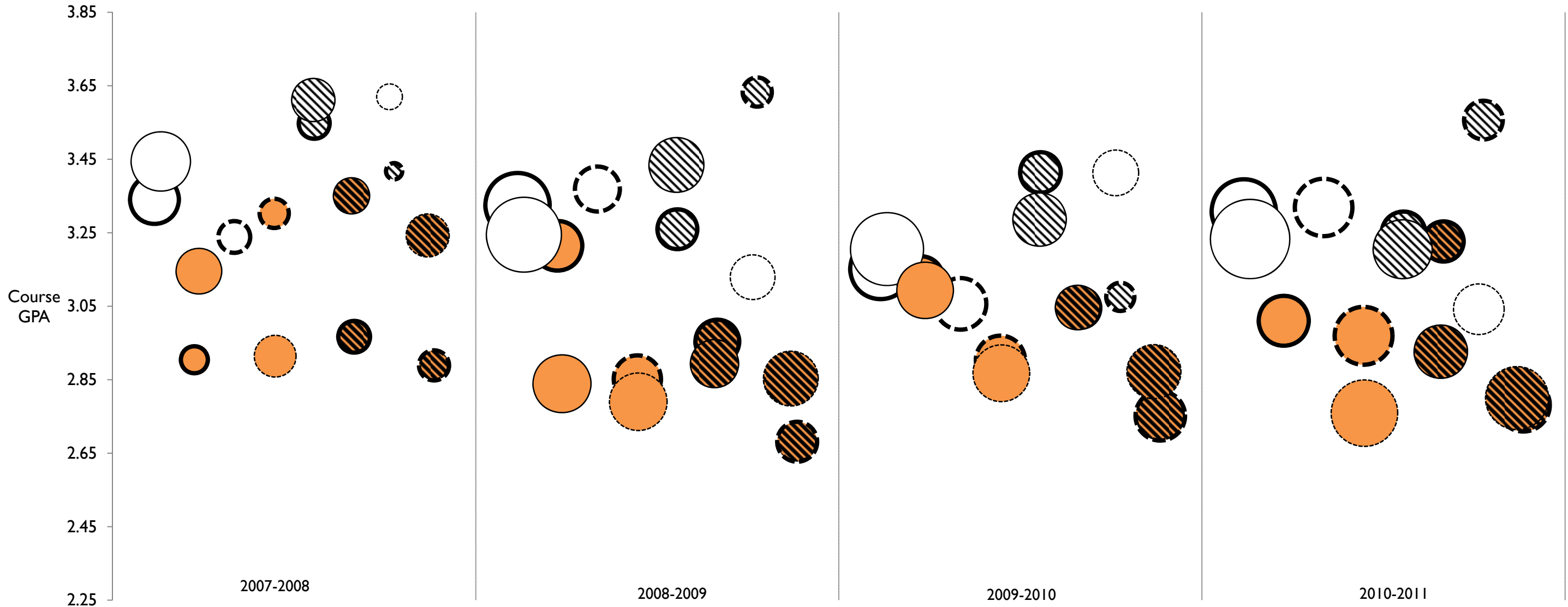
In order to better judge with the eye the diminution of the army, I have assumed that the troops of Prince Jérôme and of Marshal Davout who had been detached at Minsk and Mohilow and have rejoined around Orscha and Witebsk, had always marched with the army.

English translation by Dawn Finley from *Beautiful Evidence*, Edward Tufte. Used with permission.

Access, Opportunity, and Success (AOS) grants were first offered in FY2008 for the express purpose of increasing the number of under-represented students (students of color and/or low income, and/or first generation to complete college). Metropolitan State University used its grant to hire instructors in key lower division math and writing courses. In addition, "Access" faculty received special training.

The diameter of each circle reflects the relative size of each comparison group.

Outcome Measures



Year	Group	GPA	SOC	Low Inc	1st Gen	AOS	non AOS	N
2007-2008	Access AOS	2.89	SOC	Low Inc	Ist Gen	AOS		13
		2.90		Low Inc	Ist Gen	AOS		10
	Not Access non AOS	2.91	SOC	Low Inc		non AOS		35
		2.97	SOC		Ist Gen	AOS		15
	Student of Color SOC	3.15		Low Inc	Ist Gen	non AOS		49
		3.24		Low Inc		AOS c		15
		3.24	SOC	Low Inc	Ist Gen	non AOS		39
		3.30	SOC	Low Inc		AOS		12
		3.33		Low Inc		non AOS		48
		3.34	SOC	Low Inc	Ist Gen	AOS		64
		3.35	SOC		Ist Gen	non AOS		22
		3.42		Low Inc	Ist Gen	AOS		4
		3.44	SOC	Low Inc	Ist Gen	non AOS		158
		3.55			Ist Gen	AOS		14
		3.61			Ist Gen	non AOS		40
3.62		Low Inc	Ist Gen	non AOS		9		
2008-2009	Access AOS	2.68	SOC	Low Inc	Ist Gen	AOS		30
		2.79	SOC	Low Inc		non AOS		135
	Not Access non AOS	2.84		Low Inc	Ist Gen	non AOS		140
		2.85	SOC	Low Inc		AOS		56
	Student of Color SOC	2.85	SOC	Low Inc	Ist Gen	non AOS		106
		2.89	SOC		Ist Gen	non AOS		61
		2.95	SOC		Ist Gen	AOS		42
		3.13		Low Inc	Ist Gen	non AOS		45
		3.16		Low Inc		non AOS		133
		3.21		Low Inc	Ist Gen	AOS		69
		3.24	SOC	Low Inc	Ist Gen	non AOS		602
		3.26			Ist Gen	AOS		30
		3.33	SOC	Low Inc	Ist Gen	AOS		238
		3.37		Low Inc		AOS		46
		3.43			Ist Gen	non AOS		108
3.63			Low Inc	Ist Gen	AOS		12	
2009-2010		Access AOS	2.75	SOC	Low Inc	Ist Gen	AOS	
	2.87		SOC	Low Inc		non AOS		126
	Not Access non AOS	2.87	SOC	Low Inc	Ist Gen	non AOS		100
		2.90	SOC	Low Inc		AOS		66
	Student of Color SOC	3.05	SOC		Ist Gen	AOS		30
		3.05	SOC		Ist Gen	non AOS		45
		3.06		Low Inc		AOS		81
		3.08		Low Inc	Ist Gen	AOS		11
		3.09		Low Inc	Ist Gen	non AOS		124
		3.12		Low Inc	Ist Gen	AOS		49
		3.15	SOC	Low Inc	Ist Gen	AOS		177
		3.19		Low Inc		non AOS		151
		3.21	SOC	Low Inc	Ist Gen	non AOS		507
		3.29			Ist Gen	non AOS		95
		3.41		Low Inc	Ist Gen	non AOS		49
3.41				Ist Gen	AOS		32	
2010-2011		Access AOS	2.76	SOC	Low Inc		non AOS	
	2.78		SOC	Low Inc	Ist Gen	AOS		90
	Not Access non AOS	2.80	SOC	Low Inc	Ist Gen	non AOS		214
		2.93	SOC		Ist Gen	non AOS		95
	Student of Color SOC	2.97	SOC	Low Inc		AOS		138
		3.01		Low Inc	Ist Gen	AOS		71
		3.02		Low Inc		non AOS		414
		3.04		Low Inc	Ist Gen	non AOS		75
		3.05		Low Inc	Ist Gen	non AOS		212
		3.21			Ist Gen	non AOS		153
		3.23	SOC		Ist Gen	AOS		31
		3.23	SOC	Low Inc	Ist Gen	non AOS		863
		3.25			Ist Gen	AOS		42
		3.31	SOC	Low Inc	Ist Gen	AOS		238
		3.32		Low Inc		AOS		134
3.56			Low Inc	Ist Gen	AOS		27	

STUDENT AND EMPLOYEE RESPONSES TO 2011 CLIMATE SURVEYS

All respondents were asked "Which one of the following two broad racial categories are you most often identified by society?"

Options	Group Code
Person of Color	POC
White	W
	?

Bold and underlined sets of values for POC and W are statistically different at $p < 0.01$

N = Total number of responses in a group

All Metropolitan State University students (N=7955) and employees (N=1071) were invited via official email to participate in an online survey administered through SurveyMonkey during the month of April 2011. The initial email came from the President. Subsequent reminders were sent via several methods. Response rate for students and employees were 8% and 44%, respectively.

A. Climate

Question	Student				Employee					
	Group Code	Strongly Agree or Agree	Neutral or Do not know	Strongly Disagree or Disagree	N	Group Code	Strongly Agree or Agree	Neutral or Do not know	Strongly Disagree or Disagree	N
A1. Overall, the climate at Metropolitan State is positive.	POC	77%	12%	10%	164	POC	59%	17%	24%	70
	W	89%	6%	4%	361	W	76%	10%	14%	215
	?	64%	29%	7%	14	?	67%	21%	13%	24
A2. I would recommend Metropolitan State to people of color as a supportive environment in which to study.	POC	74%	15%	12%	164	POC	68%	25%	7%	69
	W	79%	20%	1%	355	W	81%	16%	3%	214
	?	74%	17%	9%	54	?	75%	24%	1%	102
A3. I would recommend Metropolitan State to people of color as a supportive environment in which to work.	POC	49%	30%	21%	70	POC	49%	30%	21%	70
	W	67%	26%	7%	215	W	67%	26%	7%	215
	?	62%	35%	3%	103	?	62%	35%	3%	103
A4. I fear being demoted, fired or encouraged to leave my job at the University.	POC	21%	26%	53%	68	POC	21%	26%	53%	68
	W	12%	33%	55%	213	W	12%	33%	55%	213
	?	8%	61%	32%	66	?	8%	61%	32%	66

Questions not on student survey

B. Climate & Mission

Question	Student				Employee					
	Group Code	Strongly Agree or Agree	Neutral or Do not know	Strongly Disagree or Disagree	N	Group Code	Strongly Agree or Agree	Neutral or Do not know	Strongly Disagree or Disagree	N
B1. I am concerned that personnel changes at the University within the past two years reflect movement away from the institution's mission.	POC	44%	40%	16%	68	POC	44%	40%	16%	68
	W	18%	51%	31%	213	W	18%	51%	31%	213
	?	26%	39%	35%	23	?	26%	39%	35%	23
B2. Overall changes being made at the university are positive in relation to its urban mission.	POC	39%	33%	29%	70	POC	39%	33%	29%	70
	W	49%	37%	15%	213	W	49%	37%	15%	213
	?	34%	50%	16%	32	?	34%	50%	16%	32
B3. Metropolitan State is moving away from its urban mission of providing access to "underserved groups" including "communities of color."	POC	43%	33%	24%	70	POC	43%	33%	24%	70
	W	17%	40%	43%	212	W	17%	40%	43%	212
	?	17%	43%	39%	23	?	17%	43%	39%	23

Questions not on student survey

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Our institution is more than happy to share the items used for this survey, but the connection between the items and the responses from our university community are not public.

C. Knowledge & Understanding

Question	Student				Employee					
	Group Code	Strongly Agree or Agree	Neutral or Do not know	Strongly Disagree or Disagree	N	Group Code	Strongly Agree or Agree	Neutral or Do not know	Strongly Disagree or Disagree	N
C1. My experiences since coming to Metropolitan State have made me more understanding of racial/ethnic differences.	POC	65%	18%	16%	164	POC	71%	12%	17%	69
	W	65%	23%	13%	360	W	69%	22%	9%	214
	?	50%	36%	15%	103	?	60%	27%	13%	179
C2. Faculty and staff are knowledgeable about the diverse life experiences of students of color.	POC	58%	20%	22%	165	POC	41%	27%	31%	70
	W	64%	31%	5%	359	W	52%	33%	15%	214
	?	53%	24%	24%	68	?	61%	34%	4%	179
C3. Students are knowledgeable about the diverse life experiences of people of color.	POC	44%	32%	25%	165	POC	33%	36%	31%	70
	W	55%	34%	11%	357	W	43%	41%	16%	213
	?	52%	26%	22%	69	?	46%	45%	9%	177
C4. I consider myself color-blind; that is, when I interact with people I do not see their color and/or racial differences.	POC	55%	11%	34%	163	POC	38%	10%	52%	69
	W	66%	8%	25%	357	W	54%	15%	32%	213
	?	58%	22%	20%	50	?	60%	14%	26%	104

Racism as a Problem

Question	Student				Employee					
	Group Code	Strongly Agree or Agree	Neutral or Do not know	Strongly Disagree or Disagree	N	Group Code	Strongly Agree or Agree	Neutral or Do not know	Strongly Disagree or Disagree	N
1. Racism is a problem in the Twin Cities metropolitan area.	POC	63%	24%	13%	164	POC	83%	12%	6%	69
	W	58%	26%	16%	357	W	65%	16%	19%	214
	?	57%	30%	13%	46	?	59%	26%	15%	98
2. Racism is a problem at Metropolitan State.	POC	26%	39%	35%	164	POC	47%	30%	23%	70
	W	8%	41%	51%	359	W	19%	32%	48%	213
	?	11%	41%	48%	46	?	10%	41%	49%	98
3. Interpersonal racism (i.e., discrimination of individuals of color by White individuals) is a problem at Metropolitan State.	POC	21%	40%	38%	164	POC	34%	37%	29%	70
	W	4%	30%	66%	357	W	11%	27%	61%	212
	?	10%	30%	60%	30	?	6%	37%	57%	79
4. Unintentional racism (i.e., racial discrimination that isn't conscious) is a problem at Metropolitan State.	POC	35%	41%	24%	164	POC	60%	26%	14%	70
	W	17%	39%	44%	357	W	23%	39%	38%	213
	?	31%	28%	41%	29	?	18%	46%	37%	79
5. Institutional racism (i.e., discrimination of people of color due to structures, policies and culture of the institution) is a problem at Metropolitan State.	POC	19%	41%	40%	163	POC	46%	29%	26%	70
	W	6%	35%	59%	357	W	15%	31%	54%	212
	?	17%	20%	63%	30	?	10%	42%	48%	79