STEM Gateway Peer Learning Facilitator (PLF) Program

Resources for Teaching and Learning

2012-2017

Project for Inclusive Undergraduate STEM Success

The University of New Mexico STEM Gateway program in funded through a U.S. Department of Education of Education TITLE V grant, 2011-2016 (total anticipated funding $3.82 million).

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STEM Gateway

Course Redesign Teaching Professional Development Program:

Peer Learning Facilitator

1. … identify academic issues in STEM student populations and recognize “gateway” courses in STEM that may benefit from course redesign.
2. …outline expectations for peer learning facilitators (PLFs) and PLF instructors.
3. …optimize/maximize usage of peer learning facilitators (PLFs) in classrooms.
4. …select training content for PLFs according to needs that provide impetus for active learning style in courses and subsequently adapt training according to needs of PLF cohort.
5. …design evaluation strategies to identify outcomes.
6. …use data to inform on applicability and efficacy of PLFs to identify modifications and implementation of such.
7. …develop alternatives for sustaining the PLF program in courses that opted for incorporation of PLFs for course redesign.

STEM GATEWAY

Project for Inclusive Undergraduate STEM Success

STEM Gateway

Peer Learning Facilitator Program

Part I: Identifying the Problem and a Possible Solution

After completing this session of the institute, program coordinator will be able to…

…identify academic issues in STEM student populations and recognize "gateway" courses in STEM that may benefit from course redesign.

…outline expectations for peer learning facilitators (PLFs) and PLF instructors.

…optimize/maximize usage of peer learning facilitators (PLFs) in classrooms.

Project for Inclusive
Undergraduate STEM Success

The University of New Mexico (UNM) is unique in that it caters to a high percentage of minority students, identifying it as a minority-majority institution. Nonetheless, research that tracked 1503 first-time full-time freshman students interested in STEM degrees identified that White, Non-Hispanic are still at the highest percentage (46.2%) for opting to enroll into STEM degrees, followed by Hispanics (35.5%) to then drop drastically for other minority groups (~6-2%; American Indian, Asian/Pacific Islander/Native Hawaiian/ Black/African American). Even more astonishing is the finding that 42.5% of the total cohort switched to a different degree while 29.6% stopped pursuing a degree all together with this incidences occurring most in the freshman/sophomore students. (Tim Schroeder, Provost Committee on Academic Student Success).

This identified a struggle in the STEM student population at UNM providing impetus for further exploration of STEM “gateway” courses in STEM degrees. STEM gateway courses are defined as entry level program-requirement courses that provide basic but crucial knowledge that is fundamental for student advancement and success when pursuing a STEM degree. Expanding knowledge of teaching curriculum and restructure of such courses aids UNM in distinguishing what works and what needs to be redesign in order to support struggling students.

New Mexico Higher Education Assessment and Retention Conference, February 2014

Stop, Switch or Stay:

Research into STEM persistence at the University of New Mexico

UNM STEM GATEWAY

INTRODUCTIONS

TIM SCHROEDER
Project Director, STEM Gateway Program
UNIVERSITY OF NEW MEXICO
timschroeder@unm.edu, 505-277-1761

VICKY DUEER
Senior Institutional Researcher, Office of Institutional Analytics
UNIVERSITY OF NEW MEXICO
vjdueer@unm.edu, 505-277-7657

PATRICK COULOMBE
Graduate Assistant, STEM Gateway Program
UNIVERSITY OF NEW MEXICO
patc@unm.edu

UNM

STEM GATEWAY

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WEBSITE

http://stemgateway.unm.edu

For PDF of today's presentation…
Click on first link "To learn more about the STEM Gateway Program, click here"
Click on the "Research" tab along the top
Click on "NMHEAR Presentation (long or short)"

For PDF of "Stop, Switch or Graduate" briefings…
Click on first link "To learn more about the STEM Gateway Program, click here"
Click on the "Research" tab along the top
Scroll down to the description of "Stop, Switch or Graduate" study, click on "Briefing 1" and/or "Briefing 2"

OR, FOLLOW THE DIRECT URL AT THE TOP OF EACH SLIDE

http://unmstemgateway.blogspot.com/p/research-project.html

GATEWAY

MISSION OF STEM GATEWAY:
- Improve STEM instruction and student support at the University of New Mexico
- Improve STEM graduation rates among Hispanic and/or low-income students

GRANT OVERVIEW:
- Funded by US Depart of Education Hispanic Serving Institution STEM Program
- $3.8 million over five years
- October 2011 through September 2016

Project Team

- Patrick Coulombe, Graduate Assistant, STEM Gateway, University of New Mexico
- Vicky Dueer, Senior Institutional Researcher (former STEM Gateway Institutional Researcher), University of New Mexico
- Phil Handwerk, formerly Office of Institutional Analytics, University of New Mexico
- Heidi Rodenbeck, formerly STEM Institutional Researcher, Office of Institutional Analytics
- Danielle Rudder, Graduate Assistant, STEM Gateway, University of New Mexico
- Tim Schroeder, Project Director, STEM Gateway
- Gary Smith, Principal Investigator, STEM Gateway, University of New Mexico
- Terry Turner, Office of Institutional Analytics, University of New Mexico

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Goal of this Study

OUR GOAL IS TO STUDY THE UNM STEM UNDERGRADUATE STUDENT EXPERIENCE FROM BEGINNING TO END, AND WITH A REASONABLE EXPECTATION OF A MAXIMUM SIX YEAR TIME TO GRADUATION.

This information will be used to improve the STEM education experience at UNM.

This data should not be used to blame departments or individuals in any way. Our data does not go deep enough to draw such conclusions.

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Definition of STEM

For the purpose of this study, STEM (Science, Technology, Engineering and Mathematics) degrees are defined narrowly as those bachelor's degrees within the following disciplines: astrophysics, biology, biochemistry, chemistry, computer science, earth & planetary sciences, engineering (all majors), environmental science, mathematics, physics, and statistics.

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STOP, SWITCH OR STAY…

Research Questions

Explores STEM degree completion patterns at UNM through two primary lenses:

Degree outcomes. How do undergraduate students who graduate with STEM degrees differ from those who switch majors out of STEM, and from those who stop attending UNM prior to completing their degrees?

Course outcomes. How do undergraduate STEM students perform in the core math & science gateway courses that lead into their STEM degrees?

POPULATION DESCRIPTION / DEFINITIONS

For both of these lenses, we studied:

- 1503 **first-time full-time freshmen** students from the falls of 2005, 2006 and 2007 …
- **who initially stated they were interested in STEM degrees …**
- **representing 16.6% of the freshman population during these three fall semesters**.

These students indicated an interest in STEM majors when completing their admissions applications, or when visiting with academic advisors during their first semesters.

DEGREE OUTCOMES LENS

Student Outcomes

This portion of the study seeks to identify patterns regarding four subsets of STEM students from the 2005, 2006 and 2007 cohorts as described above:

- **ENROLLED:** Students who are still enrolled in courses at UNM, and who indicate that as of Fall 2012 they were still working towards STEM degrees.
- **GRADUATED:** Students who graduated with STEM degrees prior to the Fall 2012 semester
- **SHIFTED:** Students who switched out of STEM areas, but who continued taking courses at UNM. These students may or may not have graduated with degrees in non-STEM disciplines.
- **STOPPED:** Students who stopped attending courses at UNM.

Table 1. Overview of Population	
Total Number of Students	1503
Number of students who changed majors out of STEM (SHIFTED)	639 (42.5%)
Number of students who graduated with STEM degrees (GRADUATED)	**334 (22.2%)**
Number of students who stopped attending UNM (STOPPED)	444 (29.6%)
Number of students still enrolled at UNM (ENROLLED)	86 (5.7%)

DEGREE OUTCOMES LENS

Variables

This study attempts to define patterns related to each group that could help UNM identify for whom the status quo is working best and for whom we most need to redesign the ways that we teach and support students. In exploring these patterns, we considered the following student variables:

- Ethnicity
- Gender
- Pell eligibility and median estimated family contribution (family income level)
- Lottery scholarship status
- First generation college student status
- Average high school GPA
- Average ACT scores
- ACT scores and high school GPAs correlated to account for possible grade inflation
- Cumulative college GPA at most recent semester completed
- Average number of semesters taken to matriculate into a STEM program
- Average number of remedial courses completed
- Number of credit hours completed at the time of shifting out of STEM (for "shifted" and "stopped" subgroups only)
- Number of semesters completed at the time of shifting out of STEM (for "shifted" and "stopped" subgroups only)
- Cumulative UNM GPA when shifting out of STEM (for "shifted" and "stopped" subgroups only)

COURSE OUTCOMES LENS

Definition for STEM Gateway Courses

For purposes of the STEM Gateway Title V Program, STEM Gateway Courses are defined as those which meet at least one of the following criteria:

- Entry level (100 and 200 level) program-requirement courses that lead to degrees in the approved STEM disciplines
- Companion courses (labs, problem solving courses, etc) that are connected to Core Requirement or Program Requirement courses (as specified above)
- Pre-requisite courses that are required by students to take Core Requirement or Program Requirement courses (as specified above)
- Large-enrollment (>500 students/year) courses required for degrees in the approved STEM disciplines and typically taken within the first two years in the field.

GATEWAY COURSES STUDIED

BIO	201	Molecular Cell Biology
BIO	202	Genetics
BIO	203	Ecology and Evolution
CHEM	121	General Chemistry I
CHEM	122	General Chemistry II
CHEM	123	General Chemistry I LAB
CHEM	124	General Chemistry II LAB
CHEM	301	Organic Chemistry
CHEM	302	Organic Chemistry
CHEM	303	Organic Chemistry LAB
CHEM	304	Organic Chemistry LAB
CS	152	Computer Programming Fundamentals
ECE	131	Program Fundamentals
ENVS	101	The Blue Planet
ENVS	102	The Blue Planet LAB
EPS	101	Intro Geology, How Earth Works
EPS	105	Physical Geology LAB
EPS	201	Earth History

GATEWAY COURSES STUDIED, continued

MATH	107	Problems in College Algebra
MATH	110	Problems in Elementary Calculus
MATH	120	Intermediate Algebra
MATH	121	College Algebra
MATH	123	Trigonometry
MATH	150	Pre-Calculus Math
MATH	162	Calculus I
MATH	163	Calculus II
MATH	180	Elements of Calculus I
MATH	181	Elements of Calculus II
PHYC	151	General Physics
PHYC	151L	General Physics LAB
PHYC	152	General Physics
PHYC	152L	General Physics LAB
PHYC	157	Problems in General Physics
PHYC	158	Problems in General Physics
PHYC	160	General Physics
PHYC	160L	General Physics LAB
PHYC	161	General Physics
PHYC	161L	General Physics LAB
PHYC	167	Problems in General Physics
PHYC	168	Problems in General Physics

SELECTED FINDINGS
DEGREE OUTCOMES LENS

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Ethnicity and Gender: STEM Interest

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SUBPOPULATIONS

Ethnicities in Students Opting to Go Into STEM

	THIS POPULATION OF STEM STUDENTS	THE GENERAL POPULATION OF FRESHMEN ONLY FROM UNM FACTBOOKS (Falls 05,06,07 combined)
Percent American Indian	6.4%	5.3%
Percent Asian/Pacific Islander/Native Hawaiian	5.5%	4.2%
Percent Black/African American	2.3%	3.3%
Percent Hispanic	35.5%	37.6%
Percent White, Non-Hispanic	46.2%	45.5%
Percent Male	62.3%	*Freshman Data Not Available* 44.4% of general population of all UNM Main campus students (Fall 2011)
Percent Female	**37.7%**	*Freshman Data Not Available* 55.6% of general population of all UNM Main campus students (Fall 2011)

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Ethnicity and Gender: STEM Achievement

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SUBPOPULATIONS

Ethnicities in Degree Outcomes

	Stopped	Graduated	Enrolled	Shifted	
American Indian	48	8	4	36	96
Asian/Pacific Islander	17	25	6	33	81
Black/African American	7	7	0	20	34
Hispanic	169	94	41	229	533
Non-Resident Alien	0	1	1	0	2
Native Hawaiian	2	0	0	0	2
Race/Ethnicity unknown	15	17	7	22	61
White, non-Hispanic	186	182	27	299	694
	444	334	86	639	1503

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SUBPOPULATIONS

Ethnicities in Degree Outcomes

Group within each ethnicity

	Stopped	Graduated	Enrolled	Shifted	
American Indian	50.0%	8.3%	4.2%	37.5%	100.0%
Asian/Pacific Islander	21.0%	30.9%	7.4%	40.7%	100.0%
Black/African American	20.6%	20.6%	0.0%	58.8%	100.0%
Hispanic	31.7%	17.6%	7.7%	43.0%	100.0%
Non-Resident Alien	0.0%	50.0%	50.0%	0.0%	100.0%
Native Hawaiian	100.0%	0.0%	0.0%	0.0%	100.0%
Race/Ethnicity unknown	24.6%	27.9%	11.5%	36.1%	100.0%
White, non-Hispanic	26.8%	26.2%	3.9%	43.1%	100.0%

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SUBPOPULATIONS

Ethnicities in Degree Outcomes

American Indian STEM students are 2.55 times as likely to stop attending UNM (p<.001) and are 0.30 times as likely to graduate with STEM degrees (p<.001) as non-American Indian students.

	ODDS RATIO	P-VALUE
STOPPED	2.55	< .001
SHIFTED	0.80	.338
GRADUATED	0.30	< .001

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SUBPOPULATIONS

Ethnicities in Degree Outcomes

Hispanic STEM students are .65 times as likely to graduate with STEM degrees than non-Hispanic students (p=.001).

	ODDS RATIO	P-VALUE
STOPPED	1.17	.175
SHIFTED	1.03	.827
GRADUATED	0.65	.001

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SUBPOPULATIONS

Ethnicities in Degree Outcomes

Black/African American STEM students are 1.96 times as likely to switch majors out of STEM than non-African American students (p=.001).

	ODDS RATIO	P-VALUE
STOPPED	0.61	.341
SHIFTED	1.96	.055
GRADUATED	0.91	> .999

SUBPOPULATIONS

Gender in Degree Outcomes

Female STEM students are .48 times as likely to pursue STEM degrees (p,.001), and are 1.36 times as likely to switch majors out of STEM (p=.005) than male students.

	ODDS RATIO	P-VALUE
STOPPED	0.88	.294
SHIFTED	1.36	.005
GRADUATED	0.89	.406

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Men and Women of Color

	Stopped	Graduated	Shifted	Enrolled	Total
White Male	126	114	176	23	439
Non-White Male	160	101	196	41	498
White Female	60	68	103	4	255
Non-White Female	98	51	144	18	311
Total	444	334	639	86	1503

	Stopped	Graduated	Shifted	Enrolled	Total
White Male	28.7%	26.00/o	40.1%	5.2%	1000%
Non-White Male	32.1%	20.3%	39.4%	8.2%	1000%
White Female	23.5%	26.7%	48.2%	1.6%	1000%
Non-White Female	315%	16.4%	46.3%	5.8%	1000%
Total	29.5%	22.2%	425%	57%	1000%

Odds Ratios (Significance)

	Stopped	Graduated	Shifted	Enrolled
White Male	0.94 (0.664)	1.35 (0029)	0.87 (0.229)	0.88 (0.714)
Non-White Male	120 (0.133)	084 (0.211)	0.82 (0.086)	191 (0004)
White Female	069 (0024)	134 (0069)	132 (0.044)	023 (0.001)
Non-White Female	1.12 (0.403)	0.63 (0.006)	1.21 (0.139)	1.02 (1.000)

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SUBPOPULATIONS

Gender in Degree Outcomes

White females are .69 times as likely to stop attending (p=.024), 1.34 times more likely to graduate (p=.069), 1.32 times as likely to switch majors out of STEM (p=.044) and .23 times as likely to still be enrolled as students who are not white females (p=.001)

Non-white females are .63 times as likely to graduate as students who are not non-white females (p=.006).

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SUBPOPULATIONS

Gender in Degree Outcomes

White males are 1.35 times as likely to graduate than students who are not white males (p=.029).

Non-white males are .82 times as likely to shift out of STEM degrees (p=.086) and are 1.91 times as likely to still be enrolled than students who are not non-white males (p=.004).

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Socio Economic Status: STEM Achievement

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SUBPOPULATIONS

SES in Degree Outcomes

Pell-Eligible STEM students are 1.43 times as likely to stop attending UNM (p=.007) and are .46 times as likely to graduate (p<.001) than non-Pell-eligible students.

First Generation STEM students are 1.62 times as likely to stop attending UNM (p<.001) and are .42 times as likely to graduate (p<.001) than non-First Generation students.

PELL ELIGIBLE	ODDS RATIO	P-VALUE
STOPPED	1.43	.007
SHIFTED	1.10	.456
GRADUATED	0.46	< .001
ENROLLED	1.34	.234

FIRST GENERATION	ODDS RATIO	P-VALUE
STOPPED	1.62	< .001
SHIFTED	1.12	.380
GRADUATED	0.42	< .001

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Average Median Expected Family Contribution (EFC) for students who GRADUATED with STEM degrees

$13,371

Average Median Expected Family Contribution (EFC) for students who SWITCHED MAJORS out of STEM

$7,151

Average Median Expected Family Contribution (EFC) for students who STOPPED ATTENDING UNM

$5,114

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- **Commonly Studied**
- **Variables:**
- **STEM Achievement**

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INSTITUTIONAL PRIORITY OF OUTCOMES

Graduate STEM

Switch Majors

Stop Attending

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PRIORITY OF OUTCOMES

Variables

VARIABLE	GRADUATE	SHIFT	STOP
Percent of this group who are Pell Eligible	13.5%	23.6%	27.3%
Average of High School GPAs within this group	3.75	3.45	3.27
Average of ACT Composite scores within this group	25.8	22.9	22.2
Average of ACT Math scores within this group	26.3	22.8	22.0
Percent of this group who are First Generation	19.5%	34.2%	40.6%
Average of College GPAs within this group	**3.51**	**2.95**	**2.09**

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PRIORITY OF OUTCOMES

Variables

VARIABLE	GRADUATE	SHIFT	STOP
Percent of students in this group who required remediation	12%	30.7%	39.5%
Percent of students in this group who required MATH remediation	4.2%	18.2%	26.4%
Percentage of students in this group who received a Lottery Scholarship	91%	77.5%	36.9%
Percentage of Lottery-receiving students in this group who lost their Lottery Scholarship	18.4%	28.7%	42.1%

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High School Origin: STEM Achievement

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SUBPOPULATIONS

High School Origin in Degree Outcomes

HIGH SCHOOL NAME	UNM STUDENTS	GRADUATED	AYP Students PCT Non-White	AYP Students PCT Econ Disadvant
MORIARTY HIGH SCHOOL	27	11.1%	44.6	40.3
DEL NORTE HIGH SCHOOL	45	13.3%	74.2	52.6
RIO RANCHO HIGH SCHOOL	90	15.6%	51.6	37.9
HIGHLAND HIGH SCHOOL	36	16.7%	85.2	71.8
MANZANO HIGH SCHOOL	59	16.9%	62.1	45.5
LOS LUNAS HIGH SCHOOL	25	20.0%	78.5	66.9
SANDIA HIGH SCHOOL	80	23.8%	56.9	24.6
CIBOLA HIGH SCHOOL	96	25.0%	63.6	30.1
VALLEY HIGH SCHOOL	38	28.9%	90.9	47.5
SAINT PIUS X HIGH SCHOOL	59	30.5%	na	Na
ELDORADO HIGH SCHOOL	80	33.8%	37.0	15.2
ALBUQUERQUE ACADEMY	26	38.5%	na	na
LA CUEVA HIGH SCHOOL	104	39.4%	39.2	9.6

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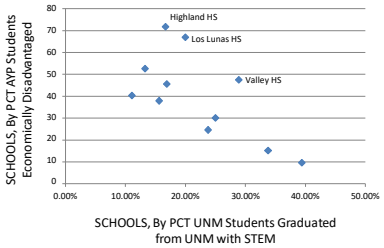
SUBPOPULATIONS

High School Origin in Degree Outcomes



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Stop and Shift Triggerpoints

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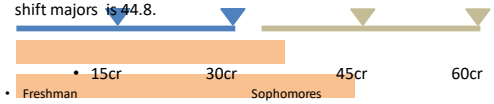
- **TRIGGERPOINTS**
- *Number of Credits*

- The average number of credits completed when STEM students stop attending UNM is 38.
- The average number of credits completed when STEM students shift majors is 44.8.



- STOPPED STUDENTS: 38
- SHIFTED STUDENTS: 44.8

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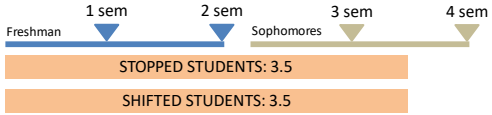
TRIGGERPOINTS
Number of Semesters

On average, STOPPED students leave UNM after 3.5 semesters.

On average, SHIFTED students changed majors after 3.5 semesters, the same as for STOPPED students.



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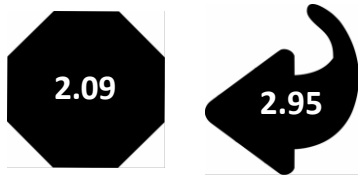
TRIGGERPOINTS
Grade Point Average

On average, STOPPED students left UNM with an average cumulative GPA of 2.08. This is contrasted by SHIFTED students, who had an average 2.94 cumulative GPA when they changed majors.



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Time to Graduation

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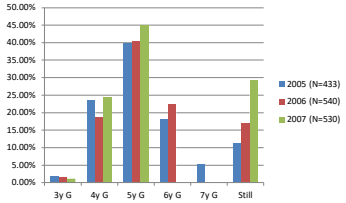
Time to Graduation for STEM at UNM



Time to Graduation for STEM at UNM

TIME TO GRADUATION							
Cohort	Grad in 3 yrs	Grad in 4 yrs	Grad in 5 yrs	Grad in 6 yrs	Grad in 7 yrs	Still Enrolled	Total Grad or Still Enrolled
2005	2	27	46	21	6	13	115
Percent	1.7%	23.5%	40.0%	18.3%	5.2%	11.3%	100.00%
2006	2	25	54	30	NA	23	134
Percent	1.5%	18.7%	40.3%	22.4%		17.2%	100.00%
2007	2	42	77	NA	NA	50	171
Percent	1.2%	24.6%	45.0%			29.2%	100.00%
TOTAL	6	94	177	51	6	86	420

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SELECTED FINDINGS
COURSE OUTCOMES LENS

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Individual STEM Gateway Course Impact on STEM Graduation

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AVERAGE PERCENT OF ENROLLMENTS THAT RESULT IN GRADUATION FOR ALL STEM GATEWAY COURSES STUDIED:

36.43%

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TEN COURSES WITH…

THE LOWEST PERCENTAGES OF ENROLLMENTS RESULTING IN GRADUATION (enrollments > 100)

SUBJECT	NUMBER	LAB	N	GRAD	SHIFT	STOP	PCT Grad	PCT Shift	PCT Stop
ENVS	101		229	17	162	35	7.42%	70.74%	15.28%
MATH	120		426	35	254	110	8.22%	59.62%	25.82%
EPS	101		189	23	117	37	12.17%	61.90%	19.58%
MATH	121		635	81	368	139	12.76%	57.95%	21.89%
CHEM	123	L	156	25	65	32	16.03%	41.67%	20.51%
MATH	150		518	90	231	136	17.37%	44.59%	26.25%
MATH	123		405	90	159	98	22.22%	39.26%	24.20%
MATH	180		406	111	219	52	27.34%	53.94%	12.81%
CHEM	124	L	169	54	54	22	31.95%	31.95%	13.02%
MATH	162		426	147	126	75	34.51%	29.58%	17.61%

http://unmstemgateway.blogspot.com/p/research-project.html

TEN COURSES WITH…

THE HIGHEST NUMBER OF ENROLLMENTS NOT GRADUATING STEM (enrollments > 100)

SUBJECT	NUMBER	N	GRAD	SHIFT	STOP	PCT Grad	PCT Shift	PCT Stop	Number NotGrad
MATH	121	635	81	368	139	12.76%	57.95%	21.89%	507
CHEM	121	804	290	302	140	36.07%	37.56%	17.41%	442
MATH	150	518	90	231	136	17.37%	44.59%	26.25%	367
MATH	120	426	35	254	110	8.22%	59.62%	25.82%	364
MATH	180	406	111	219	52	27.34%	53.94%	12.81%	271
MATH	123	405	90	159	98	22.22%	39.26%	24.20%	257
CHEM	122	560	253	169	80	45.18%	30.18%	14.29%	249
MATH	162	426	147	126	75	34.51%	29.58%	17.61%	201
ENVS	101	229	17	162	35	7.42%	70.74%	15.28%	197
BIO	201	383	153	143	51	39.95%	37.34%	13.32%	194

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TEN COURSES WITH…

THE HIGHEST PERCENTAGES OF ENROLLMENTS RESULTING IN STOP (enrollments > 100)

SUBJECT	NUMBER	LAB	N	GRAD	SHIFT	STOP	PCT Grad	PCT Shift	PCT Stop
MATH	150		518	90	231	136	17.37%	44.59%	26.25%
MATH	120		426	35	254	110	8.22%	59.62%	25.82%
MATH	123		405	90	159	98	22.22%	39.26%	24.20%
MATH	121		635	81	368	139	12.76%	57.95%	21.89%
CHEM	123	L	156	25	65	32	16.03%	41.67%	20.51%
EPS	101		189	23	117	37	12.17%	61.90%	19.58%
MATH	162		426	147	126	75	34.51%	29.58%	17.61%
CHEM	121		804	290	302	140	36.07%	37.56%	17.41%
ENVS	101		229	17	162	35	7.42%	70.74%	15.28%
MATH	163		382	186	79	57	48.69%	20.68%	14.92%

http://unmstemgateway.blogspot.com/p/research-project.html

TEN COURSES WITH…

THE HIGHEST NUMBER OF ENROLLMENTS WHO STOP (enrollments > 100)

SUBJECT	NUMBER	N	GRAD	SHIFT	STOP	PCT Grad	PCT Shift	PCT Stop
CHEM	121	804	290	302	140	36.07%	37.56%	17.41%
MATH	121	635	81	368	139	12.76%	57.95%	21.89%
MATH	150	518	90	231	136	17.37%	44.59%	26.25%
MATH	120	426	35	254	110	8.22%	59.62%	25.82%
MATH	123	405	90	159	98	22.22%	39.26%	24.20%
CHEM	122	560	253	169	80	45.18%	30.18%	14.29%
MATH	162	426	147	126	75	34.51%	29.58%	17.61%
MATH	163	382	186	79	57	48.69%	20.68%	14.92%
MATH	180	406	111	219	52	27.34%	53.94%	12.81%
BIO	201	383	153	143	51	39.95%	37.34%	13.32%

http://unmstemgateway.blogspot.com/p/research-project.html

The Courses that appear on all four tables…

MATH 121: College Algebra
MATH 150: Pre-Calculus Math
MATH 120: Intermediate Algebra
MATH 123: Trigonometry
MATH 162: Calculus 1

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And yet, pre-calculus math is crucial to STEM attainment…

Percentage of STEM Bachelor's Degree Earners at UNM who Completed MATH 120 and MATH 121		
Population of students from first-time full-time freshman cohorts	Completed MATH 120 at UNM	Completed MATH 121 at UNM
All STEM Degree Recipients	19%	41%
All Engineering Degree Recipients	10%	21%
All Arts & Sciences STEM Degree Recipients	23%	52%
Arts & Sciences: Biology Degree Recipients Only	28%	57%
Arts & Sciences: STEM Degree Recipients other than Biology	12%	40%

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… and to UNM enrollment for fist time freshmen.

PERCENT OF UNM FIRST SEMESTER STUDENTS (ALL MAJORS) WHO ENROLL IN SPECIFIC MATH COURSES	
Enroll in any pre-calculus mathematics course	66%
Enroll in Calculus 1 or beyond	6%
Enroll in no math course	28%

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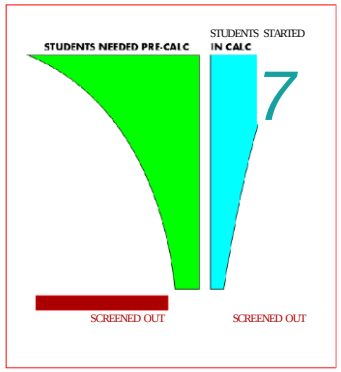

http://unmstemgateway.blogspot.com/p/research-project.html

- **Course Categories with Low Incidence of Students Graduating STEM Degrees**

http://unmstemgateway.blogspot.com/p/research-project.html

COURSE CATEGORIES

In the table below, for each course category listed, we see the Graduation percentage for all enrollments from that category

SUBJECT	N	GRAD	SHIFT	STOP	PCT Grad	PCT Shift	PCT Stop
All Courses	9540	3475	3558	1470	**36.43%**	37.30%	15.41%
All Math Courses	3440	854	1523	693	**24.83%**	44.27%	20.15%
All Pre-Calc Math Courses	**2044**	**309**	**1047**	**492**	**15.12%**	**51.22%**	**24.07%**
All 100 Level Courses	7510	2451	2943	1288	**32.64%**	39.19%	17.15%
All <151 Level Courses	**4359**	**1016**	**2016**	**878**	**23.31%**	**46.25%**	**20.14%**
All 151-199 Level Courses	3151	1435	927	410	**45.54%**	29.42%	13.01%
All 200+ Level Courses	2030	1024	615	182	**50.44%**	30.30%	8.97%

Of the enrollments in this population from pre-calculus mathematics courses, only 15.12% led to STEM bachelors degrees at UNM.

Of the enrollments in this population from STEM Gateway courses at the 150 level or lower, only 23.31% led to STEM bachelors degrees at UNM.

http://unmstemgateway.blogspot.com/p/research-project.html

- **Course Categories with High Numbers of Repeat Enrollments**

http://unmstemgateway.blogspot.com/p/research-project.html

PERCENTAGE OF ENROLLMENTS THAT ARE REPEATS
(courses with enrollments > 100)

COURSE	PERCENT
CHEM 301	**23.06%**
MATH 123	17.79%
MATH 162	17.14%
CHEM 302	**16.93%**
MATH 163	16.91%
MATH 150	16.15%
MATH 121	15.14%
MATH 180	15.9%

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The Impact of "A" Grades on STEM Graduation

http://unmstemgateway.blogspot.com/p/research-project.html

ALL THE WAY TO "A"

Overview

The "UNM Killer Course List" from Fall 2011 includes eighty two courses with high enrollments (121 and above) and low student pass rates.

STEM Gateway studied the grade distribution patterns for the following sixteen STEM-based courses on this list: MATH 120, 121, 123, 150, 162, 163, 180, 181; ENVS 101; CHEM 121, 122, 301, 302; BIOL 201, 202; PHYC 160. Taken together, these courses represent a sizable portion of the gateway courses that STEM students complete en route to their degrees.

	GRADUATED	SHIFTED	STOPPED
Percentage of enrollments in this group that resulted in an A, B or C	86.18 %	65.33% (20.85 points lower than GRADUATED)	54.36% (31.82 points lower than GRADUATED)

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ALL THE WAY TO "A"

Grade Distribution Patterns

Comparing GRADUATED to SHIFTED									
	A	B	C	D	F	WD	CR	NCR	ABC
Graduated	37.78	32.74	15.66	3.72	0.84	7.09	1.80	0.04	86.18
Shifted	15.19	26.05	24.09	10.88	4.73	15.68	1.55	1.60	65.33
Difference	22.59	6.69	-8.43	-7.16	-3.89	-8.58	0.25	-1.56	20.85
Comparing GRADUATED to SHIFTED									
	A	B	C	D	F	WD	CR	NCR	ABC
Graduated	37.78	32.74	15.66	3.72	0.84	7.09	1.80	0.04	86.18
Stopped	11.09	22.53	20.74	12.96	9.46	21.82	1.20	1.61	54.36
Difference	26.69	10.21	-5.08	-9.24	-8.61	-14.73	0.60	-1.58	31.82

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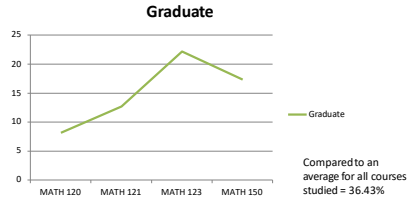
- **Pre-Calculus Math and Student Achievement for Traditionally Underrepresented STEM Students**

http://unmstemgateway.blogspot.com/p/research-project.html

Pre-Calc Math and Student Achievement

Percent of enrollments that resulted in the following outcomes…

Student Outcome	MATH 120	MATH 121	MATH 123	MATH 150
Stop	25.82	21.89	24.01	26.25
Shift	59.62	57.95	39.25	44.59
Graduate	8.21	12.75	22.22	17.37
Enroll	6.33	7.40	14.32	11.77



http://unmstemgateway.blogspot.com/p/research-project.html

Pre-Calc Math, Ethnicity and Pell-Eligibility

MATH 120, Intermediate Algebra			
Subpopulation	N at end of semester	Pct "A"	Pct "A-B-C-CR"
Hispanic	**188**	**14.8**	**72.1**
American Indian	**45**	**8.9**	**50.0**
Asian / Pacific Islander	18	5.3	73.8
Black / African American	18	16.7	72.2
White, Non-Hispanic	**145**	**23.1**	**60.1**
Pell-Eligible during first semester	**136**	**17.3**	**67.2**

http://unmstemgateway.blogspot.com/p/research-project.html

Pre-Calc Math, Ethnicity and Pell-Eligibility

MATH 121, College Algebra			
Subpopulation	N at end of semester	Pct "A"	Pct "A-B-C"
Hispanic	**252**	**9.9**	**63.8**
American Indian	**41**	**7.7**	**59.6**
Asian / Pacific Islander	29	18.9	67.5
Black / African American	16	31.6	57.9
White, Non-Hispanic	**328**	**14.3**	**65.7**
Pell-Eligible during first semester	**198**	**13.8**	**63.0**

http://unmstemgateway.blogspot.com/p/research-project.html

Pre-Calc Math, Ethnicity and Pell-Eligibility

MATH 123, Trigonometry			
Subpopulation	N at end of semester	Pct "A"	Pct "A-B-C"
Hispanic	**131**	**13.2**	**57.2**
American Indian	29	5.7	48.5
Asian / Pacific Islander	20	18.2	59.1
Black / African American	4	14.3	42.9
White, Non-Hispanic	**198**	**18**	**61.2**
Pell-Eligible during first semester	**92**	**13.1**	**55.7**

http://unmstemgateway.blogspot.com/p/research-project.html

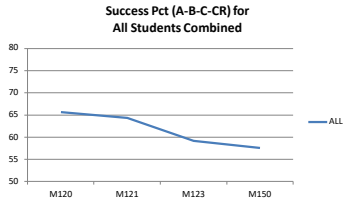
Pre-Calc Math, Ethnicity and Pell-Eligibility

MATH 150, Pre-Calc Math			
Subpopulation	N at end of semester	Pct "A"	Pct "A-B-C"
Hispanic	**184**	**12.2**	**53.0**
American Indian	**41**	**0.0**	**52.4**
Asian / Pacific Islander	29	20.6	55.9
Black / African American	6	22.2	33.3
White, Non-Hispanic	**231**	**14.7**	**62.5**
Pell-Eligible during first semester	**126**	**8.0**	**52.0**

http://unmstemgateway.blogspot.com/p/research-project.html

Pre-Calc Math, All Students Combined

Subpopulation	N at end of semester	Pct "A"	Pct "A-B-C-CR"
MATH 120	426	15.4	**65.7**
MATH 121	635	12.9	**64.4**
MATH 123	405	15.4	**59.2**
MATH 150	518	13.4	**57.6**



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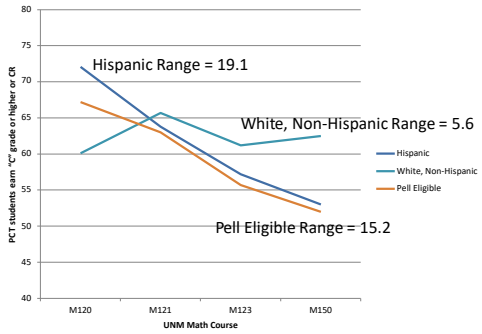
Success Pct (A-B-C-CR) By Ethnicity and SES



Other ethnicities excluded from this chart because their "N" in one or more of these classes was too small to be considered conclusive.

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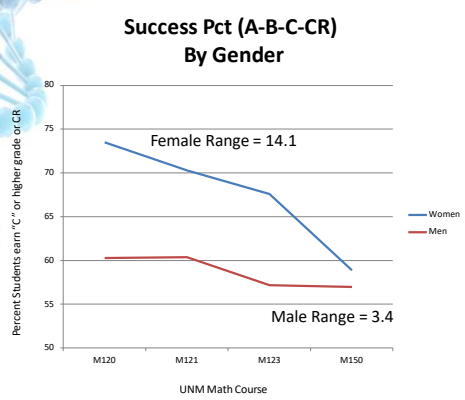
Pre-Calc Math, Gender

MATH 120												
	A	B	C	D	F	W	I	CR	NCR	AU	TOTAL	ABC-CR
F	22.5%	25.5%	7.0%	2.0%	0.0%	9.0%	0.0%	18.5%	15.5%	0.0%	100.0%	73.5%
M	10.5%	22.0%	5.4%	4.4%	0.0%	17.3%	0.0%	22.4%	18.0%	0.0%	100.0%	60.3%

MATH 121												
	A	B	C	D	F	W	I	CR	NCR	AU	TOTAL	ABC
F	17.4%	25.5%	27.4%	12.3%	0.6%	15.5%	0.0%	0.6%	0.3%	0.3%	100.0%	70.3%
M	9.8%	22.6%	28.0%	18.8%	2.9%	16.6%	0.0%	0.4%	0.7%	0.2%	100.0%	60.4%

MATH 123												
	A	B	C	D	F	W	I	CR	NCR	AU	TOTAL	ABC
F	18.6%	32.4%	16.7%	13.7%	1.0%	16.7%	0.0%	1.0%	0.0%	0.0%	100.0%	67.6%
M	14.7%	18.0%	24.6%	12.3%	6.1%	24.3%	0.0%	0.0%	0.0%	0.0%	100.0%	57.2%

MATH 150												
	A	B	C	D	F	W	I	CR	NCR	AU	TOTAL	ABC
F	17.9%	28.0%	13.1%	21.4%	4.2%	14.9%	0.0%	0.6%	0.0%	0.0%	100.0%	58.9%
M	11.7%	20.4%	24.9%	20.6%	5.8%	15.9%	0.0%	0.2%	0.4%	0.0%	100.0%	57.0%



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- ***SELECTED IMPLICATIONS***

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Students may not know what they want to be when they originally declare a major.

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The status quo is not highly effective for traditionally underrepresented STEM students. However, the proportions of these students are growing at UNM.

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Underserved Student Populations as Proportions of Enrollments, Freshmen Classes and Bachelor's Degree Earners (source: UNM Factbooks)

	Fall 1996	Fall 2012	Difference
Undergraduate student enrollment			
African American students	2.7%	2.7%	0.0
American Indian students	5.0%	6.4%	+1.4
Hispanic students	28.7%	43.0%	+14.3
Female students	56.7%	55.7%	-1.0
Graduate student enrollment			
African American students	1.4%	1.7%	+0.3
American Indian students	2.3%	3.9%	+1.6
Hispanic students	12.5%	23.5%	+11.0
Female students	53.5%	57.6%	+4.1
Freshman student enrollment			
African American students	3.1%	2.6%	-0.5
American Indian students	5.1%	5.6%	+0.5
Hispanic students	35.0%	48.5%	+13.5
Bachelor's degree earners			
African American students	2.1%	2.8%	+0.7
American Indian students	4.9%	4.9%	0.0
Hispanic students	24.9%	38.1%	+13.2

http://unmstemgateway.blogspot.com/p/research-project.html

White Male Populations as Proportions of Enrollments, Freshmen Classes and Bachelor's Degree Earners (source: UNM Factbooks)

	Fall 1996	Fall 2012	Difference
Undergraduate student enrollment			
White students	57.5%	38.3%	-19.2
Male students	43.3%	44.3%	-1.0
Graduate student enrollment			
White students	72.1%	49.9%	-22.2
Male students	46.5%	42.4%	-4.1
Freshman student enrollment			
White students	50.5%	33.3%	-17.2
Bachelor's degree earners			
White students	63.5%	44.4%	-19.1

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Students are struggling to get through the pre-calculus math sequence.

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Pre-Calculus Courses on UNM's Killer Course List Percent of Enrollments "Did Not Pass"

	MATH 120	MATH 121	MATH 123	MATH 150
Spring 2013	69% 1st on the list	41% 12th on the list	53% 2nd on the list	52% 3rd on the list
Fall 2012	43% 8th on the list	39% 10th on the list	57% 1st on the list	51% 2nd on the list
Spring 2012	47% 5th on the list	52% 3rd on the list	51% 4th on the list	68% 1st on the list
Fall 2011	55% 3rd on the list	43% 6th on the list	51% 4th on the list	64% 1st on the list

Pre-Calculus Courses on UNM's Killer Course List Number of Enrollments Resulting in "Did Not Pass" Outcome

	MATH 120	MATH 121	MATH 123	MATH 150
Spring 2013	704 1st on the list	438 2nd on the list	251 6th on the list	195 11th on the list
Fall 2012	581 2nd on the list	584 1st on the list	246 10th on the list	262 8th on the list
Spring 2012	506 1st on the list	475 2nd on the list	217 12th on the list	238 10th on the list
Fall 2011	747 1st on the list	596 2nd on the list	193 14th on the list	295 9th on the list

http://unmstemgateway.blogspot.com/p/research-project.html

When students give up on UNM or on their STEM degrees, they usually do so early in their educational careers.

http://unmstemgateway.blogspot.com/p/research-project.html

UNM needs to help students understand the value of mastery ("A" level grades) in their STEM gateway courses.

http://unmstemgateway.blogspot.com/p/research-project.html

Most UNM students take longer than four years to earn STEM bachelor's degrees.

http://unmstemgateway.blogspot.com/p/research-project.html

For More Information…

TIM SCHROEDER
Project Director
STEM Gateway Program
University of New Mexico
timschroeder@unm.edu
505-277-1761
http://unmstemgateway.blogspot.com/
http://stemgateway.unm.edu

The peer learning facilitator (PLF) program was developed in hopes of improving the outcomes for students that decide to pursue a STEM degree at UNM. The PLF program consists of responsible student peers that obtained a good grade (B or higher) in previously identified large-enrollment STEM Gateway courses that opted to redesigned lecture base teaching to an active learning interphase. The PLF is there to aid both the instructor and their peers; they serve as teaching mediators in a sea of difficult subjects. The PLFs are expected to support instructors in implementing active learning activities that assist in the delivery of difficult STEM concepts while being a non-intimidating resource for students to seek additional instruction when needed.

Pre-semester training

The Friday before the beginning of every semester, a PLF pre-semester training would take place. The training focused on informing/reminding PLFs of their duties and expectations. The training included but was not limited to:

- Who Comes to UNM? (Background on student population and grant purpose)
- What is it like to be a PLF? (The PLF Workplace, PLF Best Practices, Peer Mentorship, etc.)
- Reminder of Active Learning Strategies (Critical Thinking, the Scientific Method, The Socratic Method, Learning in Groups, etc.)
- Reminder UNM Resources (LGBTQ Safe Zone, Accessibility Resources, Global education Office, etc.)

This training also allowed a 30 min meeting between PLFs and their assigned course instructors. They would take advantage of this time to set a time for their hourly weekly meeting and discuss what was expected for the first class sessions.

Peer Learning Facilitators

Fall 2012

Welcome to Fall Training!

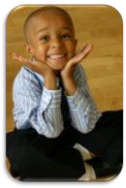
- Grab some breakfast
- Take a folder
- Fill out:
  - *PLF Employment Contract*
  - *UNM STEM Gateway Demographic Survey*
  - *PLF Survey: Unique ID*
  - *PLF Initial Survey*

Let's play the Bicycle game…

You have a great little brother who has never learned how to ride a bike.

But – good news!

His birthday coincides with your first PLF paycheck, so you decide to buy him one!



It's the night before his party when it arrives in a box that seems way too small.

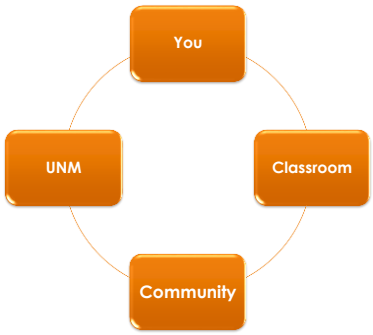
You open it up to see it is in pieces. It came unassembled!!

Worse than that, there are no instructions.

The rules:

- You can't get a different gift.
  He really, really wants a bike!
- You have to assemble the bicycle yourself.
  No hiring someone to do it.
- You have to assemble it tonight.
  No calling Amazon and demanding a replacement.

You did it!



The STEM Gateway Grant

What it says about you, the PLFs:

The PLF Program is "a classroom learning-assistance effort by undergraduates working with instructors to facilitate active, collaborative learning during class time."

The STEM Gateway Grant

What does that mean?

- PLFs will work 10-12 hours per week with tasks varying in consultation with instructors and necessarily including in-class work with students and preparatory time under guidance from instructors.
- PLFs may review student in-class work and summarize problem points and misconceptions upon which instructors can then focus.
- PLFs will receive intensive pre-semester training and will attend 1-2 hours of training each week during the semester.

The STEM Gateway Grant

What it says about me, the Program Coordinator:

I have a "responsibility to hire and supervise PLFs and coordinate PLF training and evaluation with OSET personnel and the Project Director."

The STEM Gateway Grant

What does that mean?

- The Program Coordinator will work with other project personnel to develop strategies to successfully recruit and hire PLFs, effectively match PLFs with instructors and deploy them to classes, and assess the highest impact training requirements for PLFs.

The STEM Gateway Grant

Goal I of the PLF Program:

- Faculty in at least one gateway course in each of the departments that teach a gateway life/physical science or mathematics course will adopt a collaborative-learning pedagogy supported by PLFs by the end of the second project year.

The STEM Gateway Grant

Goal II of the PLF Program:

- Student-success measures for Hispanic and/or low income students completing each PLF-supported course section will improve.
- Grade of C or higher:
  - – Increase by >10% by 2nd semester of PLF deployment
  - – Increase by >20% by 3rd semester of PLF deployment

The STEM Gateway Grant

Goal III of the PLF Program:

- Collaborative learning meets needs of >80% of students in PLF-supported classes.
- PLFs, faculty, students, staff surveyed for quality of program & suggestions for PLF component improvement.

Expectations

- Pg. 6 in your Handbook
- Communication is essential.
- When in doubt, ask!

UNM Trainings

- Basic Annual Safety Training 2012
- Preventing Sexual Harassment 2012
- Ethics: A Framework for Ethical Decision-Making 2012
- Securing Private Data

Payroll

- Pg. 11-12 in your Handbook

Write these down!

- 277 – 0125
- 934867
- Dane Smith Hall 334
- August 22nd

Welcome to the STEM Gateway Peer Learning Facilitator Program Pre-Semester Training!

Help yourself to coffee and take a seat!

August 15, 2014

What's our agenda for today?

- 9:15 – 9:30
  - Introductions
- 9:30 – 10:00
  - About STEM Gateway
- 10:00 – 10:30
  - Working at STEM Gateway
- 10:30 – 11:00
  - Introductions with Returners
- 11:00—11:45
  - Insert – Assert Practice
- 12:00 – 1:00
  - Lunch

Tell us:

- Your name
- Your major
- What class you are PLF-ing for
- What did you have for breakfast?

What does the grant say about us?

- The PLF Program is:

"a classroom learning-assistance effort by undergraduates working with instructors to facilitate active, collaborative learning during class time."

What does that actually mean?

- PLFs will work 10-12 hours per week with tasks varying in consultation with instructors and necessarily including in-class work with students and preparatory time under guidance from instructors.
- PLFs may review student in-class work and summarize problem points and misconceptions upon which instructors can then focus.
- PLFs will receive intensive pre-semester training and will attend 1-2 hours of training each week during the semester.

What are our goals?

Performance Measure I of the PLF Program:

- Anonymous surveys of students in these classes will show PLF-supported collaborative learning meets the needs of at least 80% of surveyed students.

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Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014
90.3%	90.9%	90%	89.6%	92.8%

What are our goals?

Performance Measure II of the PLF Program:

- The PLF program will employ 40 undergraduates per semester to work in 15-20 STEM Gateway class sections, potentially impacting 3000 learners per year.

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Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014	Fall 2014
27 PLFs	40 PLFs	42 PLFs	45 PLFs	58 PLFs*	52 PLFs
15 sections	23 sections	18 sections	26 sections	30 sections	25 sections

What are our goals?

Performance Measure III of the PLF Program:

- Faculty in at least one Gateway course in each of the departments that teach a Gateway life/physical science or mathematics course will adopt a collaborative learning pedagogy supported by PLFs.

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Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014	Fall 2014
X	X	X	X	X	

Being an Employee or

what I need from you, what you need from me

- **Communication**

Being an Employee or
what I need from you, what you need from me

- **Communication**
  - Tell me what is going on, even if it is minor.
  - You can come to my office, text, call, or email any time.

Being an Employee or
what I need from you, what you need from me

- **Communication**
  - Tell me what is going on, even if it is minor.
  - You can come to my office, text, call, or email any time.
  - Examples of this are:
    - When you are going to miss class or office hours.
    - If something happens in class you're uncomfortable with.
    - If you can't turn your timesheet in on time.
    - When something good happens!

Being an Employee or
what I need from you, what you need from me

- **Communication**
- **Accountability**

Being an Employee or
What I need from you, what you need from me

- **Communication**
- **Accountability**
  - Be accurate and meticulous about your timesheet.
  - Be where you say you are going to be, when you say you are going to be.

Being an Employee or

What I need from you, what you need from me

- **Communication**
- **Accountability**
  - Be accurate and meticulous about your timesheet.
  - Be where you say you are going to be, when you say you are going to be.
  - Examples of this are:
    - Being on time to class and office hours.
    - Keeping track of your off-cycle hours (nights and weekends).

Being an Employee or

What I need from you, what you need from me

- **Communication**
- **Accountability**
- **Respect**

Being an Employee or

What I need from you, what you need from me

- **Communication**
- **Accountability**
- **Respect**
  - When we communicate, how will we do it?
  - You are a role model to students, whether they say or not.

Being an Employee or

What I need from you, what you need from me

- **Communication**
- **Accountability**
- **Respect**
  - When we communicate, how will we do it?
  - You are a role model to students, whether they say or not.
  - Examples of this are:
    - Responding to staff emails quickly (within 24 hours).
    - **THINK** before you speak or write.

Being an Employee or

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  - Examples of this are:
    - Responding to staff emails quickly (within 24 hours).
    - **THINK** before you speak or write.

Is what you're about to say **T**houghtful, **H**onest, **I**ntelligent, **N**ecessary, **K**ind?

Being an Employee or

What I need from you, what you need from me

- **Communication**
- **Accountability**
- **Respect**
- **Patience**

Being an Employee or

What I need from you, what you need from me

- **Communication**
- **Accountability**
- **Respect**
- **Patience**
  - Are you giving others the time they need to respond?
  - Are you holding yourself to the same standards?
  - We work together on a grant, which means experimenting and learning.

Being an Employee or

What I need from you, what you need from me

- **Communication**
- **Accountability**
- **Respect**
- **Patience**
  - Are you giving others the time they need to respond?
  - Are you holding yourself to the same standards?
  - We work together on a grant, which means experimenting and learning.
  - Examples of this are:
    - Letting students finish their thoughts or questions before jumping in
    - Being flexible when last-minute changes arise

Being a PLF

What are my first assignments as a PLF?

- Go to class! Be early.
- Introduce yourself to the Instructor.
- Ask the Instructor if you (and your team) may introduce yourself to the class.
- Introduce yourself to the class.

Being a PLF

How do I get paid?

- Bi-weekly
- Timesheets and Time & Efforts due every other Wednesday (next week!)
- Direct Deposit

Being a PLF

- What will we talk about next week, and beyond?
- Why is Active Learning so great?
  - *Active Learning Buy-in, Aug 22*
- How are the first few weeks going?
  - *Early Semester De-brief, Aug 29*

Very Important Stuff!

- Our Weekly Meetings will be 3-4pm in Dane Smith Hall 234
- Your copier code is 934867
- The STEM Gateway main line is 277-2374
- Mary's cell is (505) 715-0340

Tell us:

- Your name
- Your major
- What class you are PLF-ing for
- What did you listen to on the way to training?

Insert - Assert

Interrupting is rude,
unless you're Kanye West or a PLF!

Insert - Assert

- INSERT
  - Assess the classroom area
  - Be friendly. Smile!
  - Don't wait for raised hands.
  - Ask open-ended questions.
  - Balance your time.

- ASSERT
  - Check in with as many students as you can.
  - "Can you show me how you did this step?"
  - "Would you be willing to help another student who is still struggling?"

Insert – Assert: The Game

- Each table has several logic problems to work on.
- Count off by 5's.
- The 1's are the first "PLFs." You will have five minutes to circulate among the room and practice INSERT – ASSERT!
- After five minutes are up, 2's will be the PLFs, then 3's, and so on.
- We will come back together as a group and discuss.

Insert – Assert: The Game

- For the next five minutes, write down your thoughts on:
  - Were you nervous? Why or why not?
  - What was difficult about Insert-Assert?
  - What surprised you?
  - Did you learn something that you think you will be able to take to class next week?

Wrap-Up

- The next hour is for LUNCH with your team!
- Please do not leave without filling out your Pre-Semester Survey.
- Timesheets and Time & Efforts are due Wednesday by 5pm!
- See you next week!

Professional Development Training

September 7, 2012

- Who Comes to UNM-

Updates

- Securing Private Data

Allies and Advocates

- **Ally**
  - anyone who interrupts acts of oppression or discrimination.

  http://partnersinchange.umich.edu/introductory.html
- **Advocate**
  - a person who represents and works with a person or group of people who may need support and encouragement to exercise their rights, in order to ensure that their rights are upheld.

  http://www.agedrights.asn.au/rights/whatis_advocate.html

Who Attends UNM?

Facts at a Glance

Students (Fall 2011)

Fall 2011 Enrollment

	Total Students	Females	Males	Avg. Age	FTE[2]
Main Campus[1]	29,056	16,166	12,890	26.6	23,641
Branches	7,686	4,913	2,773	27.9	4,610
Total	36,742	21,079	15,663	27.0	28,251

[1]Campus descriptors were modified in 2011. See page xii for an explanation of changes.
[2]Includes FTE from the developmental courses offered on Main Campus by CNM.
[3]Federal race/ethnicity reporting changed in 2010. See page xi for explanation of changes.

Source: Fall 21-day enrollment files maintained by the Registrar's Office

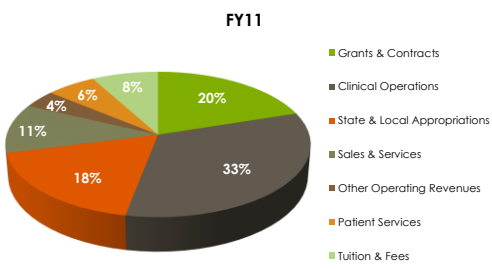
Types of Students

Academic Categorization
- Non –Traditional Students
- First Generation students

Federal Categorization
- Low-income Student
- International Students

Ethnic Categorization
- African American
- American Indian
- Anglo/White/Non-Hispanic
- Asian
- Hawaiian/Pacific Islander
- Latino/a, Chicano/a, Hispanic students

Why does it matter? (to UNM)



http://www.unm.edu/~conweb/resources/audrep11.pdf

Why does it matter? (to us)

- Knowing who your students are means that you can serve them better.
- Students look up to you.

UNM Designations & Rankings

:: Non-profit State Educational Institution

:: HSI/MI Reference Overview

:: USDE Title III / Title V (updated 5.9.11)

:: USDE Minority Institution

:: USDE Institutions With High Hispanic Enrollment

:: HACU Hispanic-Serving Institution

:: Carnegie RU/VH: Research Universities

http://research.unm.edu/frequentinfo/frequent_info.cfm

Accessibility Resource Center

2021 Mesa Vista Hall

http://arc.unm.edu

African American Student Services

1130 Mesa Vista Hall **Monday – Friday 8:00AM – 5:00PM**

Academic Advising
Advocacy and Liaison
Community Relations
Counseling Services
Mentoring Programs
Financial/Employment Assistance
Scholarship Listing
Tutorial Program

http://aass.unm.edu/

American Indian Student Services

1119 Mesa Vista Hall

Monday - Friday
8:00AM – 5:00PM
(Wed until 8:00PM)

http://aiss.unm.edu/

Academic Advisement
Financial Aid Advisement
Tribal, Private, and Institutional Scholarship Information
Tutoring
Computer Pod
Cultural Programs
Study Area
Job Posting
Mentorship
Volunteer Opportunities
Social Events
Copy & Fax Services

Association of Non-Traditional Students

Student Union Building 1063

http://www.unm.edu/~antsunm

El Centro de la Raza

1153 Mesa Vista Hall

Monday - Friday
7:30AM - 7:00PM

Facilities
Computer Pod
Conference/Library Room
Copy/Fax Services
Break Room

Community Involvement
Cultural Programs
Student Organizations
Community Events
Special Events

Advisement
Academic Advisement
Financial Aid & Scholarship
Career Advisement
Employment Opportunities

http://elcentro.unm.edu/

Facilities
Computer Pod
Conference/Library Room
Copy/Fax Services
Break Room

Lesbian, Gay, Bisexual, Transgender, & Questioning (LGBTQ) Resource Center

Awareness Days
Computer Pod
Counseling
Educational Resources
Gender Neutral Restroom
Hate/Bias Intake Center
HIV Testing
LGBTQ Library
Lounge
Safe Sex Resources
Safe Zone Training
Social Events
Speaker Series
Volunteer Opportunities

Building 20A608 Buena Vista
Open Monday – Friday 9am-5pm

http://lgbtqrc.unm.edu/

Women's Resource Center

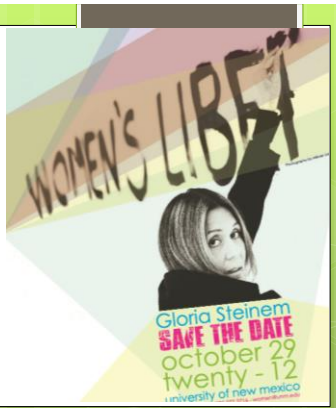
1160 Mesa Vista Hall **M W F 8am-5pm T TH 8am-6pm**

http://women.unm.edu

Advocacy
Brown Bags
Crisis Intervention
Family-Friendly Computer Pod
Film Series
Peer Support Groups
Scholarships
Safe Space
Workshops
Video Library

Celebrating 40 YEARS
UNM
Women's Resource Center
Welcome LOBOS

The truth will set you free, but first it will piss you off.



STEM GATEWAY

PLF Handbook

Fall 2014

UNM

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"If I were to offer any advice to future PLFs I would have to say that they should definitely expect the unexpected, use their previous experiences to further help students, provide nonjudgmental listening to students to get to know them better, and, most importantly, do what they can to learn about the available resources for referring students."

Carolina Belmares-Ortega, PLF

STEM Gateway Office Staff

Tim Schroeder, Program Director
It's important to know who your boss is! Tim oversees all STEM Gateway programs.

E-mail: timschroeder@unm.edu
Phone: 277-1761

Dr. Gary Smith, Earth and Planetary Sciences Professor and Director of Medical Educator Development
Gary started the PLF program at UNM. He is a particularly good resource for interactions between PLFs and faculty.

E-mail: gsmith@unm.edu
Phone: 277-2348

Mary Cianflone Program Specialist
Mary is your direct supervisor. She handles everything from hiring and trainings to ensuring you get paid on time.

E-mail: mcian@unm.edu
Phone: 277-0125

Meghan Gerson, Program Specialist
Meghan runs the Workshop Program on our grant. She researches and coordinates S3 (Students for STEM Success).

E-mail: mgeerson@unm.edu
Phone: 277-3096

Amy Cordoba, Administrative Assistant
The resident office guru. Cathy maintains program finances, and helps make sure we're supplied, well-informed, and well-organized.

E-mail: acordoba@unm.edu
Phone: 277-2374

Chelsey Thorpe, Graduate Assistant
Chelsey is in charge of calculating survey results and assisting with program assessment. She was also a Math PLF!

E-mail: cthorpe@unm.edu
Phone: 277-0125

Our Grant and Our Goals

The University of New Mexico has implemented STEM (science, technology, engineering and math) initiatives to increase the number of Hispanic and other low-income students who attain STEM degrees while also providing a model for collaboration, transfer and articulation between two and four year Hispanic-serving institutions.

The STEM Gateway Project focuses on science, technology, engineering and math degrees and has four components: Gateway Science and Math Course Reform, STEM Student Interest Groups, Enabling More Data-Based Decision Making and Peer Learning Facilitators or PLFs.

"STEM Gateway helps us collaborate with the students on the best way to address their needs in these fields through course reform, STEM Student Interest Groups, Peer Learning Facilitators and data-driven prioritization."
STEM Gateway Director, Tim Schroeder

The Four Programs

1. Faculty Course Reform: Faculty-driven projects, in partnership with Central New Mexico Community College: CNM is UNM's largest provider of transfer students. Faculty-driven curriculum reform projects will utilize research-based instructional changes

2. STEM Workshops Program: This new program on the grant aims to coordinate and collaborate with other STEM departments and organizations on campus. We will be organizing resources already offered and stepping in to create new ones where there are gaps. PLFs will be involved, too, so stay tuned!

3. Enabling More Data-Based Decision Making: Works to enlarge UNM institutional research capacities to collect, analyze, and evaluating student-tracking and achievement data on STEM students, including transfer students. Data analyses will guide priorities in project activities while also assessing and evaluate project progress and milestones.

4. Peer Learning Facilitators: That's YOU! PLFs assist with collaborative learning in order to help students succeed in their academic goals. PLFs help with retention rates and overall class performance. You'll find more information about your job throughout this handbook.

What is a PLF?

A Peer Learning Facilitator is a student who partners with an instructor to help generate collaborative, active learning in large-enrollment classes.

The goal of a PLF is to provide support in in the classroom so that students learn from one another in addition to an expert instructor.

In addition to attending the PLF class consistently, PLFs hold office hours where students are free to come with any questions they may have.

In order to maintain and improve academic and mentoring skills, PLFs also attend training sessions on a weekly basis throughout the semester.

"The PLFs push us to take the initiative by asking for help and not only helping us through the problem but by giving us the tools we need to be able to figure it out on our own."
Math 121 student (and PLF!), Alyssa Johnson

According to the grant, these are some of the PLF Program's ultimate goals:

1. Increase the number of Hispanic and low-income students attaining degrees in the science, technology, engineering and math fields.
2. Increase student retention.
3. Increase engaging, collaborative classroom learning.

PLFs discuss student issues during Pre-Semester Training, Spring 2012

Our Expectations of PLFs

As a PLF, you have a significant amount of freedom and autonomy, as befits your role. That said, you are expected to be active participants in all aspects of your job.

The STEM Gateway Staff expects you to:

- Work 10-12 hours per week.
- Attend all of your PLF class times, and notify Mary and your instructor when you cannot attend.
- Exhibit model student behavior in class.
- Communicate frequently with your instructor and PLF teammates, whether through one-hour weekly meetings or another format that works best for all of you.
- Prepare effectively for your class time, as well as your office hours.
- Have office hours that are productive for you and your students.
- Respond to STEM Gateway staff emails in a timely fashion.
- Submit your Timesheet and Time & Effort form in person by 5:00 p.m. on the deadline days.
- Complete weekly Professional Development Training, as well as UNM 2014 required online training.
- Treat your job duties with respect and joy. You do amazing work and should be proud!

What You Can Expect From Us

The STEM Gateway Staff responsibilities are to:

- Hire you as a UNM student employee and maintain all necessary related administrative paperwork.
- Place you in courses and with team members that best fit your skillset and goals.
- Pay you accurately and in a timely fashion.
- Facilitate your training in the most productive ways possible.
- Track your performance with faculty.
- Assess your work honestly.
- Respond to any issues or questions you have in an urgent and diligent manner.
- Support your goals both academically and professionally as you transition from being a PLF into other roles.
- Treat our job duties with respect and joy. We are proud to work with you!

Things You Should Know About Being A Student Employee at UNM

Before you begin working, you must go to the Student Employment Office and fill out a W-4 employment form for tax purposes and an I-9 form for eligibility verification. You must also complete their online customer service training. (You only need to do this once at UNM, so if you are a returning PLF, you should already have all these materials on file).

You are paid bi-weekly on every other Friday for the course of the semester (see attached Payroll Schedule on pg. 9 for specific dates).

You are only allowed to work 30 hours total per week at UNM (20 hours if you are considered an International student). If you have a second job on campus, please let Mary know right away so she can work with the other department to ensure you do not go over your allotted hours.

The UNM Payroll Department requires all employees to use Direct Deposit systems in receiving their pay. If you are a new employee, please go to my.unm.edu and choose the "Employee Life" tab, then "Enter LoboWeb."

Once you are on the Employee Page, you will see a "Pay Information" option. This is where you can sign up for and adjust your Direct Deposit options, as well as view paystubs and your overall earnings.

You can review the other options to also adjust your Personal Information and your Tax Forms.

Things You Should Know About Being A Student Employee at UNM, cont.

Your Timesheet and Time & Effort Forms are due every other **Wednesday by 5:00 p.m.**

You must turn them in to Mary or another STEM Gateway staff member in person (do not have someone else deliver them) and they must be free of errors. The following pages will show you how to fill out your Timesheet and Time & Effort Forms.

Because your Timesheet and Time & Effort Forms are due on Wednesdays, you will estimate the hours you will work for that Thursday and Friday. Let Mary know if you ended up working different hours on those estimated days and she can correct your hours.

Check your paystubs online at my.unm.edu every payday and be sure there are no errors. It is possible to investigate and fix mistakes, but the longer it goes unnoticed, the more difficult it is to correct. Checking every time you get paid and finding any errors means Mary can fix the problems quickly.

You are paid for the following hours each week:

- 3 hours of class time, when you attend your PLF class
- 3 hours of preparatory time. These tasks are determined by you, your faculty member, and your PLF teammates and consist of whatever items you decide will best prepare you for the week ahead.
- 3 hours of student support outside of the classroom, including study sessions or one-on-one tutoring sessions. Like the preparatory work, these tasks can take on any form you, your faculty member, and your PLF teammates deem most effective for the students in your class.
- One hour of meeting time with your faculty member.
- One hour of Weekly Training with Mary and the other STEM Gateway staff, including other PLFs.
- You are also paid once a semester for supplemental training, including PLF Pre-Semester Training and UNM Required Training.

This semester, our Weekly Trainings will be held Fridays from 3:00—4:00 p.m.

UNM Payroll Schedule

PLFs are “Bi-Weekly, Non-Exempt” employees, meaning your pay information is in the left-hand column.

Your Timesheet and Time & Effort Forms are due by 5:00 p.m. on the Wednesday before each pay period ends. You will estimate your hours for the last two days. The days on which you get paid are listed on the far right column within the “Bi-Weekly Payroll (2R).”

UNM **2014**

Payroll Timekeeper and Approver Schedule

Deadlines listed here are ONLY for biweekly time-entry and monthly exception time and the approvals of biweekly time-entry and monthly exception time.

For EPAN/EPAF/Hiring Proposal deadlines, consult the OneSource website at http://onesource.unm.edu/

Bi-Weekly Payroll (2R)

Non-exempt Time Entry

	Pay Period			Time Entry Deadline	Pay Date
1	12/14/13 - 12/27/13	*Note 1*		12/20/13	01/03/14
2	12/28/13 - 01/10/14			01/13/14	01/17/14
3	01/11/14 - 01/24/14	*Note 2*		01/27/14	01/31/14
4	01/25/14 - 02/07/14			02/10/14	02/14/14
5	02/08/14 - 02/21/14			02/24/14	02/28/14
6	02/22/14 - 03/07/14			03/10/14	03/14/14
7	03/08/14 - 03/21/14			03/24/14	03/28/14
8	03/22/14 - 04/04/14			04/07/14	04/11/14
9	04/05/14 - 04/18/14			04/21/14	04/25/14
10	04/19/14 - 05/02/14			05/05/14	05/09/14
11	05/03/14 - 05/16/14			05/19/14	05/23/14
12	05/17/14 - 05/30/14			06/02/14	06/06/14
13	05/31/14 - 06/13/14			06/16/14	06/20/14
14	06/14/14 - 06/27/14	*Note 1*		06/27/14	07/03/14
15	06/28/14 - 07/11/14			07/14/14	07/18/14
16	07/12/14 - 07/25/14			07/28/14	08/01/14
17	07/26/14 - 08/08/14			08/11/14	08/15/14
18	08/09/14 - 08/22/14	*Note 2*		08/25/14	08/29/14
19	08/23/14 - 09/05/14			09/08/14	09/12/14
20	09/06/14 - 09/19/14			09/22/14	09/26/14
21	09/20/14 - 10/03/14			10/06/14	10/10/14
22	10/04/14 - 10/17/14			10/20/14	10/24/14
23	10/18/14 - 10/31/14			11/03/14	11/07/14
24	11/01/14 - 11/14/14			11/17/14	11/21/14
25	11/15/14 - 11/28/14			12/01/14	12/05/14
26	11/29/14 - 12/12/14			12/15/14	12/19/14

Monthly Payroll (5R)

Exempt Exception Time

	Pay Period			Exception Time Deadline		Pay Date
1	01/01/14 - 01/31/14			01/21/14		01/31/14
2	02/01/14 - 02/28/14			02/20/14		02/28/14
3	03/01/14 - 03/31/14			03/20/14		03/31/14
4	04/01/14 - 04/30/14			04/21/14		04/30/14
5	05/01/14 - 05/31/14			05/20/14		05/30/14
6	06/01/14 - 06/30/14			06/20/14		06/30/14
7	07/01/14 - 07/31/14			07/21/14		07/31/14
8	08/01/14 - 08/31/14			08/20/14		08/29/14
9	09/01/14 - 09/30/14			09/22/14		09/30/14
10	10/01/14 - 10/31/14			10/20/14		10/31/14
11	11/01/14 - 11/30/14			11/20/14		11/26/14
12	12/01/14 - 12/31/14			12/15/14	*Note 1*	12/22/14

Biweekly time entry & approval deadline is 5:00 PM on Monday unless otherwise indicated on the schedule.
Monthly exception time entry & approval deadline is 5:00 PM on the 20th unless otherwise indicated.

Note 1 - Due to the holiday, biweekly time entry/monthly exception time & approvals are due early.

Note 2 - When three biweekly paydays occur within the month, only mandatory deductions are withheld on the third payroll.

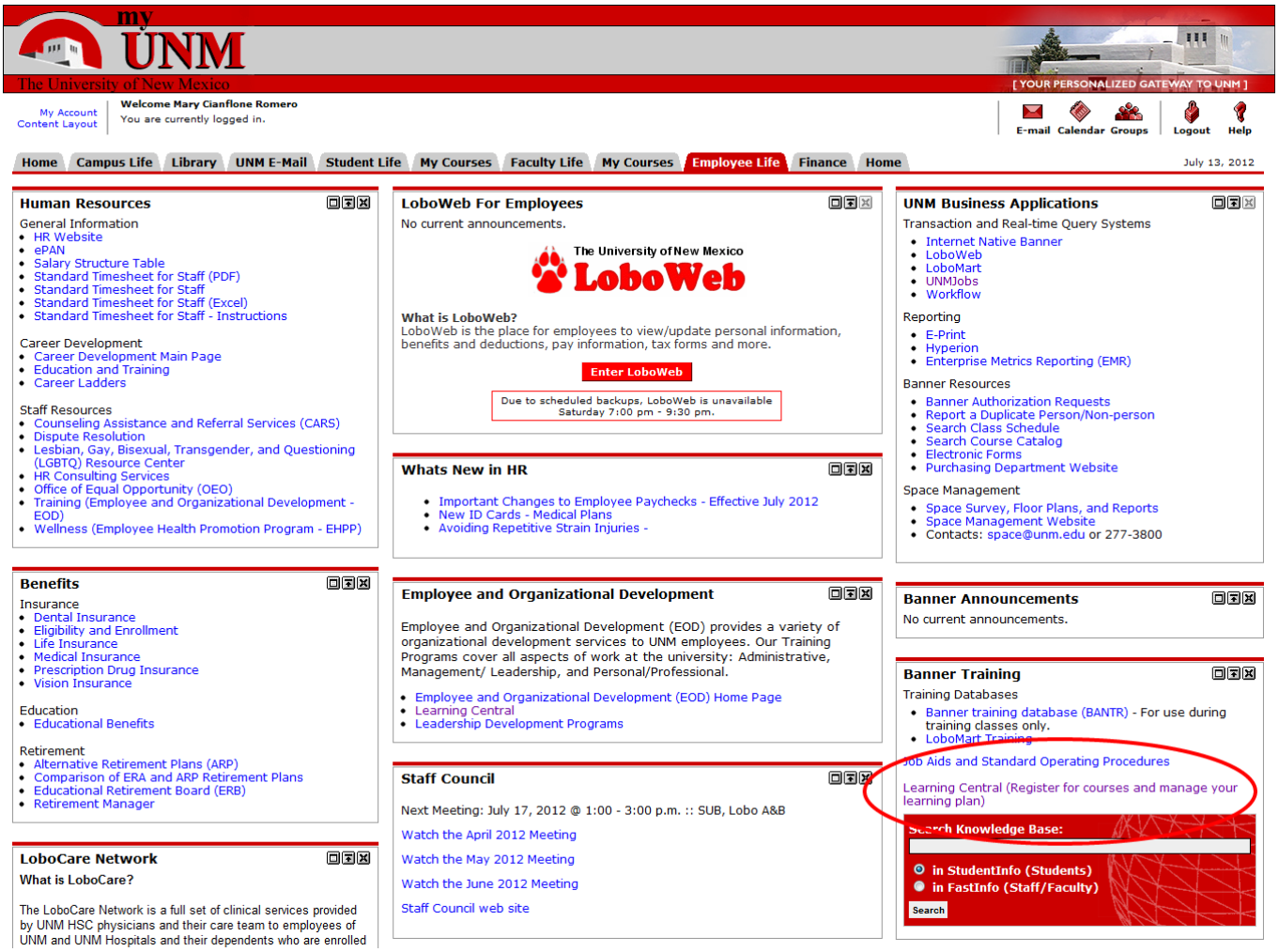
Payroll Department

Required UNM Trainings

UNM requires all employees to take annual online trainings (Basic Annual Safety Training 2014, Preventing Sexual Harassment 2014, and Ethics: A Framework for Ethical Decision-Making 2014). As PLFs, you are also required to take Securing Private Data.

You must complete these before you begin working as a PLF. When you complete the trainings, add 2 hours to your timesheet and list them as "UNM Required Trainings" on your Time & Effort Form.

You can find these trainings in my.unm.edu under the "Employee Life" tab. You must click on the "Learning Central" link in the far right bottom corner.



Once you arrive at the "Learning Central" site, you must enter your UNM NetID and password, then search for "UNM Required Trainings." You should find all three there.

How to Complete Your Timesheet

Enter your Student ID number, your name, and the pay period. (Hint: All you need to enter is the first day and then hit "tab," and the rest of the dates will populate. You can disregard the "FTE" box.

Enter the times you worked on the appropriate days.

Make sure all dates are accurate and that they match the Time and Effort Form.

Sign and date in pen.

When you hand it in to Mary and she reviews it, she will sign and date the "Supervisor" line.

UNM

CEOP Staff Bi-Weekly Timesheet

UNM ID(not SS#) 100041191 Employee Name Mary Cianflone FTE: Pay Peri 1/11/2014 to 1/24/2014

	DATE	Time Entry IN	OUT	IN	OUT	IN	OUT	Shift	In/Out Calc	Regular	Flextime	Annual Leave	Sick Leave						Total Hours	*only use if different than regular *Labor Override Hours	Index
SAT	1/11/2014								0.00	0.00									0.00		
SUN	1/12/2014								0.00	0.00									0.00		
MON	1/13/2014	9:00 AM	10:00 AM	10:00 AM	11:00 AM	2:00 PM	5:00 PM		5.00	5.00									5.00		
TUES	1/14/2014	12:30 PM	2:00 PM						1.50	1.50									1.50		
WED	1/15/2014	9:00 AM	10:00 AM						1.00	1.00									1.00		
THUR	1/16/2014	12:30 PM	2:00 PM						1.50	1.50									1.50		
FRI	1/17/2014	9:00 AM	10:00 AM	3:00 PM	4:00 PM				2.00	2.00									2.00		
							FIRST WEEK TOTALS		11.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.00		

	DATE	IN	OUT	IN	OUT	IN	OUT	Shift	In/Out Calc	Regular	Flextime	Annual Leave	Sick Leave						Total Hours	*Labor Override Hours	Index
SAT	1/18/2014								0.00	0.00									0.00		
SUN	1/19/2014								0.00	0.00									0.00		
MON	1/20/2014	9:00 AM	10:00 AM	10:00 AM	11:00 AM	2:00 PM	5:00 PM		5.00	5.00									5.00		
TUES	1/21/2014	12:30 PM	2:00 PM						1.50	1.50									1.50		
WED	1/22/2014	9:00 AM	10:00 AM						1.00	1.00									1.00		
THUR	1/23/2014	12:30 PM	2:00 PM						1.50	1.50									1.50		
FRI	1/24/2014	9:00 AM	10:00 AM	3:00 PM	4:00 PM				2.00	2.00									2.00		
							SECOND WEEK TOTALS		11.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.00		

									In/Out Calc	Regular	Overtime	Annual Leave	Sick Leave						Total Hours		
							GRAND TOTALS		22.00	22.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.00		

Comments:

I agree with the hours worked and time taken as shown on this Timesheet.

Employee Signature/Date

Supervisor Signature/Date

How to Complete Your Time & Effort Form

Enter your Student ID number, your name, and the pay period. (Hint: All you need to enter is the first day and then hit "tab," and the rest of the dates will populate.

You are only entering total hours on this form, not the in/out times as in your timesheet.

Use the columns to designate the type of work you did and the comments box to give a brief description of your work

Make sure all dates are accurate and that they match your Timesheet.

Sign and date in pen.

When you hand it in to Mary and she reviews it, she will sign and date the "Supervisor" line.

Bi-Weekly Time Effort

	UNM ID:	100041191		Name:	Mary Clanflone			
				Pay Period	1/11/2014	to	1/24/2014	
	Day	Prog. Admin (Class Prep/ Grading)	Direct Student Contact (Class/Office Hours)	Program Recruitment (Office Hours)	Professional Development (Weekly PLF Trainings	Weekly Meeting (Faculty Meetings)	Total Hours	Comments
SAT	1/11/2014							
SUN	1/12/2014							
MON	1/13/2014	3.0	1.0			1.0	5.0	3 hrs prep from Saturday 1/11, class, mtg with professor
TUES	1/14/2014			1.5			1.5	office hours
WED	1/15/2014		1.0				1.0	class
THUR	1/16/2014			1.5			1.5	office hours
FRI	1/17/2014		1.0		1.0		2.0	class, PLF meeting
1st Week Totals		3.0	3.0	3.0	1.0	1.0	11.0	
SAT	1/18/2014							
SUN	1/19/2014							
MON	1/20/2014	3.0	1.0			1.0	5.0	3 hrs prep from Saturday 1/11, class, mtg with professor
TUES	1/21/2014			1.5			1.5	office hours
WED	1/22/2014		1.0				1.0	class
THUR	1/23/2014			1.5			1.5	office hours
FRI	1/24/2014		1.0		1.0		2.0	class, PLF meeting
2nd Week Totals		3.0	3.0	3.0	1.0	1.0	11.0	
Grand Total Hrs		6.0	6.0	6.0	2.0	2.0	22.0	
Employee Signature/Date								Supervisor Signature/Date
				Timekeeper Submitted on Pay Period 2R:				

How to Be a Successful PLF

As a PLF, we don't expect you to know everything and be all things to your students or faculty member. You are there as a supportive member of the classroom community. That said, here are some things to remember when PLF'ing:

Exhibit model student behavior.

This means showing up to class and your office hours on time, even early, and paying attention during the lecture portions of the class. Students look to you as an example for how a successful student behaves and even small things like checking your email on your phone during class time sends a negative message.

Be approachable.

Not all PLFs are built the same way: some are outgoing and extroverted while others are more reserved. There's nothing wrong with being either one or a mix of the two, as long as you make yourself approachable and available to the students. Introduce yourself to the class on the first day, make sure they know why you're there!

> **"Since we do not have lit marquees with 'TUTOR' above our heads, you have to find other ways to make your presence known ...Your body language should say 'Hey, I'm here, ask me questions!'"**
> ***Chris Brown, PLF***

Ask questions.

No one expects you to know everything. It's equally important to display calm attitudes when facing a difficult problem as it is to attack a problem with confidence. Show students that getting stumped isn't a cause for worry and that finding resources to answer a question is just as important as knowing how to do it in the first place.

Insert and Assert!

Be active when students are active – no standing on the sidelines while they work on problems. "Insert" means to be mobile and listen in: What are the students saying? How are they thinking about the questions? Are there misunderstandings that you can clarify? "Assert" means to engage with students, even if not asked: Check in on students that are working away from peers or seem frustrated. Ask questions of working groups, such as, "How did you figure that out?" "What would have been different if…?" Don't wait for someone to ask you for help. Dive in and see and hear what's happening. Sometimes a group may be making mistakes without knowing it so they won't raise a hand for help; but, if you're inserting and asserting you'll be able to get them on track.

How to Be a Successful PLF, cont.

Be familiar with campus.

Even though you are there primarily for academic support, students will still see you as a resource for general UNM information. You should know the locations of important buildings like Mesa Vista Hall , the SUB, Admissions, the Bursar's Office, and the locations of the various undergrad advisement centers.

Stay in close contact with your team.

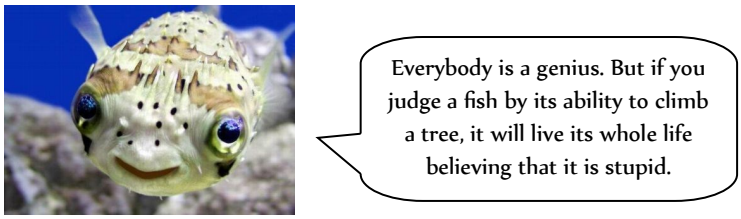
Communication is critical for a successful PLF. Since most of your work takes place in different locations all over campus, it is important that you practice good communication skills. Keep in touch with your PLF partners, let Mary know what is going on in class, and always meet with your faculty member at least once a week. Also be sure to check your email every day.

Be patient.

You'll find yourself explaining the same concept over and over, sometimes even to the same student. The key is to remember what it is like when you are struggling with a difficult concept. Not everyone understands the nuances of the field on the first try. Try explaining the material in a variety of ways. Eventually you'll develop a sense of what works and what doesn't.

Be compassionate.

UNM serves a variety of students, including parents, students with different accessibility needs, and ones that have never set foot in a city as big as Albuquerque, let alone had experience in a college class. Throughout the semester, you will attend trainings on the different types of students you may encounter, but just remember Einstein's words:



Be prepared.

It will be difficult to help students if you aren't knowledgeable of the problems and their solutions in advance. Be sure that you know what students will be doing each day and work through the problems yourself, before class. Bring up questions about your own understanding with the instructor. If you took the course before, review your notes and think about what aspects of this part of the course were challenging to you and how you mastered the concepts. We don't expect you to remember everything from the course, but we do expect you to take the steps needed to prepare yourself.

More on Communication

Communication skills are an essential requirement of being a successful PLF. You'll meet many different kinds of people from all walks of life (cross-cultural mentoring is something that happens a lot here at UNM) and it's important that you be able to communicate effectively and appropriately. Here are some things to keep in mind while PLF'ing:

Understanding is key.

If you understand the potential problems of communication you can make a conscious effort to adjust accordingly. It might require some work to overcome a specific problem. Be patient and understanding and don't be afraid to admit you've wandered into new territory—as much as others are learning from you, you're learning from them too. Should a situation become too intense or an argument too heated, take a step back. Use your better judgment and make sure your direct supervisor (Mary) and your faculty member are aware of your situation. The more they know, the better they'll be able to help you.

Use your "Active Learning" knowledge.

It's no big secret that we all want to be understood, but this can sometimes be tricky between two people who come from entirely different worlds; misunderstandings aren't uncommon. One way to combat this is by repeating what you think you heard or attempting to clarify the perceived meaning. Keep an open mind.

Use your Team.

Perhaps there is another PLF who can help bridge the gap between you and a student or instructor, or, at the very least, help you with some communication strategies. Don't be afraid to use your fellow resources! Networking can be a very valuable skill!

> **"I really can't express how helpful it is to work with another, more experienced PLF. His insight in [my] situation was really helpful."**
> ***Jacob Ketcham, PLF***

Remember that you're allowed to disagree.

But know when and how to voice this appropriately. Disagreeing with an instructor or a student aloud in class is probably not the best strategy. If you think someone has made a mistake, address it with them privately. There's no need to be the knowledge police! Unfortunately, sometimes more intense conflicts occur. If you feel unprepared to deal with such a situation, let someone (like Mary or the instructor) know right away!

Sample Syllabus

Math 121 -- College Algebra, Fall 2011

Instructor: **Office:**

Office Hours: **Phone Number:**

Calculator: Scientific calculator required **E-mail:**

Text: College Algebra *(NM Custom Edition)* by Michael Sullivan

Important information about Math 121:

** *You must have at least 70% on the core exam to get a passing grade in the course.* **

- **Grading:** Your grade will be based on your performance on the following assignments and exams

Quizzes and assignments	200 points
3 in-class tests	300 points
Core Final	200 points
Total	700 points

Note: The core final will be held Monday, December 12th from 10:00 am to noon. *No graphing calculators are allowed on the final exam*

- **Homework:** Your homework is your most important effort in this class; homework is how you actually learn the material that will be on the quizzes and exams. Expect to do 2 – 3 hours of homework for every hour of class meeting time (an average of 6 - 10 hours per week). Make sure to do all the assigned problems, especially the hard ones. And get help on those if you need it.
- **Attendance and Missed Exams:** Attendance is mandatory, and if you have three or more unexcused absences, you may be dropped from the course (which may result in a NC for the course). If you must miss an exam, contact your instructor immediately. Make-up tests will only be given in appropriate circumstances. Please note: it is YOUR responsibility to drop the course if you decide to stop attending classes.
- **MathXL** is the electronic support that is crucial for your success in this class. It includes practice problems, quizzes, and tutorials. Use Internet Explorer to go to **http://mathxl.com**. A registration code comes with your new textbook. Your instructor will have your course code.
- **Student Behavior:** According with the Code of Conduct as stated in the Policies and Regulations for UNM, student activities that interfere with the rights of others to pursue their education or to conduct their University duties and responsibilities will lead to disciplinary action. This includes activities that are disruptive to the class and acts of academic dishonesty. Students are expected to behave in a courteous and respectful manner towards the instructor and their fellow students.
- **Disability Statement:** We accommodate students with documented disabilities. During the first two weeks of the semester, those students should inform the instructor of their particular needs.
- **Website:** For the most current information about the syllabus, test reviews, and sample exams, check our website at http://www.math.unm.edu/courses/math121.

Some of the places where you can get help for this class include:
Algebra Tutoring Table, staffed by algebra instructors 9 – 3 every day. Behind DSH #224
CAPS – Center for Academic Program Support, located on the 3rd floor of Zimmerman Library, 277-4560
MEP – Engineering Annex, Room 210, or call the study group at 277-8795
CATS – Counseling and Therapy Services, Student Health Center, 277-4537. (for test anxiety, etc.)

Problems to review for the **Pre-lim Test: Chapter R Review** (pp. 81-83): 3-102 (by 3s)

[omitting #s 45, 48, 78, 90 ;class discussion on #99 AND adding #s 1, 13, 31, 85, 108]

Sample Syllabus, cont.

Schedule of Assignments – Math 121, Fall 2011

Week	Homework Exercises (do only odd-numbered problems unless otherwise noted)	Topics
Aug 22	1.1 11, 15, 21, 25, 27, 37, 49, 77, 79, 81, 85, 91, 97 *[See also Chapter R problems above.]* 1.2 9, 11, 15, 19, 21, 33, 51, 53, 59, 63, 65, 105, 107 1.4 7 – 25 odd 1.5 1 – 37 odd, 75, 99	Linear Equations Quadratic Equations Radical Equations Solving Inequalities
Aug 29	**Pre-lim Test on Incoming Skills** – See Review Problems above] 1.7 17, 19, 21, 23, 25, 27, 31, 39, 41 2.1 9, 11, 13, 19, 23, 35, 37, 39, 41, 47, 59, 63 2.3 1-11 (all), 13, 19, 37-45 (odds), 63, 65, 74, 79, 129 ***Last day to change sections: Friday, Sept 2***	Applications Rectangular Coordinates Lines
Sept 5	4.2 1-15 all No green parts requiring graphing calculator (No correlation coefficient) 7.1 1-6, 9, 19, 25, 29, 33, 55-61 (all) , 65, 67 2.4 11-39 (odds), 59 ***Last day to drop without a grade: Friday, Sept 9***	Interpret linear data & slope Systems of Equations Circles
Sept 12	(pp 150-151): 3-18 (by 3s), 19, 23, 29, 39-51 (by 3s), 61, 87, 93, 95 (pp. 202-203): 3, 5-16 (all), 17, 23, 27-42 (all), 44-46 (all) **Exam #1 (Chapters 1, 2 & 7.1)** ***Last day to change grading options: Friday, Sept 16***	Chapter 1 Review Chapter 2 Review **(Chapters 1, 2 & 7.1)**
Sept 19	3.1 1-29 (odds), 32, 35-59 (odds), 87, 89 3.2 9, 11-21, 23, 27, 37, 39, 41, 43 3.3 1 – 32 all, 53, 55, 57, 63	Functions The Graph of a Function Properties of Functions
Sept 26	3.4 1-16 (all), 17-23 (odds), 69 3.5 1-18 (all), 35-59, 65 3.6 3, 5, 7, 9, 19, 23	Library of Functions Transformations Mathematical Modeling
Oct 3	4.3 1-47, 53, 55, 77, 81, 83, 89 Use h = -b/2a 4.4 1 – 9 all	Quadratic fnctns & models Quadratic Models & Data
Oct 10	5.1 11-21, 33-47, 57-71 5.2 11, 21-31 (odds), 39, 41, 45 Transformations of reciprocal and inverse square functions only	Polynomial Functions Rational Functions
	October 13-14 – Fall Break – No Classes	
Oct 17	*Download the Graphing Summary Worksheet from the Math 121 web page* **Review for Exam #2** **Exam #2 (Chapters 3, 4 & 5)**	**(Chapters 3, 4 & 5)**
Oct 24	6.1 9-19, 29, 33, 39, 43, 49, 53, 55, 61, 65, 69 (parts a to d only, where applicable) 6.2 11, 15-22 (all), 23, 27-37 (odds), 41, 45, 49, 55, 59, 71, 73	Composite Functions Inverse Functions
Oct 31	6.3 11, 13d, 15d, 17-23 (odds), 29-36 (all), 37-61 (odds), 73-79 (odds) 6.7 1-39 (odds) Where exponential fncs are used most.	Exponential Functions Compound Interest
Nov 7	6.4 4-8 (all), 9-57 (odds), 63-70 (all), 77, 87-105 (odds), 113 6.5 7-23, 31-47, 51-71, 79-95 (all odds) ***Last day to withdraw without the Dean's approval: Friday, Nov 11 (WP/WF required)***	Logarithmic Functions Properties of Logs
Nov 14	6.6 5-21 (odds), 31, 33, 41, 43, 59 6.8 1 – 11 all	Exp & Log Equations Exponent'l Growth/decay
Nov 21	6.9 1, 3, 5, 7 by hand…using data to find appropriate model **Review for Exam #3**	Exp. Models from Data **(Chapter 6)**
Nov 28	**Exam #3 (Chapter 6)** Discussion of piecewise defined functions can be included here (Sec. 3.4)	**Review for Final Exam**
Dec 5	**Review for the Final Exam** [Final on Monday, Dec 12th , 10:00 am to noon] *Last day to withdraw with the Dean's approval: Friday, Dec 9 (WP/WF required)*	

Active Learning Strategies, Techniques, and Activities

Just giving the student the answer when they've asked you a question isn't going to do much in the way of helping them understand the material. It's your job to encourage students to use their resources: ask peers, seek answers, and question their understanding. By doing so you encourage Active Learning and discourage them from depending on you for answers.

Active Learning covers everything from listening practices and valuable note-taking skills to short in-class responses to the material—anything that engages a student and helps them absorb what they hear and see in class. Activities that encourage Active Learning range from 1-minute writing exercises to complex group projects. FYI: more than likely, you'll utilize the more simple strategies available because of your limited in-class contact with students. Here are some example exercises that support Active Learning processes:

One-Minute Response

Written and oral methods are both acceptable. Have the student(s) summarize an important theory or answer a specific question. Give them some time to both formulate a response and write it down. One-Minute Responses are effective for determining how well concepts are being learned. They can even reveal gaps in one's knowledge, so that you know where students (individually or collectively) require the most support. EX: "How does Dr. X define 'scientific realism?'" Or "What is the difference between Carbon Monoxide and Carbon Dioxide?" Open-ended questions might require more than a minute or two to tackle, however, so adjust time accordingly.

Clearest/Muddiest Point

Have the student(s) identify the clearest point in the lecture/material (the part they understood the best) and the muddiest point. Not unlike the One-Minute Response, Clearest/Muddiest helps identify both students and theories that require your supportive input. Sometimes, it's also helpful to ask students to respond to how they feel about the material. Are they comfortable enough to take an exam tomorrow? This can help them identify their own strengths and weaknesses.

The "Socratic Method"

Most college students are familiar with the Socratic Method. The method typically requires a small group, led by a moderator (this would be you, PLF) who poses questions for the students to answer. These questions are generally open-ended questions that invite discussion. Great for using during office hours or when you've got ample class time!

As a PLF you will quickly learn what works and what doesn't work. Use your own experiences as a student as well as the information you learn in training sessions to guide you!

Building a Good Relationship With Your Instructor

The instructor, other PLFs, and you compose an instructional team. In some classes there may be graduate teaching assistants or CAPS Supplemental Instruction leaders who are also part of the team. The instructor is the person most responsible for the team's success by letting you know ahead of time what will be happening in class, giving you suggestions on approaches to working with students, clarifying his or her expectations for you, and soliciting your feedback on how things are going. Although the instructor is the leader, you help the team function as well. There may be times when you feel that the instructor isn't giving you enough guidance or isn't responding well to your ideas. This is most likely to happen in situations where the instructor is still learning how to best incorporate PLFs into the team. Here are some suggestions for building a good relationship with your instructor:

- **Always be prepared for class, actively engaged with students, and on time in completing tasks assigned by the instructor.** If your instructor is going to feel comfortable giving you responsibilities and being open to your suggestions, then you must be credible in their eyes.

- We ask instructors to solicit your impressions of "how it's going" and to report on what you're seeing and hearing as you work with students so that adjustments to learning can be made. However, sometimes instructors won't think to ask you or will respond defensively if you tell them something that is contrary to their perceptions. Unless a protocol for you to offer input and feedback is established early by your instructor, **consider taking a respectful, proactive approach.** For example, after a class you could send an email to the instructor: "I learned some interesting things about how students were challenged by the work in class, today. I thought I'd share these observations with you." Even if you have an idea about how to do things differently, don't offer your suggestion immediately; however, be prepared to share your idea if asked. Usually, instructors will respond positively to you sharing observations, especially if you can mix positive points with the negative ones.

- **Let the relationship grow naturally.** Using email, especially when first building a relationship with an instructor, allows you to choose your words carefully and to avoid awkward conversations; but be sure to proofread your message and write professionally so that, again, you're building credibility. When offering suggestions, consider putting them in the context of your previous experiences: "When I took this class, I found it really helpful when the instructor…" "When I was a PLF in Dr. X's class, she approached this type of problem in a way that I found very helpful…"

- **If the instructor isn't giving you enough information to prepare for class, then also consider sending an email.** "I'm looking forward to Wednesday's class because this topic is very interesting to me. I want to be sure that I'm being as helpful as possible to you and the students. Can you please tell me what you're planning to do and where my assistance will fit in best? Are there problems or a worksheet that I could work on before class?" Most instructors appreciate initiative and your *respectful* prodding may help to promote better communication as the semester progresses.

- **Most important, don't let a stressful or unproductive relationship persist because it's not likely to get better on its own.** Let Mary know what is frustrating to you and the STEM Gateway staff will do their best to help establish a better working relationship.

Campus Contact Information

A list of resources that are most relevant to student life, your job and being a UNM student.

Student Resources

Accessibility Resource Center (as2.unm.edu)
(505)277-3506

Office of Admissions (admissions.unm.edu)
(505) 277-8900
TOLL FREE: 1-800-CALL-UNM ext. 1

Agora Crisis Center (www.unm.edu/~agora)
(505) 277-3013 or 1-866-HELP-1-NM (1-866-3246-1-55)

Bursar's Office (www.unm.edu/~bursar)
(505) 277-5363

Campus Office of Substance Abuse Prevention (COSAP)
(www.unm.edu/~cosap)
(505) 277-2795

Career Services (www.career.unm.edu
(505) 277-2531

Center for Academic Program Support (caps.unm.edu)
(505) 277-7208

Student Affairs (studentaffairs.unm.edu)
(505) 277-0952

Student Employment (www.unm.edu/~wsestudy)
Phone: (505) 277-3511

Student Health Center (shac.unm.edu)
Information, Appointments and Counseling Services: (505) 277-3136
Pharmacy: (505) 277-6306

UNM IT (it.unm.edu)
Help Desk: (505) 277-5757

Colleges and Schools

Anderson School of Management (www.mgt.unm.edu)
(505)277-6471

Architecture and Planning (saap.unm.edu)
(505)277-3133

Arts and Sciences (www.unm.edu/artsci)
(505)277-3046
Advisement: (505) 277-4621

Education (coe.unm.edu)
(505)277-2231

Engineering:

- Chemical and Nuclear
  (505) 277-5431
- Civil Engineering
  (505) 272-2722
- Computer Science
  (505) 277-3112
- Electrical and Computer
  (505) 277-2436
- Mechanical
  (505) 277-1325

Fine Arts (finearts.unm.edu)
(505)277-4817

Nursing (nursing.unm.edu)
1-800-690-0934

Pharmacy (hsc.unm.edu/pharmacy)
(505)272-3241

Law (lawschool.unm.edu)
(505) 277-2146

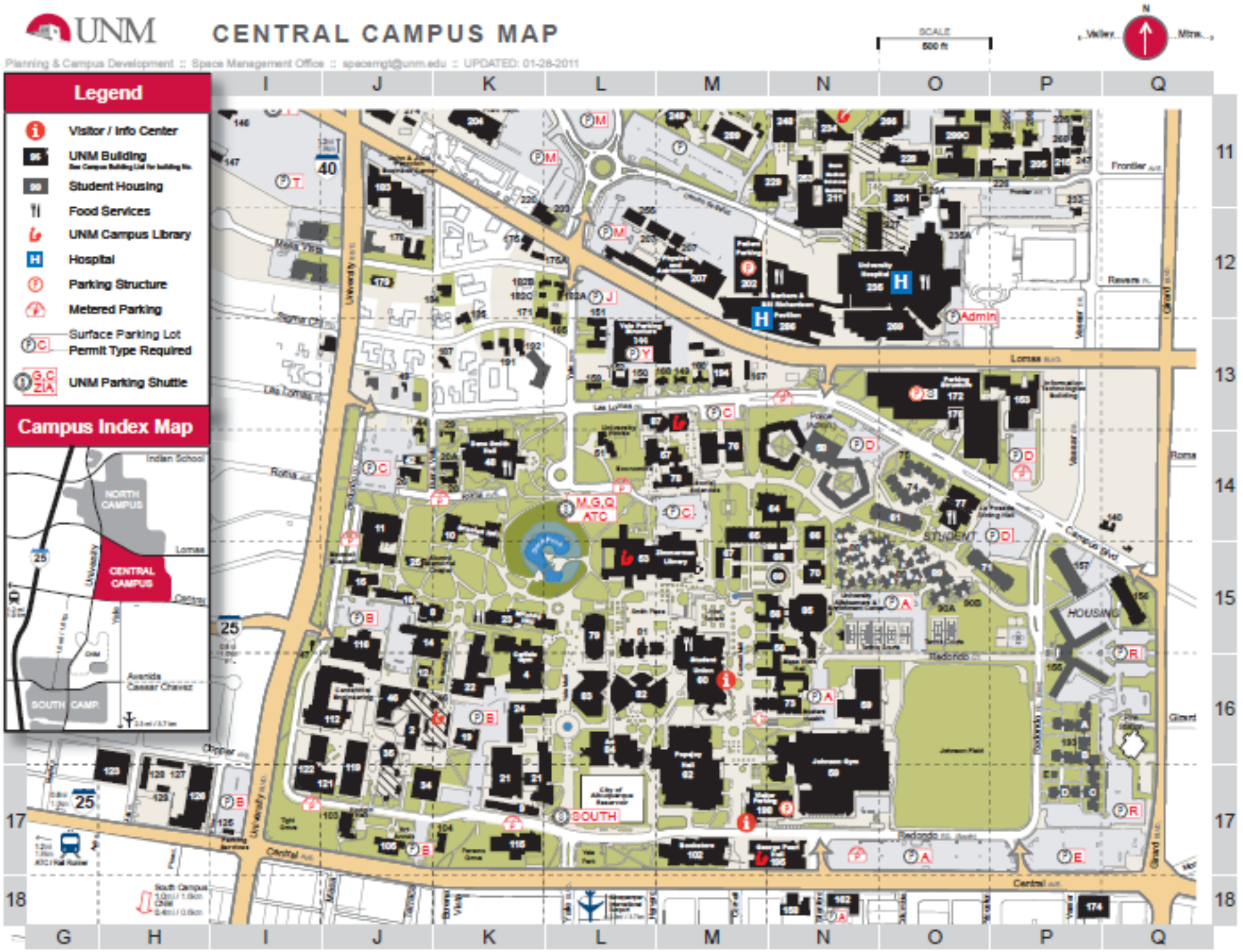
Medicine (hsc.unm.edu/som)
somadmin@salud.unm.edu

Public Administration (spa.unm.edu)
(505) 277-1092

University College (www.unm.edu/~ucollege)
(505) 277-2631

UNM CENTRAL CAMPUS MAP

Planning & Campus Development :: Space Management Office :: spacemgt@unm.edu :: UPDATED: 01-28-2011



THE UNIVERSITY NEW MEXICO CAMPUS MAP LEGEND BY BUILDING NUMBER

CENTRAL CAMPUS

#	BUILDING NAME	GRID
2	ENGINEERING AND SCIENCE COMPUTER POD (ESCP)	J-16
4	CARLISLE GYMNASIUM (CARL)	K-16
8	BANDELIER HALL EAST (BANDE)	J-15
9	MARRON HALL (MARN)	K-17
10	SCHOLES HALL (SCHL)	K-14
11	ANTHROPOLOGY (ANTHO)	J-14
12	ANTHROPOLOGY ANNEX (ANTHX)	J-16
14	SCIENCE & MATH LEARNING CENTER (SMLC)	J-15
15	HIBBEN CENTER FOR ARCHAEOLOGY RESEARCH (HIBB)	J-15
16	BANDELIER HALL WEST (BANDW)	J-15
19	BIOLOGY ANNEX (BIOANX)	K-16
21	CASTETTER HALL (CAST)	K-17
22	CLARK HALL (CLARK)	K-15
23	MITCHELL HALL (MITCH)	K-15
24	NORTHROP HALL (NTHP)	K-16
25	ALUMNI MEMORIAL CHAPEL (ALUMNI)	J-15
29	DISPUTE RESOLUTION (DISP)	K-14
34	LOGAN HALL (LOGAN)	J-17
35	REGENER HALL (REGH)	J-16
42	EQUAL OPPORTUNITY PROGRAMS (EOP)	J-14
44	TITLE V & MENTORING INSTITUTE	J-13
46	ELECTRICAL AND COMPUTER ENGINEERING/CENTENNIAL LIBRARY (EECE)	J-16
48	DANE SMITH HALL (DSH)	K-14
51	UNIVERSITY HOUSE (UNIVH)	L-14
53	ZIMMERMAN LIBRARY (ZIMM)	L-15
56	MESA VISTA HALL (MVH)	N-16
57	ECONOMICS (ECON)	M-14
58	HOKONA HALL (ZUNI-OFFICES, ZIA-DORMITORY) (HOKW)	N-14
59	JOHNSON CENTER (JOHNS)	N-17
60	STUDENT UNION BUILDING (SUB) (NMU)	M-16
61	SANTA CLARA HALL DORMITORY	O-14
62	CENTER FOR THE ARTS (POPEJOY, KELLER HALL, FINE ARTS MUSEUM) (CTRART)	M-17
64	TECHNOLOGY & EDUCATION CENTER (TECH)	N-14
65	TRAVELSTEAD HALL (TRAV)	M-14
66	SIMPSON HALL (SIMP)	N-14
67	EDUCATION CLASSROOMS (EDUC)	M-15
68	MASLEY HALL (MASLEY)	N-15
69	KIVA (KIVA)	N-15
70	MANZANITA CENTER (MANZ)	N-15
71	SANTA ANA HALL (DORMITORY)	P-15
73	STUDENT HEALTH CENTER AND UNDERGRADUATE STUDIES (SHC)	M-16
74	LAGUNA HALL (DORMITORY) (LAGUNA)	O-14
75	DEVARGAS HALL (DORMITORY) (DEVARG)	O-14
76	ANDERSON SCHOOL OF MANAGEMENT (ASM)	M-14
77	LA POSADA DINING HALL	O-14
78	SOCIAL SCIENCES (SSCO)	M-14
79	ORTEGA HALL (ORTG)	L-15
81	HUMANITIES (HUM)	L-15
82	WOODWARD LECTURE HALL (WOOD)	L-16
83	CONSORTIUM FOR ENVIRO. RESEARCH, INFORMATICS & ART (CERIA)	L-16
84	ART (ART)	L-16
85	UNIVERSITY ADVISEMENT & ENRICHMENT CENTER (UAEC)	N-15
87	ANDERSON GRADUATE SCHOOL OF MANAGEMENT / PARISH LIBRARY (GSM)	M-13
88, 89, 90	STUDENT RESIDENCE CENTER (SRC)	O-15
102	BOOKSTORE	M-17
103	HODGIN HALL (HODGIN)	J-17
104	SARA RAYNOLDS HALL (SARAR)	K-17
105	ART ANNEX (ARTX)	J-17

CENTRAL CAMPUS cont.

#	BUILDING NAME	GRID
112	CENTENNIAL ENGINEERING CENTER (CRC)	J-16
115	COMMUNICATION AND JOURNALISM (COMMJ)	K-17
116	FORD UTILITIES CENTER	J-15
119	FARRIS ENGINEERING CENTER (FEC)	J-17
122	MECHANICAL ENGINEERING (MECH)	I-17
123	MATTOX SCULPTURE CENTER (MATTOX)	H-17
125	PARKING SERVICES	I-17
126	HIGH PERFORMANCE COMPUTING / ART, RESEARCH, TECH & SCI LAB	H-17
140	HUBER HOUSE	P-14
144	YALE PARKING STRUCTURE	L-13
150	STUDENT SUPPORT SERVICES / DEAF & HARD OF HEARING SERVICES (SSDHH)	L-13
151	NAVAL SCIENCE (NAVAL)	L-13
152	JONSON GALLERY/RWJF (JONGAL)	L-13
153	INFORMATION TECHNOLOGIES BUILDING (ITB)	P-13
155	CORONADO HALL (DORMITORY)	P-16
156	ONATE HALL (ONATE)	Q-15
157	ALVARADO HALL (DORMITORY) (ALVRDO)	P-15
158	ROBERT HARTUNG BUILDING (HART)	N-18
159	AEROSPACE STUDIES BUILDING (AERO)	I-12
160	UNIVERSITY CLUB (UCLUB)	M-13
162	TAMARIND INSTITUTE	N-18
165	LATIN AMERICAN/IBERIAN INSTITUTE (LAII)	L-13
168	BUREAU OF BUSINESS AND ECONOMIC RESEARCH DATA BANK (DATA)	M-13
171	SOUTHWEST HISPANIC RESEARCH INSTITUTE AND CHICANO STUDIES (SHRI)	K-12
172	PARKING STRUCTURE	O-13
174	INSTITUTE FOR: SOCIAL RESEARCH / ENVIRON. EDU / ASSISTED TECH (ISR)	P-18
175	ARMY ROTC (ARMY)	K-12
178	SIGMA PHI EPSILON FRATERNITY	J-12
179	PHI DELTA THETA SORORITY	J-12
182A, B, C	LATIN AMERICAN DATA BASE AND LATIN AMERICAN OUTREACH	L-12
183	JOHN AND JUNE PEROVICH BUSINESS CENTER	J-11
184	COUNSELING, ASSISTANCE AND REFERRAL SERVICE (CARS)	K-12
185	INSTITUTE FOR PUBLIC POLICY	K-12
187	EXTENDED UNIVERSITY	K-13
191	HOUSE OF PREVENTION EPIDEMIOLOGY (HOPE)	K-13
192	PSYCHOLOGY CLINIC / AGORA CRISIS CENTER (PSYC)	K-13
193A-E	REDONDO VILLAGE STUDENT RESIDENCES	P-16
195	GEORGE PEARL HALL (PEARL)	N-17
198	PARKING STRUCTURE / UNM WELCOME CENTER	M-17

POINTS OF INTEREST

ADVISEMENT & ENRICHMENT (BLDG #85)	N-15
EXPERIMENTAL THEATRE (CENTER FOR THE ARTS - BLDG #62)	M-17
FINE ARTS LIBRARY (GEORGE PEARL HALL - BLDG #195)	N-17
GEOLOGY MUSEUM (NORTHROP HALL - BLDG #24)	K-16
GREENHOUSE CONSERVATORY (CASTETTER HALL - BLDG #21)	K-17
HOUSING (BLDG #58)	N-14
HUMAN RESOURCES (JOHN AND JUNE PEROVICH BUSINESS CENTER - BLDG #183)	J-11
JONSON GALLERY (CENTER FOR THE ARTS - BLDG #62)	M-17
KELLER HALL (CENTER FOR THE ARTS - BLDG #62)	M-17
MASLEY HALL ART GALLERY (BLDG #68)	N-15
MAXWELL MUSEUM (ANTHROPOLOGY - BLDG #11)	J-14
METEORIC MUSEUM (NORTHROP HALL - BLDG #24)	K-16
POPEJOY HALL (CENTER FOR THE ARTS - BLDG #62)	M-17
RODEY THEATRE (CENTER FOR THE ARTS - BLDG #62)	M-17
SOMMERS GALLERY (ART - BLDG #84)	L-16
TAMARIND INSTITUTE GALLERY (TAMARIND INSTITUTE - BLDG #162)	N-18
UNM ART MUSEUM (CENTER FOR THE ARTS - BLDG #62)	M-17
WELCOME CENTER (BLDG #198)	M-17

H HOSPITAL LIBRARY (P) PARKING INFORMATION FOOD/DINING

Planning and Campus Development • Space Management • MSC 07-4212• 1 University of New Mexico • Albuquerque, NM 87131
Main Information (505) 277-0111

12/15/2011

The STEM Gateway program is funded through a U.S. Department of Education
TITLE V grant, 2011-2016, 100% grant funded
(total anticipated funding $3.82 million).

For the PLF program to be successful, instructors and PLFs worked together to understand the needs of the students in accordance to the material presented together with the different assigned classroom locations. This continuous interaction between instructors and PLFs allowed for further understanding of what changes would be benefit course redesign.

Planning for your course

The most common approach faculty takes to design a general chemistry course is a content-based approach. In this approach professors first determine the order of topics – this is usually based on textbook chapters with some modifications according to teacher's experience. Once the order is determined, a class schedule will be planned to fit topics into the weekly lecture meetings. At this point, the course design is almost done and the professor just needs to insert a couple of midterm exams and a final exam to finalize the class schedule. The whole process can be finished within a day, or even a couple of hours for an experienced faculty.

Although this approach is quick and easy, and it allows faculty to makes sure all the required topics will be covered in the course, there are many important aspects about student learning that have not been considered in this approach. For example, is there evidence that shows the planned learning method is effective for student learning? What are the students learning outcomes from this course? What is the mechanism that allows the instructor to improve student learning during the semester? These questions are especially important in a class with diverse student background like in our general chemistry classes that we do not know and should be considered in our course design process.

The approach we recommend and describe in this handbook is called the **backward design**. We call it backward design because we start with the final outcomes we expect our students to reach as the result of the course learning, and go "backward" to work out the best strategies for students to accomplish the final outcomes. This approach focuses on how "students" reach the "learning outcomes", instead of how "professor" teaches the "covered topics".

Before we begin to introduce the steps of backward design, we explain the terminology we use.

1. Each UNM core course has a set of **course level Student Learning Outcomes** (**SLOs**). You can find the SLOs for CHEM 121 and 122 in Appendix A. You need to adopt these SLOs for your course. Each semester, you should collect assessment data against selected SLOs (two to three) and use it for the writing of annual General Education Assessment reports.
2. Based on course SLOs, you can write a set of **Instructional Objectives** (**IOs**) as the course content. For example, for SLO#3 of CHEM 121: "*Explain the structure of the atoms, isotopes and ions in terms of its subatomic particles"***,** you might have the following three IOs: (1) students practice to identify the numbers of subatomic particles for different elements in the periodic table. (2) students practice to identify isotopes and the numbers of subatomic particles. (3) students practice to identify ions and the numbers of subatomic particles.
3. When we prepare the course level IOs, we need to consider different cognitive and affective levels of student learning activities as described in **Bloom's and Fink's Taxonomies**. Both taxonomies are explained in Appendix B.
4. To monitor students' learning progress throughout the semester, we use both informative and summative assessments. **The informative assessments** are low-stakes assessment focusing on providing a quick and diagnostic measure of student understanding and the effectiveness of

teaching. The **summative assessments** are high-stakes assessments serving for the purpose of grading and reporting.

We recommend the following steps for your planning of this course:

1. What are the IOs to be covered are determined which are aligned with course SLOs
2. Learning strategies are chosen & designed for students to learn topics planned in IOs
3. How will IOs and SLOs be assessed during and by the end of semester?
4. What are the course activities to be developed and implemented?

We divide our course activities into three categories based on when it happens:

Category	**activities**	**goals**
Pre-class	Reading assignments	Students learn facts from reading; we expect them to understand simple concepts, too.
	Reading quizzes	Quick assessment of students' reading
	Muddy points	Students reflect on their reading and inform teachers about what is not understood.
In-class	Introduction & responses	Teacher summarizes covered topics and responds to students questions
	I-clicker questions	Assessments of student's learning
	Small group discussions	Students learn covered topics by cooperatively solving problems
Post-class	ALEKS exercises	Requiring students to transfer knowledge from short-term memory to long-term memory by retrieving and applying.

Under the framework presented above, you can start to plan for your implementation. The following questions help you form your policy and what to be prepared.

Pre-class

1. How do I let students know the reading assignments? Should I use handouts, e-mails, or announcement in the BlackBoard Learn?
2. Do I want to ask students to read just the textbook in the reading assignments, or do I want to add other materials such as simulation, videos, or handouts?
3. How will I do the reading quizzes? Will I use ALEKS questions, or my own questions delivered on BlackBoard LEARN? Or will I give them a quiz in the beginning of each class as the reading quiz?
4. How will I assign and collect answers from muddy points? Keep in mind the purpose of muddy points is to inform you about students' pre-class reading, and should be collected

before the class. You should have sufficient time to review students' responses before each class. In our current practice, we use LEARN to collect and review responses.

5. What percentage of grade you will give to the pre-class quizzes and muddy points?
6. What are the source or resources of reading assignments? Is there existing resource from course redesign?

In-class

1. How will I organize and present the topics I planned to discuss in each class? Should I use PowerPoint slides as the outline for the classes? Should I give mini-lectures to summarize and further explain the concepts or misconceptions indicated by students' responses?
2. How will I conduct the small group discussions? How will I form groups? How will I make sure each student has a role in the group discussion? How will I credit each student for discussions? How will help group discussion if they have questions? How will I oversee more than one group? How will I organize PLF and TAs to facilitate the discussions?
3. How will I use clicker in the class? What proportion of grade will I give to students for the use of clickers? What is my policy regarding loaning clickers? How will I register students for clicker? (the section of Classroom Technology has more recommendations)

Post-class

1. How will I grade ALEKS? How will I set up ALEKS, objective or open-pie? Do I want periodic assessments? How frequently do I want assessments?
2. Do I want to give students post-class projects or assignments in addition to ALEKS? How will I grade these assignments?

Other Course Policies

1. Will I take attendance? Will attendance be required and counted toward the final grade?
2. This course has the lab (CHEM 123L or 124L) as the co-requisite. If a student has previously passed the lab, they can register this course without the lab. You need to be aware of this curricular rule when students ask you to give them an override for co-requisite. Similar problems also arise when students drop one of these co-requisite courses because they will also be dropped from the other course. The general rule is the faculty for the course student will remain in made the decision for whether an override will be granted. For example, if a student wants to drop the lab and remain in the lecture, they should appeal to the lecture faculty for override. However, when making the decision, you should consider for the integrity of the curriculum and whether it is possible for student to pass the course. For example, if student wants to drop the lab in week 1 and remains in the lecture, you need to make sure the student's intention is not to take the lecture without the lab. You also need to make sure that student understands by taking the lecture alone, he/she cannot take the next course until he/she pass the lab, which will delay their progress. The lab policy is students can stay in the lab when they drop from the lecture only if they have completed

50% of the lab materials and with a passing grade. You can consider a similar rule for your class.

3. You should have a classroom policy in place. For example, will you allow students to use cell phone or surf the internet in class?
4. You should have the date and time and room number for your office hours posted.
5. You should have an e-mail policy in place. For example, will you answer weekend e-mails? In what timeframe will students expect to receive your responses?
6. You should have the grading policy in place.

Learning Strategies Inventory

Source: Faust, J. L., & Paulson, D. R. (1998). Active learning in the college classroom. *Journal on Excellence in College Teaching, 9* (2), 3-24

Muddiest (or Clearest) Point. This variation on the one-minute paper is specifically designed for determining gaps in student comprehension (Angelo & Cross, 1993). The instructor requests a one-minute written response to the question "What was the 'muddiest point' in today's lecture?" or "What concept do you find most difficult to comprehend?" The question may be more specific. Because the instructor collects the responses immediately and can read them before the next lecture period, he or she has the opportunity to make teaching adjustments in response to the students' needs much sooner than would be possible otherwise.

One-Minute Paper. Originally reported by Angelo and Cross (1993), this technique has been adapted for use in virtually every discipline (see, for example, Dorroh, 1993; Fishman, 1997; Kloss, 1993; Ludwig, 1995; Morrissey, 1982). It is a highly effective method for checking student progress and for providing a consistent means of communicating with students. To implement this method, the instructor simply stops class a few minutes early (or pauses at some point during a lecture), poses a specific question (for example, "What was the main point presented in today's class material?"), and gives students one (or perhaps two—but not many more) minute to respond. Students' responses tell the instructor whether or not they view the material in the way he or she envisioned.

Depending on an instructor's objectives, students may submit their responses anonymously or with their names on them. Anonymity may encourage otherwise reticent students to voice concerns or raise questions, but it will not foster direct communication between students and the instructor. Further, it has been argued that allowing anonymous submissions actually detracts from active engagement in the exercise because students may perceive that they have little to gain by applying themselves to the task (Harwood, 1996).

Reading Quiz. Active learning depends on students coming to class prepared. In addition to being an effective means of encouraging students to read assigned material, the reading quiz can be used to measure student comprehension of readings, thus providing the instructor with evidence of students' level of sophistication as readers (Mazur, 1996,
1997). By asking the same sorts of questions on several reading quizzes, instructors can guide students regarding what to look for when reading assigned texts. For instance, if reading quizzes in an English literature class consistently include questions such as "What color were Esmerelda's eyes?" students will learn that it is the details that count. On the other hand, questions such as "What reason did Esmerelda give for murdering Sebastian?" highlight issues of justification. If the goal is to instruct and not merely to coerce, quiz questions must be carefully constructed so that they identify both which students have read the material (for the instructor's benefit) and what is important in the reading (for the students' benefit). Using straightforward questions based directly on the class reading assignments for each day, Paulson (1999) has found a correlation (r = ~ 0.8) between the total points on the reading quizzes and the total course points.

Pair-share. Putting students in pairs provides many of the advantages of group work. A recent meta-analysis of 383 published reports on small-group learning in college science, math, engineering, and technology classes showed that small-group learning promotes greater student achievement, increases retention in courses, and promotes favorable attitudes toward the course material (Springer, Stanne & Donovan, 1998). Students have the opportunity to state their own views, to hear from others, to hone their argumentative skills, and so forth, without the administrative requirements of group work (time spent assigning people to groups, class time used for getting into groups, and so on) (Shakarian, 1995). Further, working in pairs makes it virtually impossible for students to avoid participating, thus making each person accountable.

Pair Discussion. In discussion, students pair off and respond to a question either in turn or as a pair. This method easily can be combined with other techniques, such as those discussed under "Questions and Answers" or the "Critical-Thinking Motivators" discussed above. For example, after students have responded to a list of true-false statements, they can be asked to compare their answers with their partner's and to discuss the statements on which they differed. In science classes, students can be asked to explain how some experimental data support a theory that the instructor has just discussed. Generally, this approach works best when students are given explicit directions, such as "Tell each other why you chose the answer you did."

Note Comparison/Sharing. One reason that some students perform poorly in classes is that they do not have good note-taking skills. That is, although students may listen attentively, they do not always know what to write down, or they may have gaps in their notes that leave the bewildered when they go back to the notes to study or write a paper. One way to avoid some of these pitfalls and to have students model good note taking for each other is to have them compare notes occasion- ally. After covering a crucial concept, the instructor might stop lecturing and have students read each other's notes, filling in the gaps in their own note taking. This activity is especially useful in introductory courses or in courses designed for non-majors or special admissions students. When students see the value of supplementing their own note taking with others' notes, they are more likely to continue the practice outside of class time.

Peer Review. This method works well when students have completed an individual homework assignment or short paper. On the day the assignment is due, students submit one copy to the instructor and one copy to a partner. Partner pairs may be formed just for the day or assigned for the entire term. Each student offers critical feedback on his or her partner's work,

standardizes or assesses the partner's arguments, or corrects mistakes in problem solving or gram- mar. Peer evaluation can be a particularly effective way to improve student writing. However, students need to be given specific instructions on what to look for in the work they are assessing. In a course that Paulson teaches entitled Writing for Chemists, for example, students receive a Group Editing Guide, which helps them to focus on the important features in each section of a paper. Without these detailed instructions, students tend to make rather general and not very useful comments. Students also can benefit from assessing an anonymous paper or a paper from a previous class selected by the instructor.

Jigsaw Group. In jigsaw projects, each member of a cooperative-learning group becomes "specialized," mastering a discrete part of the subject matter required to complete the project. He or she thereby possesses knowledge critical to the rest of the group. There are generally four stages in the jigsaw process (Clarke, 1994; Marcus, 1998). First, the instructor organizes students into heterogeneous home groups (if the instructor has assigned students to base groups during the term, the base group may constitute the home group for a given project). Each member of the home group is assigned or chooses a part of the subject matter to be explored. For example, if the project requires applying several moral theories to a case study, each student in the home group is assigned to become an expert on a particular moral theory. In the second stage, students reform into focus groups centered on their selected topics. In our hypothetical example, several students from different home groups who were designated as experts on Kant's moral theory would group together to explore, clarify, and write down the main ideas of that theory. In the third stage, these focus groups disband, and the original groups re-form. The home groups now include an "expert" on each moral theory sub-topic. The experts report their findings to the rest of their home group, and the group discusses the issues in depth. The fourth and final stage of the project requires the group to apply this information. In the example above, each group could determine the moral status of an action portrayed in a case study according to the various moral theories they have mastered.

Active-Review Sessions. In the traditional class review session, the students ask questions and the instructor answers them. Students spend their time copying down answers rather than thinking about the material. In an active-review session, the instructor poses questions, and the students work on them in cooperative-learning groups (either informal or base groups can serve this purpose). Then the instructor asks students to share their solutions with the class, and all students discuss any differences among their proposed answers. The ensuing discussion can be guided according to the questions and answers techniques outlined above.

Work at the Blackboard. In many problem-solving courses (such as mathematics, logic, or critical thinking), instructors tend to review home- work or teach problem-solving techniques by solving the problems themselves. Because students learn more by doing than watching

(Spring- er et al., 1998), this is clearly not the optimal scenario. Rather than illustrating problem solving, instructors can have students work out the problems themselves by asking them to go to the blackboard in small groups. Cooperative groups encourage discussion of problem-solving techniques ("Should we try this?") without embarrassing students who have not yet mastered the required skills. If there is insufficient black- board space, students can still work out problems as a group by using paper and pencil, small dry-erase boards, or even computers if the ap- propriate software is available.

Concept Mapping. A concept map is a way of illustrating the connec- tions that exist between terms or concepts covered in class (Novak, 1990; Novak & Gowin, 1984). Students brainstorm to generate a list of facts, ideas, or concepts for a particular topic and then draw lines connecting related items. Above each line students write the nature of the relation- ship between the items. Because most of the terms in a concept map have multiple connections, students must identify and organize information to establish meaningful relationships between the pieces of information. A concept map is an effective means to show students how the many concepts covered in a typical course are connected. Although individuals as well as groups of students can do concept mapping, the maps produced in groups are usually much more detailed than those produced by individual students

Visual Lists. In this technique, students make a list of opposing points or arguments on paper or on the blackboard. Students typically can generate more comprehensive lists working in groups than they can alone. This method is particularly effective when asking students to compare views or to list the pros and cons of a position. One technique that works well with such comparisons is to have students draw a 'T" and label the left- and right-hand sides of the crossbar with the opposing positions (or "Pro" and "Con"). Students then list everything they can think of to sup- port these positions on the relevant side of the vertical line. Once students have generated as thorough a list as they can, the instructor asks them to analyze the lists by asking questions that are appropriate to the exercise.

Peer-led Team Learning

The Peer-Led Team Learning (PLTL) Workshops generally supplement the lecture. PLTL http://www.sci.ccny.cuny.edu/~chemwksp/ can be used in a course with any size enrollment. Under the PLTL model, undergraduate students who have done well in the class previously are recruited and trained as workshop leaders or peer leaders who guide the efforts of a group of six to eight students. These peer-led groups meet weekly (separate from the lecture and the instructor) to work together on problems that are carefully structured to help the students build conceptual understanding and problem-solving skills. There are no answer keys for either the students or the peer-

leaders; the emphasis is on learning to find, evaluate, and build confidence in answers. Simultaneously, the workshops and the peer leaders provide a supportive environment that helps each student participate actively in the process of learning science. Thus, PLTL offers a mix of active-learning opportunities for students and a new role for undergraduate peer leaders that is appropriate for their stage of development; PLTL has been used successfully in courses in chemistry, biology, physics, math, computer science, and engineering. In practice, the weekly workshop replaces traditional recitation sections led by graduate teaching assistants or faculty. Although most peer leaders are undergraduates, many graduate students with appropriate training have also worked effectively and enthusiastically in that role.

STEM Gateway

Peer Learning Facilitator Program

Part II: Developing a successful peer learning facilitator

After completing this session of the institute, program coordinator will be able to…

…select training content for PLFs according to expectations that provide impetus for active learning style in redesigned courses.

i) Active learning
ii) Professional development
iii) Resources
iv) PLF reflections

STEM GATEWAY

Project for Inclusive Undergraduate STEM Success

DEPARTMENT OF EDUCATION
UNITED STATES OF AMERICA

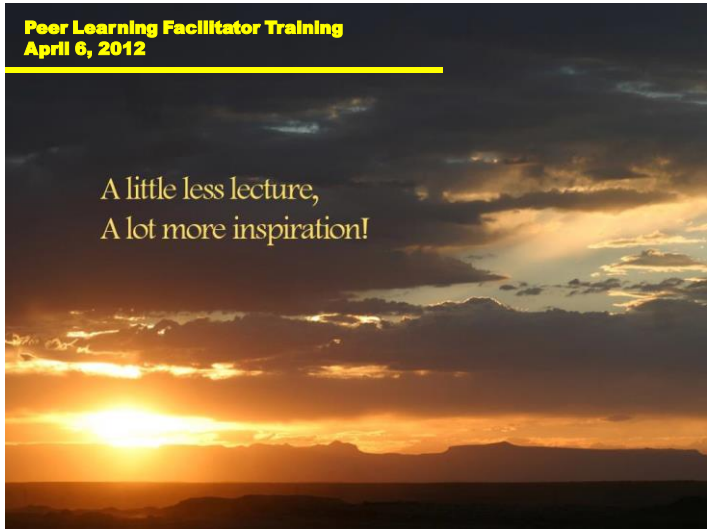
Active learning

Trainings focused on providing PLFs with skills to implement active learning in redesign courses. Among this trainings there was a focus on how to approach students during classroom time, office time, high volume of assistance requested, unengaging students, etc.

PLFs working together on a training exercise, Spring 2012

STEM GATEWAY

Peer Learning Facilitator Training
April 6, 2012



TIM SCHROEDER
Senior Director of Extended Learning

B.A. in Political Science
M.S. in Adult Education
Ed. Lead doctoral student

Teaching college courses as an adjunct for 12+ years

I learned digital photography for fun

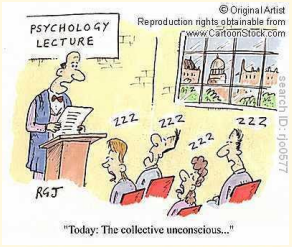
Tell Us About You:

Name

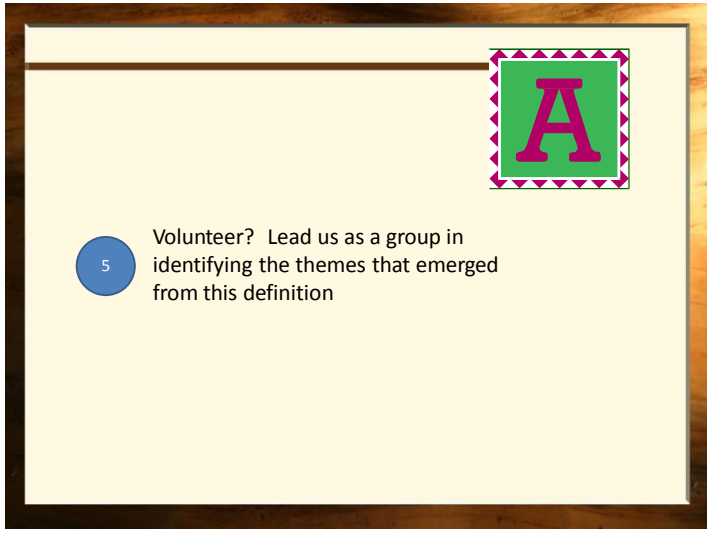
Where do you call "home"?

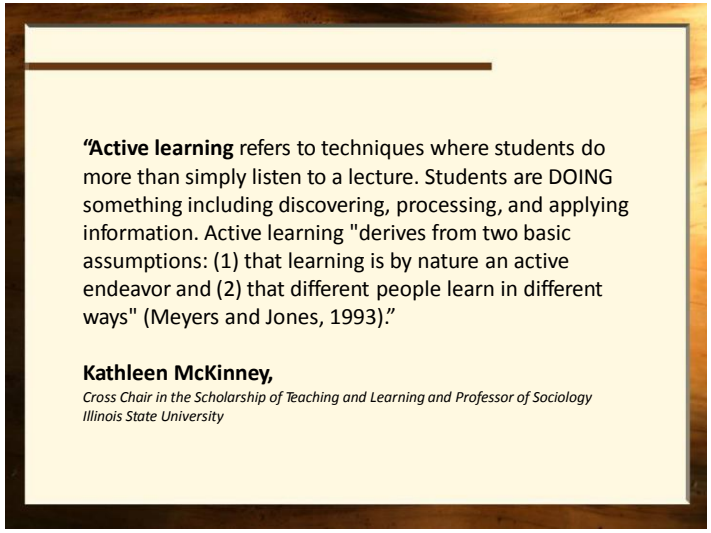
Something you learned for fun

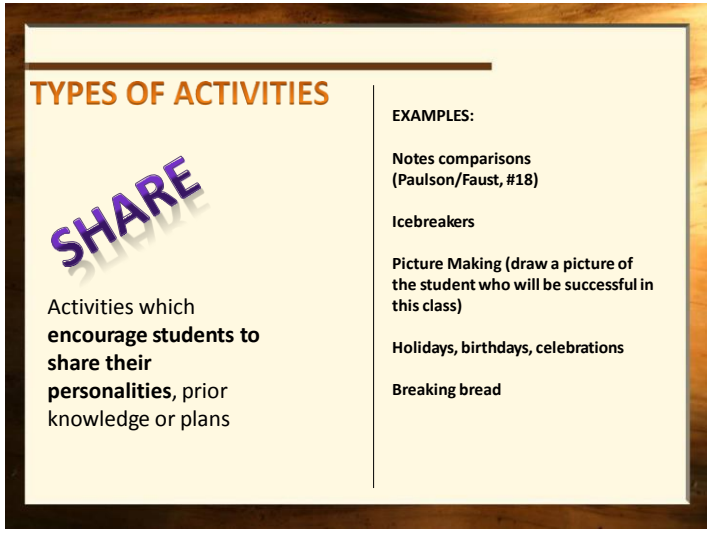
ACTIVE LEARNING

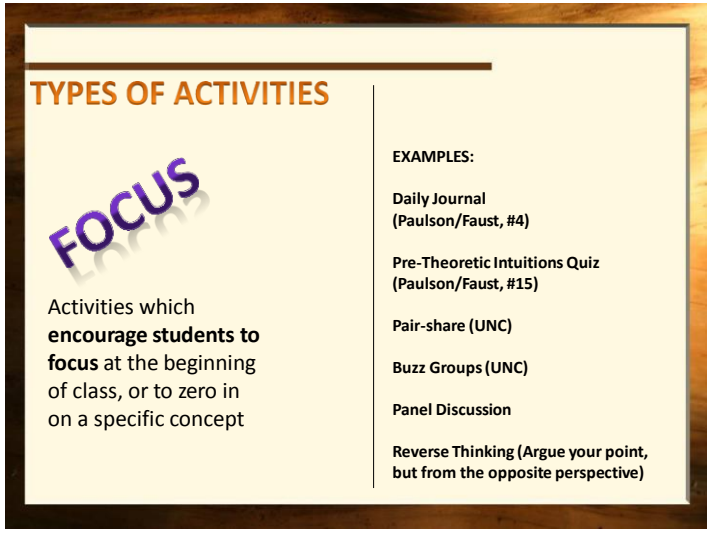


1. On a notecard, write your own definition for "Active Learning"


A
5
Volunteer? Lead us as a group in identifying the themes that emerged from this definition


"Active learning refers to techniques where students do more than simply listen to a lecture. Students are DOING something including discovering, processing, and applying information. Active learning "derives from two basic assumptions: (1) that learning is by nature an active endeavor and (2) that different people learn in different ways" (Meyers and Jones, 1993)."
Kathleen McKinney,
Cross Chair in the Scholarship of Teaching and Learning and Professor of Sociology
Illinois State University


TYPES OF ACTIVITIES
SHARE
Activities which encourage students to share their personalities, prior knowledge or plans
EXAMPLES:
Notes comparisons (Paulson/Faust, #18)
Icebreakers
Picture Making (draw a picture of the student who will be successful in this class)
Holidays, birthdays, celebrations
Breaking bread


TYPES OF ACTIVITIES
FOCUS
Activities which encourage students to focus at the beginning of class, or to zero in on a specific concept
EXAMPLES:
Daily Journal (Paulson/Faust, #4)
Pre-Theoretic Intuitions Quiz (Paulson/Faust, #15)
Pair-share (UNC)
Buzz Groups (UNC)
Panel Discussion
Reverse Thinking (Argue your point, but from the opposite perspective)

TYPES OF ACTIVITIES

Activities which **assess student understanding**, confidence and progress

EXAMPLES:

One-Minute Paper (Paulson/Faust, #1)

Lecture Check (UNC)

Muddiest/Clearest Point (Paulson/Faust, #2)

Clickers, Cards or Fingers (Paulson/Faust, #12)

Group Quiz

TYPES OF ACTIVITIES

Activities which **introduce students to new concepts**, or allow them to apply previously learned knowledge

EXAMPLES:

Student Summary of Another Student's Answer (Paulson/Faust, #9)

Three-Step Interview (UNC)

Students Writing Quiz Questions (Paulson/Faust, #11)

Puzzles and Paradoxes (Paulson/Faust, #16)

Whole-Class Debates (UNC)

Role Playing (Paulson/Faust, #26 & UNC)

On a note card, write down one of the following that you feel would be most useful in your class:

SHARE

FOCUS

ASSESS

LEARN

Find one other person who has the same purpose as yours.

As a pair, identify one activity you both feel comfortable with from any of the handouts.

Share with the group why you picked this particular activity.

10

Muddiest / Clearest Point

3

On a note card, write down one point that you consider to be the muddiest, or one you consider to be the clearest up to this point. Be prepared to share.

THE ART OF ASKING QUESTIONS

Some interesting research…

- "A study of college faculty in a variety of different institutions showed that, on average, college professors devote only 3.65% of class time to questioning, regardless of course level or academic field.
- "Moreover, 63% of these questions are directed at the lowest cognitive level, requiring only recapitulation, clarification, or factual responses."
- *Source:*
- *Classroom activities for learning*. (1998, October). Retrieved from
- http://ctl.unc.edu/fyc2.html.

Bloom's Taxonomy (of educational objectives)

1. Knowledge – at this level, information can be recalled.
2. Comprehension – at the level, information can be interpreted and translated
3. Application – at this level, information is used to solve problems
4. Analysis – at this level, information can be broken into parts and relationships between the parts understood
5. Synthesis – at this level, information can be used to create novel information
6. Evaluation – at this level, information can be compared, contrasted and judged against a given criteria

Questions come in different flavors…

"NEW MEXICO SHOULD BUILD ANOTHER COAL POWER PLANT"

- Do you agree with this statement? (closed)
- How would the power plant change your life? (open)

- The plant would be built in which area? (convergent)
- How might the plant impact the environment? (divergent)

…And with different purposes

Knowledge
When is the plant proposed to be built?

Comprehension
Describe the plant project in your own words (no value judgments).

Application
How will the actual construction impact transportation through the state?

Analysis
How does this plant compare to the similar projects in Arizona?

Synthesis
What alternatives to the plant would you propose?

Evaluation
Do you believe we should build the plant?
Why or why not? How would you articulate your biases?

In addition to asking questions, you will need to respond when other students ask you questions.

Normally, our first response is to simply provide the student with the answer he or she is seeking. But is this the best response?

Remember, learners should be encouraged to find their own answers. This is part of the growing process. But how can you encourage students to do so without sending your students away angry?

Q *"Are coal plants bad for the environment?"*

PARAPHRASE THE QUESTION. By phrasing the question in your own words, the answer may become more obvious to the student.

REDIRECT THE QUESTION. Ask another student to respond to the question. Or pose the question to the class in general.

ASK PROBING QUESTIONS. Throw the question back the student by picking apart the larger question, and asking a detailed question in return. Get the student to evaluate the components of the question they originally asked.

SOURCE (paraphrased and quoted):
Cashin, W. (31 Jan 1995). *Answering and asking questions*. Retrieved from http://www.uncw.edu/cte/deskpress/classdiscuss/askquest.htm.

Q *"Are coal plants bad for the environment?"*

PROMOTE A DISCUSSION about the question. If the question is central to the issues you are teaching, break the class into groups and ask them to formulate an answer. Once the group reconvenes, ask the groups to share and discuss their responses.

POSTPONE THE QUESTION. Perhaps the question will be covered later in the class in greater detail. In such an instance, you should feel comfortable acknowledging the value of the question, and stating that it will be answered at a future time.

SOURCE (paraphrased and quoted):
Cashin, W. (31 Jan 1995). *Answering and asking questions*. Retrieved from http://www.uncw.edu/cte/deskpress/classdiscuss/askquest.htm.

Q *"Are coal plants bad for the environment?"*

DISCOURAGE INAPPROPRIATE QUESTIONS. Occasionally students ask inappropriate questions intended to get attention or sidetrack the class. It is important to maintain control in the classroom while still respecting the dignity of the student. Offer to respond to the student's questions after the class or training session is over.

ADMIT WHEN YOU DO NOT KNOW THE ANSWER. Never make up an answer. If you do not know, admit you do not know. Your credibility will not suffer. But if students find out later you faked an answer, your credibility may be destroyed.

SOURCE (paraphrased and quoted):
Cashin, W. (31 Jan 1995). *Answering and asking questions*. Retrieved from http://www.uncw.edu/cte/deskpress/classdiscuss/askquest.htm.

Q *"Are coal plants bad for the environment?"*

UTILIZE PAUSES AND SILENCE. Pauses in conversation prompt people to think. Do not fear pauses. At times, you may even ask students to not respond for 30 seconds (it will seem MUCH longer).

(experiment… close your eyes and don't count… raise your hand when we you think we are at 30 seconds)

NEVER PUT STUDENTS DOWN. Always thank students for asking questions, or for answering questions, even if their answers are incorrect.

SOURCE (paraphrased and quoted):
Cashin, W. (31 Jan 1995). *Answering and asking questions*. Retrieved from http://www.uncw.edu/cte/deskpress/classdiscuss/askquest.htm.

Q *"Are coal plants bad for the environment?"*

ANSWER THE QUESTION. There are also times when it is appropriate to answer the student questions yourself. For instance, if time is short, or if the question involves knowledge the class is not likely to have. When you provide a direct answer, be brief and concise. Watch the reaction on the face of the student to make sure they follow what you say.

SOURCE (paraphrased and quoted):
Cashin, W. (31 Jan 1995). *Answering and asking questions*. Retrieved from http://www.uncw.edu/cte/deskpress/classdiscuss/askquest.htm.

3

Return of the Muddiest Point (the sequel)

Discussion of a few cards from earlier

PUTTING IT ALL TOGETHER

Scan through the three handouts.

25

Design a twenty minute in-class activity (or interconnected series of activities) that addresses this issue from one of the following:

- Environmental perspective
- Cultural perspective
- Economic / Political perspectives

Be prepared to share your plan with the rest of the group

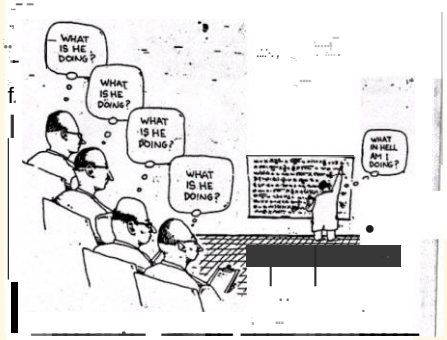
Closing Thoughts

Don't get tied to any one activity or model, and don't follow the rules so closely that you forget the main idea… the purpose is for students to learn, not for your activity to go well.

Let yourself be inspired by lessons learned from others. Steal good ideas and then re-engineer them mercilessly. Nothing is 100% original (there is nothing new under the sun… but it's still new to me!)

Some of our best ideas come from our failures.

Students who are engaged are receptive… Students who are confused are ready to learn… and Students who are happy teach their friends.




Thank Your
for Your
Participation!

PLF Tutoring Survey

Please read the following list of common PLF related tasks and check mark those that you would like to focus a weekly training on.

Student Interaction

- ☐ Recalling course material promptly to answer student questions
- ☐ Translating your knowledge of the subject in a way the student understands
- ☐ Engaging distracted students
- ☐ Talking to students about their progress in the course
- ☐ Helping students find answers to their questions without "spoon-feeding" them solutions
- ☐ Working with and approaching students at the Algebra Tables

Faculty Interaction

- ☐ What to do while the professor is lecturing or not engaging students in active learning
- ☐ How to request a weekly meeting with faculty and common topics to discuss
- ☐ Balancing grading and class prep with personal school work
- ☐ Discussing concerns about students

ENVS Team Meeting 10/26/15

In-class (mandatory)

Purpose: To assist the instructor in implementing active learning strategies in their course.

- Answer student questions during active learning/group exercises
  - Use guiding questions
  - Don't just check answers
  - Help students find the answers to their own questions
  - Get students to the "next step" and let them try on their own
- Facilitate collaboration
  - Engage surrounding students when one student asks a questions
  - Encourage students to work in groups and help students form groups
  - Suggest students get together outside of class
- Administrative help
  - Hand out papers
  - Collect papers
  - Help students understand the format of the class

Office Hours (mandatory)

Purpose: To help students complete assignments and clear-up misunderstandings about the material.

- Consistency
  - Hold office hours at a time and in a location that works for your students
  - Write office hours on board for students to see
  - Keep Google Calendar up to date
- Answering questions
  - Encourage students to work in groups during your office hours
  - Help students complete worksheets
  - Don't re-lecture but instead find out which concepts are confusing for the student and help with those
  - Help students connect content of the assignments to the bigger picture

Review Sessions (optional)

Purpose: To help students review cumulative material and prepare for the test.

- Structure
  - 1st hour- review
  - 2nd hour- reference sheet creation
- Advanced prep
  - Determine subjects for review session in advance and which PLF will cover which topics
  - Determine concepts for cheat sheet

- Review
    - DO NOT simply read things off to the students
    - EACH PLF should have an active role in the review session if they are putting the hours on their timesheets
    - Have problems and questions prepared in advance to let the students try. Formulate these yourself or use old problems with the permission of your instructor.
    - Ask them guided questions to help them find the answers such as:
        - What information would you need to know to solve this problem?
        - What is the first step?
        - What broader concept does this connect to?
    - Explain how you came to the correct answers

PLF training

3/3

Housekeeping

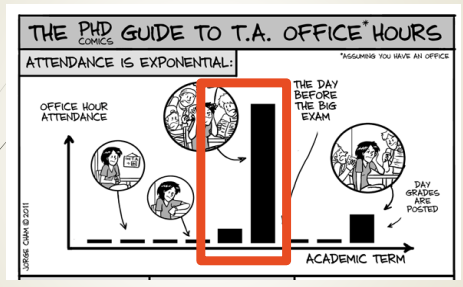
- Timesheets
  - Good job!
- Reminder:
  - Spring break is 3/12-3/17
- Next PLF Trainings
  - 3/3 – Promoting Office hours
  - 3/10 -Continue and will talk about Amy chen
  - 3/24 – PLF Share the knowledge

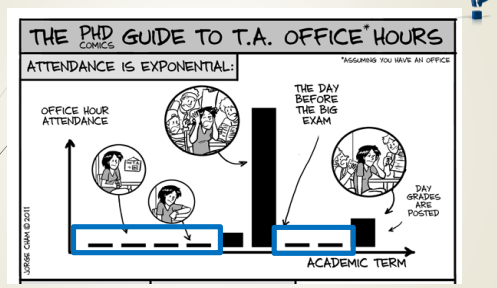
Office Hours

Office Hours Guidelines

- Be approachable.
- Be professional.
- Let the student tell you the purpose of their visit.
- Listen to your students.
- Don't be afraid to say, "I don't know, but I'll find out for you."
- Be non-judgmental and try to see situations from the student's perspective.
- Be aware of your own limitations.

When





Tackling high influx of students during office hours

- Exam review
  - Room
  - Questions
  - Joint vs individual?
- Group study session
- Suggestions?

Minimizing student influx by achieving consistent office hour attendance

- Requirement
- Extra Credit
- Promote!!!!
  - How often is it mentioned?
  - Is the information accessible to students?
  - Are they informed?
  - Allow or call for small study sessions
- Suggestions?

Student population

- Minority-Majority Institution
- Non-traditional students
  - Not recent high school graduates
  - Part-time
  - Work full-time (35hrs or more/wk)
  - Financially independent
  - Have children or dependents
  - Are single parents
  - Have a GED

Assignment – The ethnic diversity demographics in your field of study

- What is the ethnic diversity in your field of study nationwide?
- What is the ethnic diversity at UNM in the department of _____?

Mathematics	Chemistry	Biochemistry
Engineering	Museum Collections	
Biology	Computer Science	

Professional development

Professional development trainings focused on providing PLFs with skills helped attain the goals of the program as well as make them marketable for their future career-related endeavors.

PLF Spotlight: Sara Spear, March 2015

“Sara began her undergraduate career as an architecture major. But after working as a PLF, she realized her true passion-- mathematics. Since then, Sara has changed her major with the intention of going on to graduate school and ultimately becoming a mathematics professor. Sara believes the most rewarding parts of her the job are when students thank her on test day and when she sees students finally connect with a concept they have been struggling to understand. These cherished moments have led Sara to realize her calling as a mathematics professor. She knows the skills gained as a PLF will serve her well in her future career.”

STEM GATEWAY

Effective Integration of Peer Learning Facilitators into Classroom Learning

FAQs for Instructors

What is a Peer Learning Facilitator (PLF)?

PLFs are undergraduate students who are hired to enable and assist instructors to effectively implement active learning in large-enrollment classes. The term "peer" emphasizes that these are students who have a peer relationship with learners in the classroom. "Learning facilitator" emphasizes that PLFs work to facilitate learning in the classroom through one-on-one interaction with learners rather than through traditional teaching. PLFs are currently hired and trained by Title V programs at UNM. They are deployed to large-enrollment courses where instructors are otherwise hesitant to undertake active, collaborative learning during class time because a single instructor cannot effectively answer questions and keep work on task. The job is posted at UNMJobs (http://unmjobs.unm.edu).

What does a PLF do?

Duties can vary in accordance with the nature of the class and the needs of the instructor but working with students during class time is an essential expectation. The most important task is to work with small groups of learners to support the successful completion of in-class assignments or discussions that actively engage students in learning. This task includes (a) clarifying and explaining assignment expectations, (b) checking answers when requested by students who desire to build confidence before moving on with an exercise, and (c) employing a Socratic approach of answering student questions with new questions that support successful completion of, and learning from, in-class assignments. *PLFs are only deployed in class sections where in-class work, usually in small groups, is undertaken every, or nearly, every session.*

Can PLFs help me grade?

PLFs can be asked to grade in-class work and/or online assessments *if* an explicit key/rubric is provided by the instructor. High-stakes assignments and exams should *not* be graded by PLFs. Use of PLFs to grade student work can be advantageous to the instructor but can also endanger the peer working relationship of PLFs with learners in the classroom. Therefore, careful thought should be given to how essential it is for the PLF to grade papers. PLFs can more appropriately be asked to review student work on ungraded assignments and summarize the evident learning deficiencies for the instructor to address in a subsequent class. Some instructors who successfully use active learning in the classroom also desire to administer online "just-in-time" assessments of students' learning from texts before class and/or frequent online assessments after class sessions. The purpose of either assessment is primarily formative – providing feedback to both learner and instructor on learning progress and where, for the instructor, to devote most time with students in class. PLFs can appropriately be asked to assist in grading these low-stakes online assessments; however it remains essential for the instructor to review these formative results and to plan subsequent classroom activities in light of learner performance.

How are PLFs different from graduate teaching assistants?

For one thing, they are not graduate students and they are not compensated at TA/GA levels. More importantly, TAs are generally thought of as assisting the instructor, whereas PLFs fundamentally assist the learner. Clearly, instructors and students benefit from the presence of both PLFs and TAs but this distinction between instructor-versus-learner focus is an important one to keep in mind. TAs are used in different ways by different departments, so elaborating on distinctions from PLF duties is not straightforward. While PLFs can certainly assist with classroom logistics, their presence should not be justified for setting up AV equipment, passing out and collecting papers, proctoring tests and quizzes, grading exams, or writing exams. PLFs should not be made responsible for preparing content for you to use in class. Asking PLFs to contribute ideas for in-class work and assessment questions is encouraged, because they can offer valuable perspectives on how students in the class are progressing in their learning. However, the work of authoring course materials and assessments is the responsibility of the instructor.

What are my obligations to the PLFs assigned to my class?

Instructors should meet with their PLFs once each week to review the upcoming in-class assignments, distribute keys, and clarify the expectations of these assignments and the particular strategies that PLFs should use to assist students complete the work. These sessions should be planned sufficiently ahead of when the activities occur in class so that the PLFs can prepare for their contribution to classroom learning. Instructors should also make clear expectations for the PLFs, preferably in writing, to diminish the likelihood of misunderstandings. PLFs receive general, nondiscipline-specific training on tutoring methods, but instructors are encouraged to spend time with PLFs to explain the strategies that they should employ in a particular class.

The Family Educational Rights and Privacy Act

Guidance for Eligible Students

February 2011

The following guidance provides eligible students with general information about the Family Educational Rights and Privacy Act (FERPA). This document is a compilation and update of various letters and guidance documents previously issued that respond to a variety of questions about FERPA. While this guidance reflects our best and most current interpretation of applicable FERPA requirements, it does not supersede the statute or regulations. We will attempt to update this document from time to time in response to questions and concerns.

FERPA is a Federal law that is administered by the Family Policy Compliance Office (Office) in the U.S. Department of Education (Department). 20 U.S.C. § 1232g; 34 CFR Part 99. FERPA applies to all educational agencies and institutions (e.g., schools) that receive funding under any program administered by the Department. Parochial and private schools at the elementary and secondary levels generally do not receive such funding and are, therefore, not subject to FERPA. Private postsecondary schools, however, generally do receive such funding and are subject to FERPA.

Once a student reaches 18 years of age or attends a postsecondary institution, he or she becomes an "eligible student," and all rights formerly given to parents under FERPA transfer to the student. The eligible student has the right to have access to his or her education records, the right to seek to have the records amended, the right to have control over the disclosure of personally identifiable information from the records (except in certain circumstances specified in the FERPA regulations, some of which are discussed below), and the right to file a complaint with the Department. The term "education records" is defined as those records that contain information directly related to a student and which are maintained by an educational agency or institution or by a party acting for the agency or institution.

FERPA generally prohibits the improper disclosure of personally identifiable information derived from education records. Thus, information that an official obtained through personal knowledge or observation, or has heard orally from others, is not protected under FERPA. This remains applicable even if education records exist which contain that information, unless the official had an official role in making a determination that generated a protected education record.

Under FERPA, a school is not generally required to maintain particular education records or education records that contain specific information. Rather, a school is required to provide certain privacy protections for those education records that it does maintain. Also, unless there is

an outstanding request by an eligible student to inspect and review education records, FERPA permits the school to destroy such records without notice to the student.

Access to Education Records

Under FERPA, a school must provide an eligible student with an opportunity to inspect and review his or her education records within 45 days following its receipt of a request. A school is required to provide an eligible student with copies of education records, or make other arrangements, if a failure to do so would effectively prevent the student from obtaining access to the records. A case in point would be a situation in which the student does not live within commuting distance of the school.

A school is not generally required by FERPA to provide an eligible student with access to academic calendars, course syllabi, or general notices such as announcements of specific events or extra-curricular activities. That type of information is not generally directly related to an individual student and, therefore, does not meet the definition of an education record.

Under FERPA, a school is not required to provide information that is not maintained or to create education records in response to an eligible student's request. Accordingly, a school is not required to provide an eligible student with updates on his or her progress in a course (including grade reports) or in school unless such information already exists in the form of an education record.

Amendment of Education Records

Under FERPA, an eligible student has the right to request that inaccurate or misleading information in his or her education records be amended. While a school is not required to amend education records in accordance with an eligible student's request, the school is required to consider the request. If the school decides not to amend a record in accordance with an eligible student's request, the school must inform the student of his or her right to a hearing on the matter. If, as a result of the hearing, the school still decides not to amend the record, the eligible student has the right to insert a statement in the record setting forth his or her views. That statement must remain with the contested part of the eligible student’s record for as long as the record is maintained.

However, while the FERPA amendment procedure may be used to challenge facts that are inaccurately recorded, it may not be used to challenge a grade, an opinion, or a substantive decision made by a school about an eligible student. FERPA was intended to require only that schools conform to fair recordkeeping practices and not to override the accepted standards and procedures for making academic assessments, disciplinary rulings, or placement determinations. Thus, while FERPA affords eligible students the right to seek to amend education records which contain inaccurate information, this right cannot be used to challenge a grade or an individual’s opinion, or a substantive decision made by a school about a student. Additionally, if FERPA’s amendment procedures are not applicable to an eligible student’s request for amendment of education records, the school is not required under FERPA to hold a hearing on the matter.

Disclosure of Education Records

Under FERPA, a school may not generally disclose personally identifiable information from an eligible student's education records to a third party unless the eligible student has provided written consent. However, there are a number of exceptions to FERPA's prohibition against non-consensual disclosure of personally identifiable information from education records. Under these exceptions, schools are *permitted* to disclose personally identifiable information from education records without consent, though they are not *required* to do so. Following is general information regarding some of these exceptions.

One of the exceptions to the prior written consent requirement in FERPA allows "school officials," including teachers, within a school to obtain access to personally identifiable information contained in education records provided the school has determined that they have "legitimate educational interest" in the information. Although the term "school official" is not defined in the statute or regulations, this Office generally interprets the term to include parties such as: professors; instructors; administrators; health staff; counselors; attorneys; clerical staff; trustees; members of committees and disciplinary boards; and a contractor, volunteer or other party to whom the school has outsourced institutional services or functions.

A school must inform eligible students of how it defines the terms "school official" and "legitimate educational interest" in its annual notification of FERPA rights. A school official generally has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. Additional information about the annual notification of rights is found below in this guidance document.

Another exception permits a school to disclose personally identifiable information from an eligible student's education records, without consent, to another school in which the student seeks or intends to enroll. The sending school may make the disclosure if it has included in its annual notification of rights a statement that it forwards education records in such circumstances. Otherwise, the sending school must make a reasonable attempt to notify the student in advance of making the disclosure, unless the student has initiated the disclosure. The school must also provide an eligible student with a copy of the records that were released if requested by the student.

FERPA also permits a school to disclose personally identifiable information from education records without consent when the disclosure is in connection with financial aid for which the student has applied or which the student has received, if the information is necessary for such purposes as to: determine the eligibility for the aid; determine the amount of the aid; determine the conditions for the aid; and/or enforce the terms and conditions of the aid. With respect to this exception, the term "financial aid" means payment of funds provided to an individual (or payment in kind of tangible or intangible property to the individual) that is conditioned on the individual's attendance at a school.

Another exception permits a school to disclose personally identifiable information from education records without consent when the disclosure is to the parents of a "dependent student" as that term is defined in Section 152 of the Internal Revenue Code. Generally, if either parent

has claimed the student as a dependent on the parent's most recent year's income tax statement, the school may non-consensually disclose the eligible student's education records to both parents under this exception.

Postsecondary institutions may also disclose personally identifiable information from education records, without consent, to appropriate parties, including parents of an eligible student, in connection with a health or safety emergency. Under this provision, colleges and universities may notify parents when there is a health or safety emergency involving their son or daughter, even if the parents do not claim the student as a dependent.

FERPA also permits a school to disclose personally identifiable information from education records without consent when the disclosure is to the parents of a student at a postsecondary institution regarding the student's violation of any Federal, State, or local law, or of any rule or policy of the institution, governing the use or possession of alcohol or a controlled substance. The school may non-consensually disclose information under this exception if the school determines that the student has committed a disciplinary violation with respect to that use or possession and the student is under 21 years of age at the time of the disclosure to the parent.

Another exception permits a school to non-consensually disclose personally identifiable information from a student's education records when such information has been appropriately designated as directory information. "Directory information" is defined as information contained in the education records of a student that would not generally be considered harmful or an invasion of privacy if disclosed. Directory information could include information such as the student's name, address, e-mail address, telephone listing, photograph, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended, grade level or year (such as freshman or junior), and enrollment status (undergraduate or graduate; full-time or part-time).

A school may disclose directory information without consent if it has given public notice of the types of information it has designated as directory information, the eligible student’s right to restrict the disclosure of such information, and the period of time within which an eligible student has to notify the school that he or she does not want any or all of those types of information designated as directory information. Also, FERPA does not require a school to notify eligible students individually of the types of information it has designated as directory information. Rather, the school may provide this notice by any means likely to inform eligible students of the types of information it has designated as directory information.

There are several other exceptions to FERPA’s prohibition against non-consensual disclosure of personally identifiable information from education records, some of which are briefly mentioned below. Under certain conditions (specified in the FERPA regulations), a school may non-consensually disclose personally identifiable information from education records:

- to authorized representatives of the Comptroller General of the United States, the Attorney General of the United States, the U.S. Secretary of Education, and State and local educational authorities for audit or evaluation of Federal or State supported

education programs, or for the enforcement of or compliance with Federal legal requirements that relate to those programs;

- to organizations conducting studies for or on behalf of the school making the disclosure for the purposes of administering predictive tests, administering student aid programs, or improving instruction;

- to comply with a judicial order or a lawfully issued subpoena;

- to the victim of an alleged perpetrator of a crime of violence or a non-forcible sex offense concerning the final results of a disciplinary hearing with respect to the alleged crime; and

- to any third party the final results of a disciplinary proceeding related to a crime of violence or non-forcible sex offense if the student who is the alleged perpetrator is found to have violated the school's rules or policies. The disclosure of the final results only includes: the name of the alleged perpetrator, the violation committed, and any sanction imposed against the alleged perpetrator. The disclosure must not include the name of any other student, including a victim or witness, without the written consent of that other student.

As stated above, conditions specified in the FERPA regulations at 34 CFR § 99. 31 have to be met before a school may non-consensually disclose personally identifiable information from education records in connection with any of the exceptions mentioned above.

Annual Notification of Rights

Under FERPA, a school must annually notify eligible students in attendance of their rights under FERPA. The annual notification must include information regarding an eligible student's right to inspect and review his or her education records, the right to seek to amend the records, the right to consent to disclosure of personally identifiable information from the records (except in certain circumstances), and the right to file a complaint with the Office regarding an alleged failure by a school to comply with FERPA. It must also inform eligible students of the school's definitions of the terms "school official" and "legitimate educational interest."

FERPA does not require a school to notify eligible students individually of their rights under FERPA. Rather, the school may provide the notice by any means likely to inform eligible students of their rights. Thus, the annual notification may be published by various means, including any of the following: in a schedule of classes; in a student handbook; in a calendar of school events; on the school's website (though this should not be the exclusive means of notification); in the student newspaper; and/or posted in a central location at the school or various locations throughout the school. Additionally, some schools include their directory information notice as part of the annual notice of rights under FERPA.

Law Enforcement Units and Law Enforcement Unit Records

A “law enforcement unit” means any individual, office, department, division or other component of a school, such as a unit of commissioned police officers or non-commissioned security guards, that is officially authorized or designated by the school to: enforce any local, State, or Federal law, or refer to appropriate authorities a matter for enforcement of any law against any individual or organization; or to maintain the physical security and safety of the school. The law enforcement unit does not lose its status as a law enforcement unit if it also performs other, non-law enforcement functions for the school, including investigation of incidents or conduct that constitutes or leads to a disciplinary proceeding against a student.

“Law enforcement unit records” (i.e., records created by the law enforcement unit, created for a law enforcement purpose, and maintained by the law enforcement unit) are not “education records” subject to the privacy protections of FERPA. As such, the law enforcement unit may refuse to provide an eligible student with an opportunity to inspect and review law enforcement unit records, and it may disclose law enforcement unit records to third parties without the eligible student’s prior written consent. However, education records, or personally identifiable information from education records, which the school shares with the law enforcement unit do not lose their protected status as education records because they are shared with the law enforcement unit.

Complaints of Alleged Failures to Comply with FERPA

FERPA vests the rights it affords in the eligible student. The statute does not provide for these rights to be vested in a third party who has not suffered an alleged violation of their rights under FERPA. Thus, we require that a student have "standing," i.e., have suffered an alleged violation of his or her rights under FERPA, in order to file a complaint.

The Office may investigate those timely complaints that contain specific allegations of fact giving reasonable cause to believe that a school has violated FERPA. A timely complaint is defined as one that is submitted to the Office within 180 days of the date that the complainant knew or reasonably should have known of the alleged violation of FERPA. Complaints that do not meet FERPA’s threshold requirement for timeliness are not investigated.

If we receive a timely complaint that contains a specific allegation of fact giving reasonable cause to believe that a school has violated FERPA, we may initiate an administrative investigation into the allegation in accordance with procedures outlined in the FERPA regulations. If a determination is made that a school violated FERPA, the school and the complainant are so advised, and the school is informed of the steps it must take to come into compliance with the law. The investigation is closed when voluntary compliance is achieved.

Please note that the eligible student should state his or her allegations as clearly and specifically as possible. To aid us in efficiently processing allegations, we ask that an eligible student only include supporting documentation that is relevant to the allegations provided. Otherwise, we may return the documentation and request clarification. This Office does not have the resources

to review voluminous documents and materials to determine whether an allegation of a violation of FERPA is included. An eligible student may obtain a complaint form by calling (202) 260-3887. For administrative and privacy reasons, we do not discuss individual allegations and cases via email. Please mail completed complaint forms to the Office (address below) for review and any appropriate action.

Complaint Regarding Access

If an eligible student believes that a school has failed to comply with his or her request for access to education records, the student may complete a FERPA complaint form and should include the following specific information: the date of the request for access to the education records; the name of the school official to whom the request was made (a dated copy of any written request to the school should be provided, if possible); the response of the school official, if any; and the specific nature of the information requested.

Complaint Regarding Amendment

If an eligible student believes that a school has failed to comply with his or her request for amendment of inaccurate information in education records or failed to offer the student an opportunity for a hearing on the matter, the student may complete a FERPA complaint form and should include the following specific information: the date of the request for amendment of the education records; the name of the school official to whom the request was made (a dated copy of any written request to the school should be provided, if possible); the response of the school official, if any; the specific nature of the inaccurate information for which amendment was requested; and evidence provided to the school to support the assertion that such information is inaccurate.

Complaint Regarding Disclosure

If an eligible student believes that a school has improperly disclosed personally identifiable information from his or her education records to a third party, the student may complete a FERPA complaint form and should include the following specific information: the date or approximate date the alleged disclosure occurred or the date the student learned of the disclosure; the name of the school official who made the disclosure, if that is known; the third party to whom the disclosure was made; and the specific nature of the education records disclosed.

This guidance document is designed to provide eligible students with some general information regarding FERPA and their rights, and to address some of the basic questions most frequently asked by eligible students. You can review the FERPA regulations, frequently asked questions, significant opinions of the Office, and other information regarding FERPA at our Website as follows:

www.ed.gov/policy/gen/guid/fpco/index.html

If, after reading this guidance document, you have questions regarding FERPA which are not addressed here, you may write to the Office at the following address:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-8520

	Classmates	Boss (on campus job)	Advisors	Parents	Friends	Facebook	Others
Got my chemistry test back and received a "D"							
Got my research paper back with the comment: "Please see me during my office hours."							
Joined a club for two weeks and then quit							
Decided to take a weight training PE class							
Broke up with my significant other							
Advisor is concerned about my grades, might be put on probation if I don't bring them up							
Professor informed me that if I completed unfinished work on Aleks, I would receive an A in the class							
Went to Student Health and Counseling (SHAC) to talk to someone about my stress							
Planning to go to the Career Fair at the SUB							
Got back my grades for the semester and am thinking of switching my major because I did so poorly							
Went to CAPS to get help on my math homework							

IN-SEMESTER TRAINING

MARCH 25, 2016

ANNOUNCEMENTS

- Graduating? Planning to return next semester?
- Annual trainings on Learning Central
- Mock Finals
- Emergency Contact Sheet
- PLF 1-on-1 meetings
- PLF surveys starting April 18th
- NEW payroll adjustment forms

UPCOMING TRAININGS

- **April 1**: PLFs with CAPS from 3-5pm
- **April 8**: Grant announcements
- **April 15**: No in-person training,
  Shared Knowledge Conference
- **April 22**: "Students of Concern"- Rob Burford
- **April 29**: PLFs with CAPS from 4-5pm
- **May 6**: End-of-semester surveys & potluck

CONFLICT RESOLUTION

"Whenever you're in conflict with someone, there is one factor that can make the difference between damaging your relationship and deepening it. That factor is attitude." *–William James*

CAUSES OF CONFLICT

Conflict is any situation in which your concerns or desires differ from those of another person.

- Some examples of conflict are:
  - Disagreement between co-workers
  - Disagreement with faculty or supervisor
  - Co-workers who just don't get along
  - Resentment

CAUSES OF CONFLICT

- Conflict can arise because team members:
  - Have different points of view
  - Communicate to one another differently
  - Spend large amounts of time together
  - Depend on one another to "get the job done"
  - Established expectations of one another are not communicated and/or are not met

CAUSES OF CONFLICT

Conflict does not always have to be negative. When employees are able to challenge one another's ideas in a supportive environment, new ideas are generated and fostered.

HEALTHY VS. DAMAGING CONFLICT

Healthy Conflict

- Disagreements that are communicated in a supportive environment that foster the generation of new ideas or ways to problem solve.
- Tension that increases awareness or sheds light on a growing workplace problem.
- Uses respectful and isn't emotional.

HEALTHY VS. DAMAGING CONFLICT

Damaging Conflict

- Name Calling
- Accusations or Personal Attacks.
- Silent and Withdrawn, afraid to speak up
- Cliques, gossip and rumors.
- Lack of Mutual Respect.
- Self-centered approach.

BREAK FOR SHARING

- Does anyone have an example of conflict on their team they would like to share?
- What do you think has caused this conflict?
- Does this appear to be a healthy or a damaging conflict?

DO

- Understand that conflicts are inevitable.
- Resolve to address conflict quickly.
- Focus on the problem.
- Be open to solutions.
- Acknowledge how others are feeling.
- Listen actively.

DON'T

- Focus on personality traits that cannot be changed.
- Interrupt.
- Attack.
- Disregard the feelings of the employees.
- Avoid the conflict.
- Allow emotions to take over the conversation.
- Impose personal values or beliefs.

CONFLICT RESOLUTION IN 6 STEPS

1. Clarify what the disagreement is.
2. Establish a common goal for both parties.
3. Discuss ways to meet the common goal.
4. Determine the barriers to the common goal.
5. Agree on the best way to resolve the conflict.
6. Acknowledge the agreed solution and determine the responsibilities each party has in the resolution.

This process should be completed by all parties in the conflict together.

ACTIVITY: HOT BUTTONS

- To recognize what makes us emotional/what can cause workplace conflict
- To understand what barriers emotions can create
- To learn to control our emotions

ACTIVITY: HOT BUTTONS

1. Break up into groups of 4-5.
2. In 3 minutes, write down as many things that "push your buttons" as you can.
3. Collaborate with the group to answer the questions on your worksheet.
   These sheets are for you to keep. If there isn't enough time to complete them during training, please do so on your own & reflect.

PLFS TO CAPS TRAINING

- **Chem, Bio, EPS, & ENVS** @ Zimmerman Drop-In Lab
- **Pre-calc & Trig** @ Zimmerman Drop-In Lab
- **Calculus** @ DSH 329

Conflict Resolution Training for Supervisors

Introduction

"Whenever you're in conflict with someone, there is one factor that can make the difference between damaging your relationship and deepening it. That factor is attitude." –*William James*

This training focuses on ways supervisors can work with their employees to resolve conflict in the workplace. It provides practical steps and techniques that everyone can learn.

The purpose of this presentation is to provide supervisors with the knowledge to recognize causes of workplace conflict, how to facilitate resolution of conflict and how to manage the work relationships once the conflict has been resolved.

This sample presentation is intended for presentation to supervisors and other individuals who manage employees that must be customized to include and match your own policies and practices. It is designed to be presented by an individual who is knowledgeable in both employee relations and managing conflict in the workplace.

Objectives

At the close of this session, you will be able to:

1. Cite the causes of workplace conflict.
2. State why it is important to resolve conflict in the workplace.
3. Describe the methods of resolving conflict.
4. List the Do's and Don'ts of workplace conflict.
5. Describe the steps in the conflict resolution process.

Causes of Conflict

Conflict is any situation in which your concerns or desires differ from those of another person*.

- Some examples of workplace conflict are:
  - Disagreement between employees.
  - Employees who just don't get along (there isn't an apparent conflict).

* *(From Thomas-Kilmann Conflict Mode Instrument)*

Causes of Conflict (cont'd)

- **Conflict arises because employees:**
  - Have different points of view.
  - Communicate to one another differently.
  - Spend large amounts of time together.
  - Depend on one another to "get the job done".
  - Established expectations of one another are not communicated and then not met.

Causes of Conflict (cont'd)

Conflict does not always have to be negative. When employees are able to challenge one another's ideas in a supportive environment, new ideas are generated and fostered.

It is important to remember that conflict will always exist between employees. Effective supervisors have the skills to manage the conflict process and turn disagreements into ideas.

Causes of Conflict (cont'd)

Examples of Healthy vs. Damaging Conflict

Healthy Conflict

- Disagreements that are communicated in a supportive environment that foster the generation of new ideas or ways to problem solve.
- Tension that increases awareness or sheds light on a growing workplace problem.

Damaging Conflict

•Name Calling.
•Personal Attacks.
•Silent and Withdrawn, afraid to speak up
•Cliques, gossip and rumors.
•Lack of Mutual Respect.

Questions? Comments?

(The following are sample questions for the presenter to pose, they should be removed from the slide before presentation.)

Does anyone have an example of conflict on their team they would like to share?

What do you think has caused this conflict?

Does this appear to be a healthy or a damaging conflict?

Importance of Resolving Conflict

Why should we get involved? It's their problem, right?

WRONG! Managers must learn to manage conflicts amongst their team members so that the business continues to run effectively and objectives are met.

Importance of Resolving Conflict (cont'd)

Consequences of Letting Conflict Fester

- Employees not involved in the conflict either "pile on" or withdraw from the conflict.
  - This requires employees to take sides or "check out" from work entirely.
  - Morale and productivity is lowered because employees are focused on the conflict.
  - Employees who work in teams are now divided because of the conflict.

Importance of Resolving Conflict (cont'd)

Consequences of Letting Conflict Fester (continued)

- In extreme instances, unresolved conflict can lead to violent or aggressive situations.
  - Potential for employees to become injured.
  - The company may have legal risks associated with violent situations in the workplace.
  - Work will slow dramatically or can halt altogether.

Questions? Comments?

(*The following are sample questions for the presenter to pose, they should be removed from the slide before presentation.)*

Using the example that we discussed a few minutes ago, can anyone describe what the consequences of this conflict have been?

Methods of Resolving Conflict

There are 5 basic ways of handling conflict in the workplace:

1. Competing
2. Collaborating
3. Compromising
4. Avoiding
5. Accommodating

It is important to note that there is ***no one way*** to resolve a conflict and often managers will need to utilize multiple methods in order to reach a resolution.

(From Thomas-Kilmann Conflict Mode Instrument)

Methods of Resolving Conflict (cont'd)

Competing

The Competing Method involves handling the conflict through unilateral decision making. This is most appropriately used by managers and leaders in the workplace.

The Competing Method is used primarily for:

- Situations that involve quick action.
- Instances where there is no compromise or debate.
- Making hard or unpopular decisions.

Methods of Resolving Conflict (cont'd)

Collaborating

The Collaborating Method involves handling the conflict through team input. This means of handling conflict is particularly useful if all parties in the conflict want to find a resolution, but are unable to agree on what the resolution should be.

The Collaborating Method is used primarily for:

- Gaining support from the team.
- Using the different perspectives as an opportunity to learn.
- Improving relationships through collaboration.

Methods of Resolving Conflict (cont'd)

Compromising

The Compromising Method involves handling the conflict by reaching a resolution that involves a "win" on both sides of the table.

The Compromising Method is used primarily for:

- Resolving issues of moderate to high importance.
- Finding a solution that involves equal power and strong commitment on both sides.
- Situations where a temporary fix may be needed.
- Backing up a decision that's been made using the competing or collaboration methods.

Methods of Resolving Conflict (cont'd)

Avoiding

The Avoiding Method is a way of handling conflict by making an active decision to not handle the conflict. This is best used for situations that are not work related and should be solved through another means.

The Avoiding Method is used primarily for:

- Unimportant or non-work related issues.
- Buying time until a resolution can be reached.
- Recognizing issues as symptoms.

Methods of Resolving Conflict (cont'd)

Accommodating

The Accommodating Method is a way of handling conflict by allowing the other side to "win."

The Accommodating Method is used primarily for:

- Maintaining perspective in a conflict situation.
- Making active decisions on what can be "let go" vs. what needs another method.
- Keeping the peace and creating goodwill.

Questions? Comments?

(The following are sample questions for the presenter to pose, they should be removed from the slide before presentation.)

Let's discuss some of the methods that have been used to handle the conflict example we've been discussing.

Do's and Don'ts of Resolving Conflict

Do…

- Understand that conflicts are inevitable.
- Resolve to address conflict quickly.
- Focus on the problem.
- Be open to solutions.
- Acknowledge how employees are feeling.
- Listen actively.

Do's and Don'ts of Resolving Conflict (cont'd)

Don't…

- Focus on personality traits that cannot be changed.
- Interrupt.
- Attack.
- Disregard the feelings of the employees.
- Avoid the conflict.
- Allow emotions to take over the conversation.
- Impose personal values or beliefs.

Questions? Comments?

(The following are sample questions for the presenter to pose, they should be removed from the slide before presentation.)

In our example, can anyone name a do or don't that has been used? How was it effective (or not)?

Steps In The Conflict Resolution Process

There are six steps to the Conflict Resolution Process:

1. Clarify what the disagreement is.
2. Establish a common goal for both parties.
3. Discuss ways to meet the common goal.
4. Determine the barriers to the common goal.
5. Agree on the best way to resolve the conflict.
6. Acknowledge the agreed solution and determine the responsibilities each party has in the resolution.

This process should be completed by *all* parties in the conflict together.

("Conflict Resolution Skills for HR Professionals" by Marla Bradley)

The Steps In The Conflict Resolution Process (cont'd)

Clarify what the disagreement is

Clarifying involves getting to the heart of the conflict. The goal of this step is to get both sides to agree on what the disagreement is.

Tips:

- Discuss what needs are not being met on both sides of the conflict. Ensure mutual understanding.
- Obtain as much information as possible on each side's point of view.
- Continue to ask questions until you are certain that you, and each side of the conflict understand the issue.

The Steps In The Conflict Resolution Process (cont'd)

Establish a common goal for both parties

In this step of the process, both sides agree on the desired outcome of the conflict.

Tips:

- Discuss what each party would like to see happen.
- Find a commonality in both sides as a starting point for a shared outcome. That commonality can be as simple as "both sides want to end the conflict."

The Steps In The Conflict Resolution Process (cont'd)

Discuss ways to meet the common goal

Both sides work together to discuss ways that they can meet the goal they agreed upon in step 2.

Tips:

- Brainstorm different approaches to meet the goal.
- Discuss until all the options are exhausted.

The Steps In The Conflict Resolution Process (cont'd)

Determine the barriers to the common goal

In this step of the process, the two parties acknowledge what has brought them into the conflict.

Tips:

- Ask: "If we could have the outcome that we both wanted, how would that look?"
- Define what can and cannot be changed about the situation.
- For the items that cannot be changed, discuss ways of getting around those road blocks.

The Steps In The Conflict Resolution Process (cont'd)

Agree on the best way to resolve the conflict

Both parties come to a conclusion on the best resolution.

Tips:

- Determine a solution that both sides can live with.
- Discuss the responsibility each party has in maintaining the solution.
- Settle on a means of ensuring that this conflict does not arise again.

The Steps In The Conflict Resolution Process (cont'd)

Acknowledge the agreed solution and determine the responsibilities each party has in the resolution

Both sides own their responsibility in the resolution of the conflict and express aloud what they have agreed to.

Tips:

- Get both parties to acknowledge a win-win situation.
- Ask both parties to use phrases such as "I agree to…" and "I acknowledge that I have responsibility for…"

Questions? Comments?

(The following are sample questions for the presenter to pose, they should be removed from the slide before presentation.)

Using the steps we have just reviewed, let's discuss how we will solve the conflict we have been working on today.

Summary

- Conflict is inevitable in the workplace. There is healthy and damaging conflict
- Some causes of workplace conflict are:
  - Employees with different points of view.
  - Employees who communicate differently.
  - Spending large amounts of time together.
- It is important to address conflict because unresolved conflict leads to low morale, productivity, and in extreme cases, workplace violence.

Summary (cont'd)

- The 5 methods of resolving conflict are:
  1. Competing
  2. Collaborating
  3. Compromising
  4. Avoiding
  5. Accommodating
- The 6 steps in the conflict resolution process are:
  1. Clarify what the disagreement is.
  2. Establish a common goal for both parties.
  3. Discuss ways to meet the common goal.
  4. Determine the barriers to the common goal.
  5. Agree on the best way to resolve the conflict.
  6. Acknowledge the agreed solution and determine the responsibilities each party has in the resolution.

Questions? Comments?

Course Evaluation

Please be sure to complete and leave the evaluation sheet you received with your handouts.

Thank you for your attention and interest!

Fostering diversity in STEM fields

Janeth J. Pena
STEM Gateway

Outline

- What is STEM?
- STEM students at UNM
- Challenges for minorities in STEM
- Diversity in STEM

What is STEM?

- Science, Technology, Engineering and Math

"[Science] is more than a school subject, or the periodic table, or the properties of waves. It is an approach to the world, a critical way to understand and explore and engage with the world, and then have the capacity to change that world..."

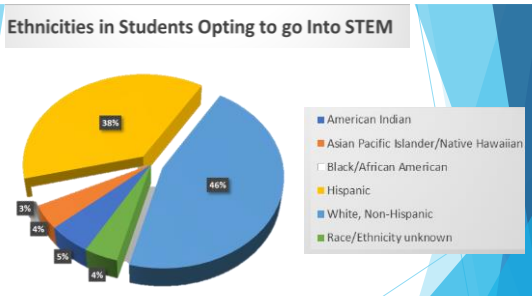
- President Barack Obama, March 23, 2015

Status of STEM at UNM

- **1503** First time full-time freshman from the fall of 2005, 2006, and 2007 were tracked in this study.
- Students initially stated that they were interested in STEM degrees

29.6% | 42.5% | 22.2%

5.7% Still enrolled



Status of STEM at UNM

- **Why are minorities underrepresented in STEM?**

Challenges for minorities in STEM

- Early STEM education
  - The access to basic but fundamental science courses for American Indian, Native-Alaska, black, and Hispanic in high school is significantly worse when compared to that predominately white or Asian-American high school students.

    - U.S. Department od Education

http://www.base11.com/the-push-to-start-stem-education-early/

Challenges for minorities in STEM

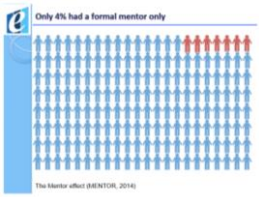
- Mentoring

Challenges for minorities in STEM

- Mentoring
  - Formal – specific objectives

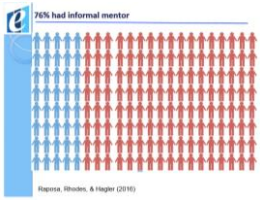
Challenges for minorities in STEM

- Mentoring
  - Formal – specific objectives



Challenges for minorities in STEM

- Mentoring
  - Informal – loosely structured



Challenges for minorities in STEM

- **Jean E. Rhodes, PhD, Frank L. Boyden Professor of Psychology- 2016 Mentoring Conference**

	Top SES Quartile	Bottom SES Quartile
Mentoring	Teachers, Coaches, Councilors…	Family members, friends, members of their community…

* Socioeconomic status

Challenges for minorities in STEM

- Jean E. Rhodes, PhD, Frank L. Boyden Professor of Psychology- 2016 Mentoring Conference

	Top SES Quartile	Bottom SES Quartile
Mentoring	Teachers, Coaches, Councilors…	Family members, friends, members of their community…
Focus	"What are your plans for the future?"	"What are your immediate plans?"

* Socioeconomic status

Challenges for minorities in STEM

- Jean E. Rhodes, PhD, Frank L. Boyden Professor of Psychology- 2016 Mentoring Conference

	Top SES Quartile	Bottom SES Quartile
Mentoring	Teachers, Coaches, Councilors…	Family members, friends, members of their community…
Focus	"What are your plans for the future?"	"What are your immediate plans?"

Low SES and race and ethnicity are intimately intertwined.
Costello, Keeler, & Angold, 2001; National Center for Education Statistics, 2007; Corcoran & Nichols-Casebolt, 2004

* Socioeconomic status

Challenges for minorities in STEM

UNM CAN HELP!

STEM COLLABORATIVE CENTER

STEM UP science • technology • engineering • math

CNM Central New Mexico Community College → UNM

ΣASE Essential Academic Skills Enhancement

UNM STEM GATEWAY

UNM STEM Resources

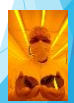
- STEM Collaborative Center
- STEM Gateway
  - Peer Learning Facilitators (PLF)s
  - Essential Academic Skills Enhancement
- STEM UP

CNM Central New Mexico Community College → UNM

ΣASE Essential Academic Skills Enhancement

UNM Research Opportunities

- Undergraduate Pipeline Network
- Ronald E. McNair Scholars and Research Opportunity Program
- Initiative for Maximizing Student Development (IMSD)
- Maximizing Access to Research Careers (MARC)
- Research Match Database at UNM
- Post-Baccalaureate Research and Education Program



Status of STEM at UNM

- **Why is diversity in STEM important?**

"The Difference" by Professor Scott Page

Diversity in STEM

Diversity in STEM

Diversity in STEM

Diversity in STEM

"Ethnic Identity"

Diversity in STEM

- **What can you do to foster diversity in UNM?**

Cultural Competence

What is cultural competence?

What is cultural competence?

- An awareness of one's own cultural identity and views about difference, and the ability to learn and build on the varying cultural and community norms of students and their families.

Why is it important?

- It helps understand the within-group differences that make each student unique, while celebrating the between-group variations that make our country a tapestry.
- This understanding informs and expands teaching practices in the culturally competent educator's classroom.

How to achieve cultural competence?

How to achieve cultural competence?

- **Valuing diversity**

How to achieve cultural competence?

- **Valuing diversity**
  - Accepting and respecting different cultural backgrounds and customs, different ways of communicating, and different traditions and values.

How to achieve cultural competence?

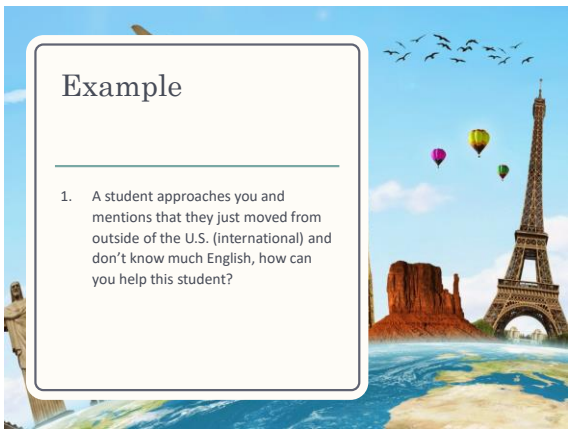
- Valuing diversity
- **Being culturally self-aware**

How to achieve cultural competence?

- Valuing diversity
- **Being culturally self-aware**
  - Understanding that educators' own cultures—all of their experiences, background, knowledge, skills, beliefs, values, and interests—shape their sense of who they are, where they fit into their family, school, community, and society, and how they interact with students.

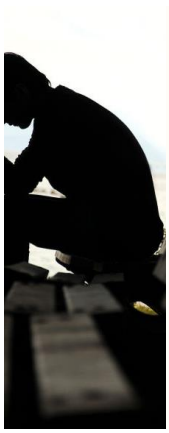
How to achieve cultural competence?

- Valuing diversity
- Being culturally self-aware
- Understanding the dynamics of cultural interactions
- Institutionalizing cultural knowledge and adapting to diversity



Example

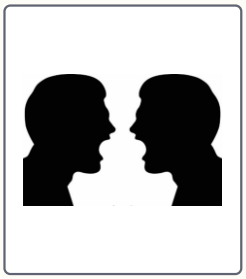
1. A student approaches you and mentions that they just moved from outside of the U.S. (international) and don't know much English, how can you help this student?



Example

2. A student approached you to tell you they are having a difficult time adapting to the culture at UNM.

Example



3. You witness a disrespectful/racial comment towards a student and you see a situation may escalade to a physical encounter.

PLF training

3/10

Housekeeping

- Timesheets
  - If out for Spring Break, send them in as soon as possible.
  - Due Tuesday, March 14 by 4:00pm.
- PLF panel (Friday, March 24th from 3-4 PM at DSH 232)
  - Center for Teaching & Learning
  - Associate Director, Amy Chen
    - Opening questions
    - PLF questions
    - Skill-Will Matrix-related questions

Opening Questions	PLF Questions	Skill-Will Matrix
How long have you been a PLF, what subject do you facilitate, how many students are in your class? **What do you wish you knew when you first started facilitating?** **How does your instructor use you as a PLF in class?** **How has being a PLF changed your perspective about education and career trajectory?** **What have you found to be effective in helping students with high/low will/skill? Give examples.** Describe a particularly rewarding experience you had with a student since you started facilitating. Describe a particularly challenging experience you had with a student since you started facilitating. Which STEM Gateway training did you find most useful with improving your facilitation skills?		

Opening Questions	PLF Questions	Skill-Will Matrix
How long have you been a PLF, what subject do you facilitate, how many students are in your class? What do you wish you knew when you first started facilitating? How does your instructor use you as a PLF in class? How has being a PLF changed your perspective about education and career trajectory? What have you found to be effective in helping students with high/low will/skill? Give examples. Describe a particularly rewarding experience you had with a student since you started facilitating. Describe a particularly challenging experience you had with a student since you started facilitating. Which STEM Gateway training did you find most useful with improving your facilitation skills?	What do you do when you don't know the answer to a question? How often has this happened to you? What technique do you use to answer student questions without giving away answers? How do you help students think deeply about the material and gain confidence in their ability to solve problems independently? **How do you think your job is different from a SI Leader, TA, GA?** How long did it take you to feel comfortable in your position? How do you deal with disruptive students? **Do you ever have to tell a student to pay attention when the professor is speaking?** **How far in advance does your professor give you the materials for upcoming class?**	

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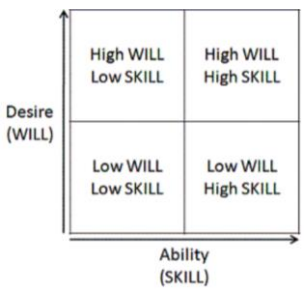
Skill-Will Matrix

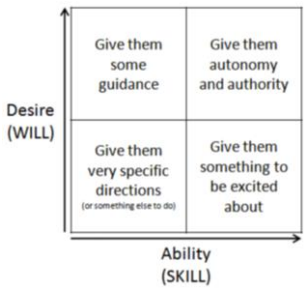
1. How competent / able is a person to do something?

2. How motivated / desirous are they to do something?



Skill-Will Matrix

1. How do you apply this to students as a PLF?



Nontraditional students

- independent of parents for financial aid reasons
- Having one or more dependents
- Being a single caregiver
- Not having a traditional high school diploma
- Delaying postsecondary enrollment
- Attending school part time
- Being employed full time

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According to National Center of Education Statistics (NCES), about 74 percent of all 2011-12 undergrads had at least one nontraditional characteristic.

Headcount by Gender and Load

Fall Semesters			2012	2013	2014	2015	2016	1 Year Change	5 Year Change
Concurrent	Female	Part Time	131	168	131	155	206	32.90%	57.25%
		Full Time	0	2	1	5			
	Male	Part Time	92	114	100	137	113	-17.52%	22.83%
		Full Time	2	4	5	5			
			225	*288*	*237*	*302*	*319*	*5.63%*	*38.10%*
Undergraduate	Female	Part Time	2,860	2,631	2,479	2,297	2,241	-2.44%	-21.64%
		Full Time	8,839	8,939	8,715	8,701	8,642	-0.68%	-2.23%
	Male	Part Time	2,018	1,873	1,781	1,738	1,675	-3.62%	-17.00%
		Full Time	7,291	7,401	7,276	7,150	7,090	-0.84%	-2.76%
			21,008	*20,844*	*20,251*	*19,886*	*19,648*	*-1.20%*	*-6.47%*
Non-Degree Undergraduate	Female	Part Time	90	57	61	53	45	-15.09%	-50.00%
		Full Time	132	105	148	125	92	-26.40%	-30.30%
	Male	Part Time	84	65	53	57	43	-24.56%	-48.81%
		Full Time	107	89	109	99	68	-31.31%	-36.45%
			413	*316*	*371*	*334*	*248*	*-25.75%*	*-39.95%*
Anderson Graduate	Female	Part Time	178	134	142	133	182	36.84%	2.25%
		Full Time	143	185	125	121	118	-2.48%	-17.48%
	Male	Part Time	184	155	158	148	175	18.24%	-4.89%
		Full Time	167	168	142	151	159	5.30%	-4.79%
			672	*642*	*567*	*553*	*634*	*14.65%*	*-5.65%*

			2015	2016
Undergraduate	Female	Part Time	2,297	2,241
		Full Time	8,701	8,642
	Male	Part Time	1,738	1,675
		Full Time	7,150	7,090
			19,886	*19,648*

~26%

			2015	2016
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~20%

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		Full Time	7,150	7,090
			19,886	*19,648*

Average Age by Level and Load

		Fall Semesters				
		2012	2013	2014	2015	2016
Concurrent	Part Time	16.83	16.70	16.74	16.68	16.66
	Full Time	17.13	16.50	17.17	17.00	
		16.84	*16.70*	*16.75*	*16.70*	*16.66*
Undergraduate	Part Time	28.64	28.88	29.54	29.81	29.61
	Full Time	22.17	21.98	21.88	21.70	21.57
		23.67	*23.47*	*23.49*	*23.35*	*23.17*

Stay a lobo grant

- Emergency fund
- 80/86 non traditional students

Imposter Syndrome

How to see yourself as a competent, capable STEM person!

STEM GATEWAY

http://unmstemgateway.blogspot.com/p/welcome.html

You feel like you don't belong?

You feel like you don't belong?

You feel like you don't belong?

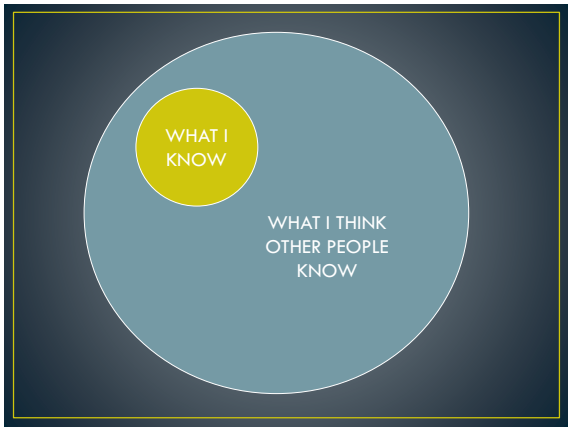
Quiz

- Do you chalk your success up to luck, timing, or computer error?
- Do you believe "If I can do it, anybody can? "
- Do you agonize over the smallest flaws in your work?
- Are you crushed by even constructive criticism, seeing it as evidence of your ineptness?
- When you do succeed, do you secretly feel like you fooled them again?
- Do you worry that it's a matter of time before you are "found out"?

WHAT?

The IMPOSTER Syndrome

- Intense feeling that others have an inflated perception of your abilities.
- Convinced that you are a fraud and do not deserve the success you have achieved.
- Proof of success is dismissed as luck, timing, or as a result of deceiving others into thinking you are more intelligent and competent than you believe yourself to be.



WHO?

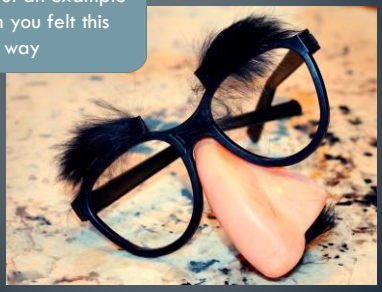
WHO?

Anyone

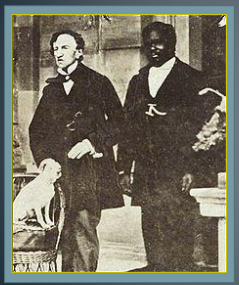
- Most likely, everyone has at some point in their life's felt as an imposter.

HAVE YOU FELT THIS WAY?

Think about an example of when you felt this way



Story of Dr. James *Miranda* Barry



Dr. James Barry, His Servant and Dog, Psyche

Med Career
1815 - 1864

- Pioneering British Military Surgeon
- Stationed all over world
- Fought for better food, sanitation and proper medical care

Died
1865

She faked it until she made it!

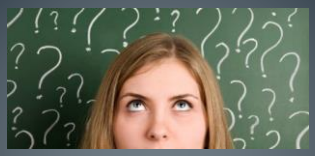
WHY?

WHY?

No one reason why

- Every individual is different
  - Different family structure
  - Cultural beliefs
  - Maybe education not focus at all?

Why Women and minorities?



- You are a stranger in a strange land
- Underrepresented groups do not have a long history of belonging
  - Especially at the high levels of achievement
- The more education and professional skills acquired, the less confident we seem to feel

How to overcome the Impostor syndrome

STEM fields are challenging!!

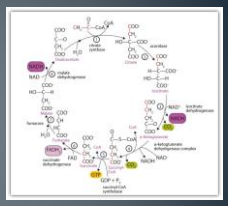

Temporal acuity and the rate and dynamics of mass extinctions

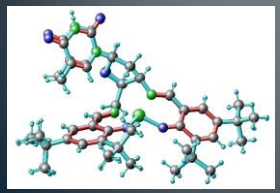

A Computerized and On-line Super Twisting Speed Control of Alternating Current Asynchronous Machine Using Omron V1000+ Drive


Site-Specific Fluorescence Dynamics of α-Synuclein Fibrils Using Time-Resolved Fluorescence Studies: Effect of Familial Parkinson's Disease-Associated Mutations

STEM fields are challenging!!

$$(x+a)^n = \sum_{k=0}^{n} \binom{n}{k} x^k a^{n-k}$$

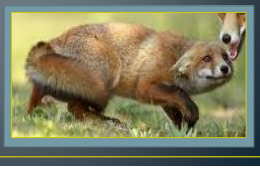




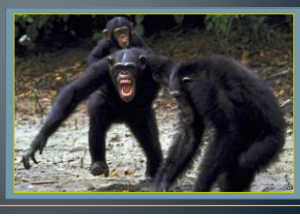
GUESS WHAT ----

Ok so you feel like this… Now WHAT ?!?

Non-verbal communication



POWER, STRENGHT, CONFIDANCE



Share some science

Testosterone

POWERFULL

Weak

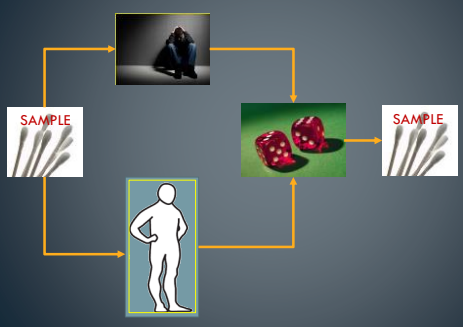
Cortisol

Stress

Less Stress

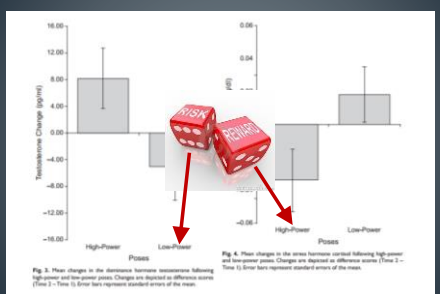
Carney et al. *Psychol. Sci.* 2010

Imposter to Powerful



Carney et al. *Psychol. Sci.* 2010

Science of Non-verbal Communication



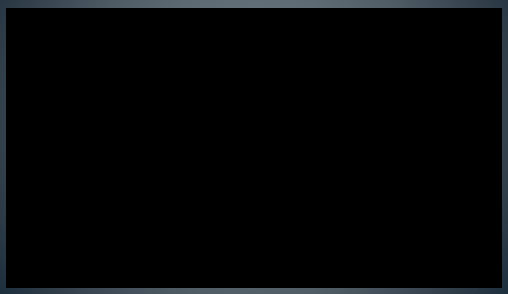
Carney et al. *Psychol. Sci.* 2010

Science of Non-verbal Communication

Even when held for a **short** duration ---- Power poses cause **SIGNIFICANT** physiological changes which in turn effect behavioral responses.

Carney et al. *Psychol. Sci.* 2010

AMY CUDDY - TED Talk



The Power of Voice – More Science

Non verbal characteristics
- Emphasize words
- Hold attention
- Express confidence
- Subtly communicate feelings

Affect the Speaker?

Stel et al. *Psych. & Pers. Sci.* 2012

Will tone of voice affect the speaker?

Participants told to read passage in different tones

1. Rank themselves on a scale
   - to measure POWER
2. Recognition test of words
   - to measure ABSTRACT THINKING

Stel et al. *Psych. & Pers. Sci.* 2012

Tone DOES affect the speaker

LOWER PITCH =

POWER

ABSTRACT THINKING

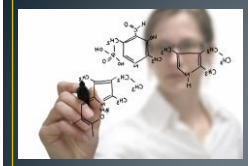
Stel et al. *Psych. & Pers. Sci.* 2012

A Sense of Belonging

- Once the percentage of female students in a department rose above about 15… women's academic performance improved
- Girls who attend single-sex schools have higher career aspirations than both boys and girls at coed schools

Waston et al. *Sex Roles* 2002

WHY?




Status of STEM at UNM

1503 First time full-time freshman from the fall of 2005, 2006, and 2007 were tracked in this study.

Students initially stated that they were interested in STEM degrees

STOP	SWITCH	STAY
29.6%	42.5%	22.2%

5.7% Still enrolled

WHAT CAN I DO? CONNECT

Universidad De Nuevo Mexico El Centro El Centro De La Raza

STEM GATEWAY

Celebrating 40 YEARS UNM Women's Resource Center

AON UNM STEM WORKSHOP SERIES
Achievement & Exploration Opportunities & Networking

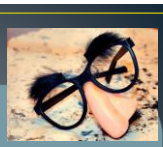
UNM Center for Academic Program Support

University of New Mexico AISS American Indian Student Services

UNM STEM Collaborative Center

STEMUP science • technology • engineering • math UNDERGRADUATE PATHWAYS CNM UNM

Summary



Impostor feelings are normal

" I always feel so out of place in one of my engineering classes when I am the only girl and all the guys are talking about cars... I think what am I doing here?"

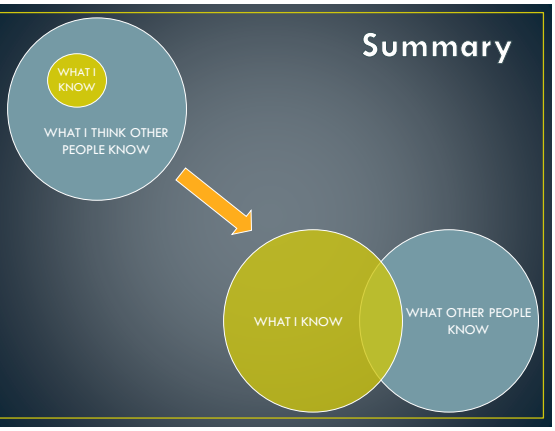
"I am afraid to ask my classmates for help because I just assume they know more and will not want to include me"

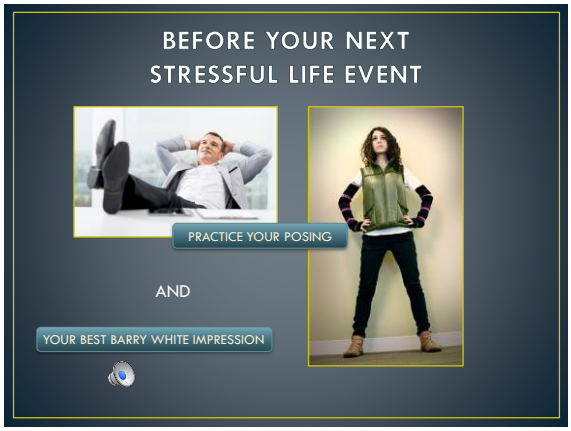
" I feel like I got into UNM as a fluke and that I never will feel like I belong"

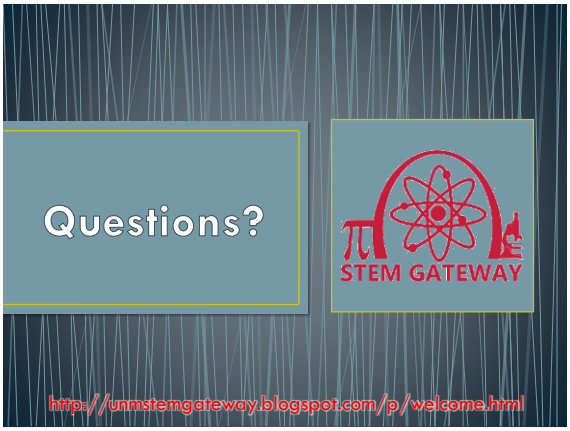
Summary

- You can do small things to overcome impostor feelings
- STEM fields are challenging and you need to put in the hard work, but you shouldn't know it all right away
- YOU ARE A STUDENT
  - Do not be frightened by the unknown --- BE CHALLENGED BY IT
- MAKE CONNECTIONS!
  - resources
  - people
  - **Stay connected to your end goal**

Summary




BEFORE YOUR NEXT
STRESSFUL LIFE EVENT
PRACTICE YOUR POSING
AND
YOUR BEST BARRY WHITE IMPRESSION


Questions?
STEM GATEWAY
http://unmstemgateway.blogspot.com/p/welcome.html

UNM | STEM GATEWAY

Time Management

Due Friday October 28: Time management is the ability to exercise control over the time you spend on activities in order to increase your efficiency/productivity. There are multiple skills that you can employ to become a good time manager which is important when striving to do many things. In your case, being a PLF, a student and also allocating some time to seek future opportunities and fill out applications before deadlines may be overwhelming. Answer the questions below, print this assignment and bring to training at DSH 231.

1. What are three time management techniques that you utilize to meet your daily goals? Provide an example for each, be thorough.

2. Write down one thing you struggle with when it comes to time management. A few things that people struggle with are procrastination, not prioritizing, not managing distractions, to name a few.

Three Ways to Think About Prioritization

A. Urgency vs. Importance (Steven Covey)

Consider the importance (or "weight") of the items on your list, and the urgency "when is it due?"

	Urgent	Not-Urgent
Important	**Quadrant 1**: Examples: Things due today or tomorrow, dealing with emergencies or crises	**Quadrant 2**: Examples: Long-term projects, planning ahead, studying in advance, getting started early.
Not Important	**Quadrant 3**: Examples: Interruptions, distractions, fun events that come up, social invitations.	**Quadrant 4**: Examples: Time wasters, busy work, procrastination activities, aimless internet browsing.

Steven Covey recommends we spend most of our time in Quadrants 1 & 2 and as little time as possible in Quadrant 4.

B. The ABC Method (Alan Lakein)

The ABC Method was originally developed by Alan Lakein and consists of assigning a priority status of "A,"B," or "C" to each of the items of your to-do list or task list.

"A" Status Items – "Must Do"	High priority, very important, critical items, with close deadlines or high level of importance to them.
"B" Status Items – "Should Do"	Medium priority, quite important over time, not as critical as "A" items, but still important to spend time doing.
"C" Status Items – "Nice to Do"	Low priority at this time, low consequences if left undone at this moment.

C. Other Considerations . . . (adapted from David Allen)

- **What can I do where I am?** *(Think about location. What can you do where you are now? Sometimes we have unexpected pockets of time. How can you use them to your advantage?)*
- **How much time do I have and when do I have to do something else?** *(Be realistic about what can be done. Your to-do list might shift based on how much time you have available)*
- **How much energy & focus do I have?** *(What can you realistically take on right now?)*
- **What has the highest payoff for me if I do it?** *(Yet another way to think about importance, weight, or priorities)*

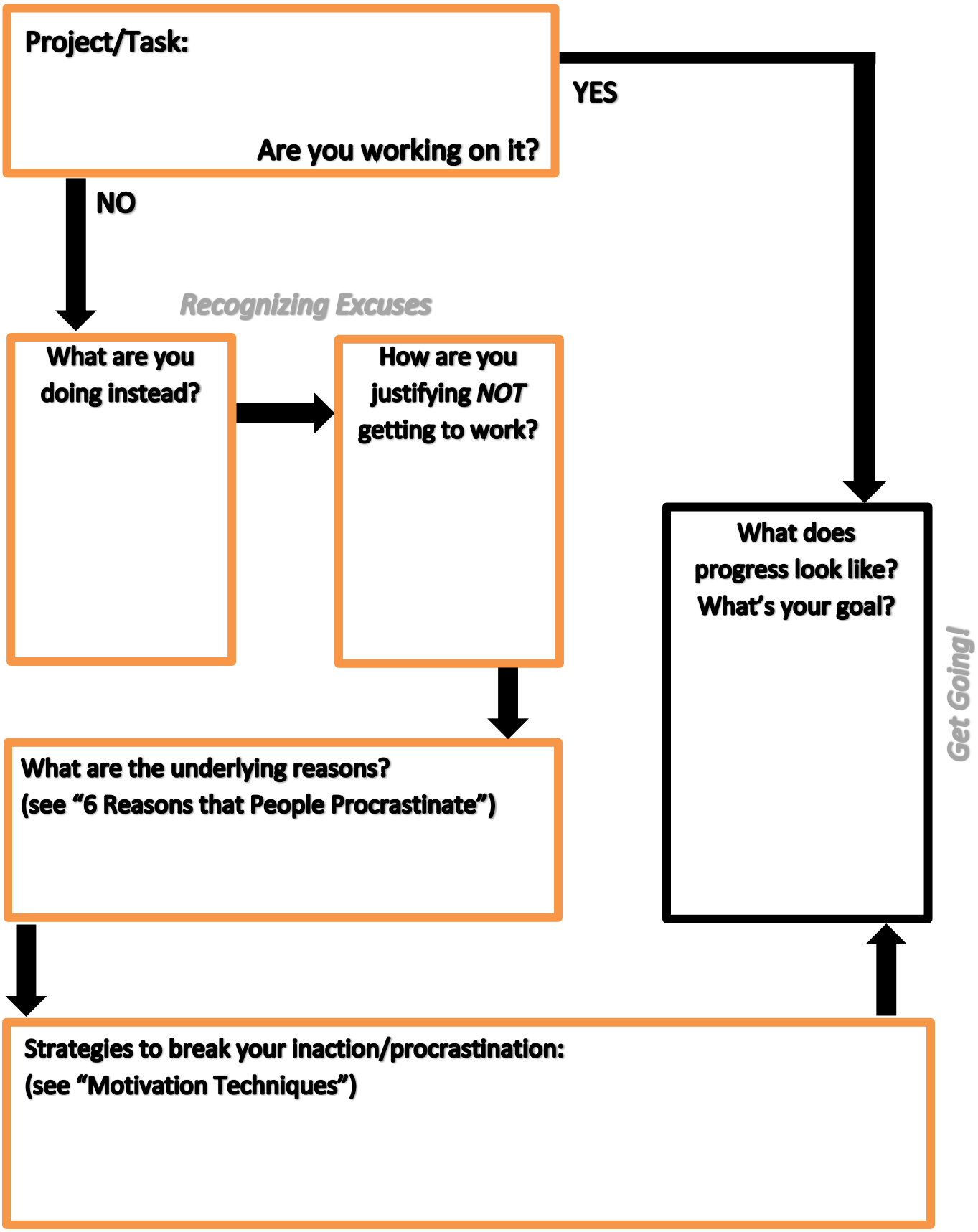
Sources:

- *Allen, D. Getting Things Done Website & Newsletter: http://www.davidco.com/newsletters/archive/0512.html*
- *Covey, S.R. (1987). "Principles of Personal Management," The 7 Habits of Highly Effective People. NY: Fireside.*
- *Haynes, M.E.(2009) Time Management: Get an extra day a week, 4th Ed. Axzo Press.*

Academic Success Center, Oregon State University, 2013

Procrastination Management

Steps you can take to get yourself out of procrastination and into progress



PLF training

2/17

Housekeeping

- Update contact information
- Timesheets
  - New deadline: Wednesdays by noon
  - Send to Mary Jane
  - Cc Janeth Pena
- STEM Colloquium April 11, 2017

PLF Resour

- UNM STEM Gateway

Refresher…

The Key to Addressing Difficult Facilitation Situations is **FLEXIBILITY**

FoSTER

Flexibility

Fo

Focus

Be able to articulate your purpose at any time.

Fo

Focus

Be able to articulate your purpose at any time.

What is your purpose as a PLF???

Fo

Focus

Be able to articulate your purpose at any time.

Learn what others think your purpose is so that you can help them set reasonable expectations.

S

Sharing

Seek each other out to learn from each other. Be there for each other.

S

Sharing

Seek each other out to learn from each other. Be there for each other.

Ask for advice from your instructor

S

Sharing

Seek each other out to learn from each other. Be there for each other.

Ask for advice from your instructor

Who has done this?

What was the result?

T

Tools

Create a Toolbox of activities, approaches, strategies and language.

T

Tools

Create a Toolbox of activities, approaches, strategies and language.

Learn to ask good questions… They're more valuable than insightful statements.

T

Tools

Create a Toolbox of activities, approaches, strategies and language.

Learn to ask good questions… They're more valuable than insightful statements.

Always strive to LISTEN and OBSERVE better.

T

Tools

How do you know when someone is not listening?

E

Empathy

Know Yourself. What are you good at? What do you struggle with?

E

Empathy

Know Yourself. What are you good at? What do you struggle with?

Be Yourself. You are not defined by your PLF role, rather you are an individual IN your PLF role.

E

Empathy

Know Yourself. What are you good at? What do you struggle with?

Be Yourself. You are not defined by your PLF role, rather you are an individual IN your PLF role.

What defines you outside of the PLF program?

E

Empathy

Know Yourself. What are you good at? What do you struggle with?

Be Yourself. You are not defined by your PLF role, rather you are an individual IN your PLF role.

Believe in your students, and let that faith show in your actions.

R

Reflect

Think about what you are doing as a PLF (and why you are doing it), especially when you are not on the clock.

R

Reflect

Think about what you are doing as a PLF (and why you are doing it), especially when you are not on the clock.

Think about why you took this job, and what you are learning that will help shape your future.

Active learning time!!!

—

Active Learning

Active Learning

– **One-Minute Response**

Written and oral methods are both acceptable. Have the student(s) summarize an important theory or answer a specific question. Give them some time to both formulate a response and write it down. One-Minute Responses are effective for determining how well concepts are being learned. They can even reveal gaps in one's knowledge, so that you know where students (individually or collectively) require the most support. EX: "How does Dr. X define 'scientific realism?'" Or "What is the difference between Carbon Monoxide and Carbon Dioxide?" Open ended questions might require more than a minute or two to tackle, however, so adjust time accordingly.

Active Learning

- **Clearest/Muddiest Point**

  Have the student(s) identify the clearest point in the lecture/material (the part they understood the best) and the muddiest point. Not unlike the One-Minute Response, Clearest/ Muddiest helps identify both students and theories that require your supportive input. Sometimes, it's also helpful to ask students to respond to how they feel about the material. Are they comfortable enough to take an exam tomorrow? This can help them identify their own strengths and weaknesses.

Active Learning

- **The "Socratic Method"**

  Most college students are familiar with the Socratic Method. The method typically requires a small group, led by a moderator (this would be you, PLF) who poses questions for the students to answer. These questions are generally open-ended questions that invite discussion. Great for using during office hours or when you've got ample class time!

Active Learning

- What active learning strategy do you use the most (not restricted to previously mentioned)?
- What active learning strategies do you implement in your personal studies?
- Have you learned any other strategies from students you have assisted through PLFing?

PLF training

4/7

Housekeeping

- STEM Summit
  - Tuesday, April 11
  - 9am-4pm
  - Register for free!!!
- End of semester potluck
  - May 5
  - 4 weeks away
- EASE workshop feedback


This piece of amber contains the first fossilized red blood cells from a mammal ever discovered - in this case, infected by a parasite.

STEM Outreach

The Importance of Outreach to Underserved Populations

The Importance of Outreach to Underserved Populations

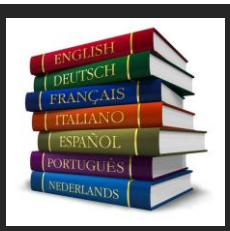
- Lack of Education

The Importance of Outreach to Underserved Populations

- Lack of Education
- Discrimination

The Importance of Outreach to Underserved Populations

- Lack of Education
- Discrimination
- Differences in Language



The Importance of Outreach to Underserved Populations

- Lack of Education
- Discrimination
- Differences in Language
- Differences in Culture

What can be considered as outreach?

What can be considered as outreach?

- Public talks/lectures/discussions
- Visiting primary and secondary schools
- Workshops/schools for teachers and/or students
- Supporting science fairs and similar events
- Online aggregation of science activities, resources, and programs

Training 7/10

Housekeeping

- Timesheets ✓
- Fall break Oct. 13-14
  - No training
  - Timesheets are due **Monday 10/10**.
- Midterm PLF survey

Considerations for Relocating

Moving- Is it worth it?

- Motivations
  - Purpose driven vs money driven

Moving- Is it worth it?

- Motivations
  - Purpose driven vs money driven
- Cost of living
  - Other cities or states
    - Salary.com
    - CNN money
    - Bankrate

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    - Salary.com
    - CNN money
    - Bankrate
  - Other countries
    - Numbeo

Moving- Is it worth it?

- Motivations
  - Purpose driven vs money driven
- Cost of living
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    - Salary.com
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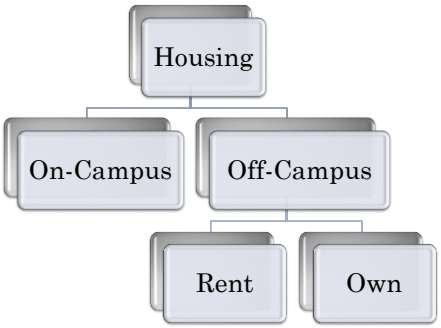
    - Bankrate
  - Other countries
    - Numbeo

Moving- Where to live?

- Housing

Moving- Where to live?



Moving- Where to live?

On-Campus

Convenient
- -Location
- -Amenities and services

Community activities
- -Educational
- -Social

Student family housing
- - Graduate student with spouses, domestic partners or families.

Moving- Where to live?

Off-Campus

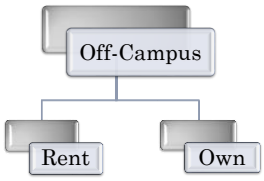
- Safety?
  - Crime Mapping
  - Neighborhood scout

Moving- Where to live?

Off-Campus

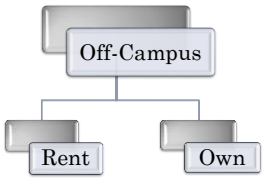
- Safety?
  - Crime Mapping
  - Neighborhood scout
- Roommate?
  - Alumni Networks
  - Roomsurf
  - Padlister
  - Roomates.com (charges)

Moving- Where to live?



- More fixed costs for the term of the lease.
- Access to amenities.
- Shorter-term commitment.

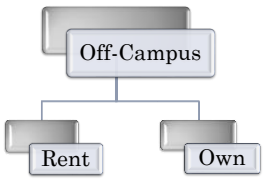
Moving- Where to live?



- More fixed costs for the term of the lease.
- Access to amenities.
- Shorter-term commitment.

<u>The Five Year Rule</u>
- Tax Incentives
- Equity build up
- Good investment

Moving- Where to live?



Transportation

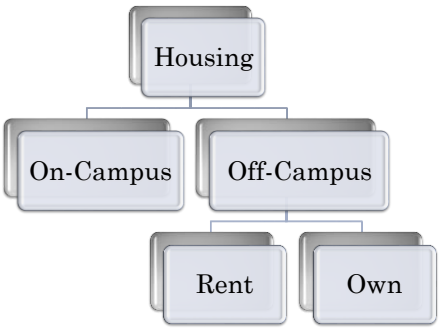
Moving- Where to live?

- Transportation
  - Car
  - Bicycle
  - City Bus

Moving- Where to live?

- Transportation
  - Car
  - Bicycle
  - City Bus
- Commute
  - Car - Traffic
  - Bus line - Traffic
  - Train
  - Subway
  - Ferry

Moving- Where to live?



Moving- Moving costs

- Job

Moving- Moving costs

- Job
  - Covered

Moving- Moving costs

- Job
  - Covered
- Continuing your higher education

Other considerations- Family

- Daycare cost
  - Can you afford it?
    - $7,300 (NM) vs $12,600 (CT)
    - ↑ 72%
- Education
  - School system
- Family-friendly?
  - Activities

Other considerations- other country

- Student visa
  - UK $322.00
  - ES $100.00
  - AU $550.00
- Temporary worker visa
  - UK $255.55
  - ES ~$500.00
  - AU $175.00-$380.00

Other considerations- Emotional state

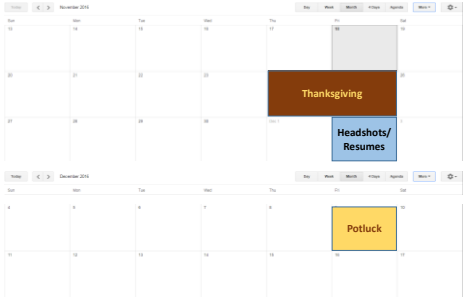
- Help?
  - Institution

QUESTIONS/COMMENTS

Training 18/11

Housekeeping

- Timesheets
  - Timesheets will **NOT** be accepted if they do not have the PLF's signature (and name at the top of the forms).
  - Timesheets must be turned in to me (Janeth) **NO LATER** than midnight of the assigned due date. If they are not turned in by then, timesheets will be on hold until the following pay period. No late timesheets will be entered.
- Spring 2015
  - Schedule
  - All classes you can PLF
  - Waiting on instructors



Networking

Paving a way to jobs and careers

Networking- Considerations

- Who to Include in Your Career Network

Networking- Considerations

- Who to Include in Your Career Network
  - Basically, anyone who can assist you with a job search or career move should be included in your career network

Networking- Considerations

- Who to Include in Your Career Network
- What Your Career Network Can Do For You

Networking- Considerations

- Who to Include in Your Career Network
- What Your Career Network Can Do For You
  - Information
  - Advice (support)

Networking- Considerations

- Who to Include in Your Career Network
- What Your Career Network Can Do For You
- Keep in Touch - Work Your Network

Networking- Considerations

- Who to Include in Your Career Network
- What Your Career Network Can Do For You
- Keep in Touch - Work Your Network
- What You Can Do for Your Career Network

Networking- Considerations

- Who to Include in Your Career Network
- What Your Career Network Can Do For You
- Keep in Touch - Work Your Network
- What You Can Do for Your Career Network
- Keep Track of Your Network
  - -Networking websites

Networking Events

Networking Events

- Inform yourself

Networking Events

- Inform yourself
- Organize your schedule

Networking Events

- Inform yourself
- Organize your schedule
- Consider first impressions
  - "Elevator pitch"

Networking Events

- Inform yourself
- Organize your schedule
- Consider first impressions
  - "Elevator pitch" **ACTIVITY**

Elevator Pitch Worksheet

An elevator pitch is a brief, persuasive speech that you use to spark someone's interest in you. A good pitch should last no longer than 20 to 30 seconds, roughly the time it takes to go up a floor in a lift (hence the name). Your elevator pitch should be interesting, memorable, and succinct. It also needs to explain what makes you unique.

It can take some time to get your "30 Seconds of Me" pitch right, so you'll most likely go through several versions before finding one that is both compelling and sounds natural in normal conversation.

What do I do?

What do I want to do?

What achievements am I most proud of?

1.
2.
3.

What inspires me about my work?

Getting the Best from Networking Events

What sets me apart?

Engage with a Question

The elevator pitch is designed to engage a person in conversation, so it's important that when your 30 seconds are up, you invite the other person to speak. Preparing a few standard open questions (that can't be answered with a "yes" or "no") which you can use at the end of your will usually do the trick.

Now, review what you've written and put the above components together in a statement of around 10 sentences.

Getting the Best from Networking Events

Example

Here's an example of how your elevator pitch could come together:

"I'm a Business Analyst with a company that develops mobile applications that businesses use to train their staff remotely. This means that senior managers can spend time on other important tasks. I'm unusual in that I (rather than the account manager) take the lead role in visiting each client organisation to find out exactly what they need. The Requirements Specifications I create means that, on average, 95 percent of our clients are happy with the first version of their app. So, how does your organisation handle the training of new people?"

Practice, Practice, Practice!

When you've completed your pitch, read it aloud to yourself and use a timer to check how long it takes, speaking at a normal pace. If it's longer than 30 seconds, you risk losing the other person's interest or monopolising the conversation. So try to cut out anything that's unnecessary "padding". Then, when you're happy with what you've got, try it out with a trusted friend or colleague, as they can help you polish it further.

Then be sure to go and try it out in the real world! The more often you use it, the more confident you will become.

Getting the Best from Networking Events

Study Skills

March 28 2013

A few updates first

Scheduling a room:

- Zimmerman Library (study rooms on the 1st floor and in the basement)
  - library.unm.edu/services/rooms/reservearoom.php
  - non-recurring
- UNM Scheduling Office (DSH, Centennial, Clark Hall, Mitchell Hall, etc)
  - www.unm.edu/~schedule/request.html
  - can take awhile to hear back

Updates, cont.

Can students hire me as a tutor?

- YES, but…
  - Be clear
  - Be safe

Updates, cont.

How do I handle "cries for help" and panic?

- Today, we will cover some broad study skills
- Send them to their advisors for any broad academic questions
  - www.unm.edu/artsci/advisement/index.html
- Don't counsel! Send them to someone who can.
  - agora.unm.edu – they can even chat online
  - UNM SHAC After Hours On Call Service:
    (for UNM Students Only)
    Call 505-277-4537 and select option # 2.

Counting Vowels in 45 Seconds

A E I O U

How accurate are you?

Count all the vowels in the words on the next slide

Dollar Bill
Dice
Tricycle
Four-leaf Clover
Hand
Six-pack
Seven-Up
Octopus

Cat Lives
Bowling Pins
Football Team
Dozen Eggs
Unlucky Friday
Valentine's Day
Quarter Hour
Sweet

How many words do you remember?

Let's look at the words again…

What are they arranged according to?

Dollar Bill	Cat Lives
Dice	Bowling Pins
Tricycle	Football Team
Four-leaf Clover	Dozen Eggs
Hand	Unlucky Friday
Six-pack	Valentine's Day
Seven-Up	Quarter Hour
Octopus	Sweet

What were the major differences between the two attempts?

We knew what the task was.

We knew how the information was organized.

Study Skills

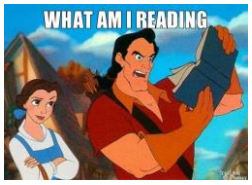
- Breaks down into four broad areas:
  - Time Management
  - Reading
  - Note-Taking
  - Test-Taking
- Maybe five with memorization…

Time Management

- Plan your tasks
- Understand the difference between tasks and objectives
- Self-Care
- Rewards

Reading

- Comprehension vs. Completion
- SQ3R
- The Study Cycle



Note-Taking

- Arrive early to class and stay until the end
- Watch for non-verbal cues
- The Cornell Method

Test-Taking

- Put it in context.
- Rehearse!
- WWPD?

APPLY!

PLF Professional Development Training

October 26, 2013

Questions to ask yourself

- What are my deadlines?
- How many letters of recommendation?
- Official or unofficial transcripts? How many?
- Electronic or hard copy submission?
- Do I need a personal statement?
- Do I need a writing sample?
- What test scores do I need?

It can get TRICKY!

Remember that for most grad programs, there are two sets of requirements to apply.

One is to the university itself, one is to the program. Each will have different needs.

A good example is the UNM English Dept http://english.unm.edu/graduate-study/graduate-admissions.html

The Best Advice I Can Give You

- More time = better applications. DON'T WAIT.
- Make it easy on your references. Give them time & info.
- Be honest. Address discrepancies and don't fudge.
- Save copies of everything in both Word & PDF.
- Get extra copies of anything that you didn't create (like transcripts).
- Reach out to the program. Ask a lot of questions.
- Put your contact info on every page.
- If you don't get in, try again.

Letters of Recommendation

The Order of Operations:

1. Informal email / in-person inquiry.
2. Email or deliver hard copy of official request.
3. Follow-up to be sure everything was submitted.
4. Write a thank you note, either card or email.

The Official LoR Packet

- Personal request to the writer with an overview of your plan(s).
- Write about each program separately.
- Give deadlines and method of requested delivery.
  - Attach stamped and addressed envelope, if needed.
- Make your request.
- Give details about the program.

The Personal Statement/Cover Letter

- Don't use the exact same version.
  - Make yourself a template that you can adjust.
- Know about the program.
  - Why is it ideal for you?
- Be specific.
  - Use the language of the program.
  - Who do you want to work with and why?

The Interview Process

- Dress up for the interview, no matter how informal they make it sound.
- No cologne or perfume.
- No dangly earrings or flashy jewelry.
- Cover tattoos and/or remove piercings.
- Be honest.
- BE YOURSELF! Not who you think they want.

You will be miserable in any program or job that does not accept you for who you are. I cannot overemphasize this.

You really can be anything you want to be,

it may just take a different form than you originally thought.

PLF Training 8/26

- What do you aspire after you acquire your degree?

a) More school?
   - Look up the resources available in your department that will help you attain the goal of being accepted to graduate school (or med school, nursing, PA, etc.).
   - If not in your department, look at the resources from UNM, NM, National.

b) Work?
   - Look up the requirements you need to achieve your desired job.
   - Look up internships (or co-ops, meetings for networking) that can help you attain this position.

Assignment: Write down three opportunities that you would be interested in applying to and in a paragraph describe how they would help you attain your goals.

Due: 9/2 from 3:00-4:00 PM. Drop in!!! No email accepted.

Training 9/23

Housekeeping

- Timesheets.

Leadership

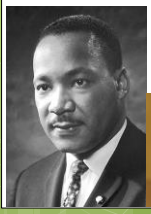
Are you a leader?

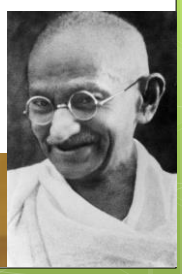
Outline

- Great man Theory
- Leadership
  - Definition
  - Qualities
  - Styles
- Assignment

GREAT MAN THEORY

- **"Leaders are born, not made."**





Leadership

- The action of leading a group of people or an organization.
  - Leadership is influence.
  - The ability to obtain followers.
  - Everyone influences someone.

"Not everyone will become a great leader, but everyone can become a better one."
- John C Maxwell

Leadership

- What qualities define a leader?

Leadership -Activity

- What qualities define a leader?

Leadership styles

Leadership styles

- "Commanding leader"
  - Demands immediate compliance.
- Emotional intelligence
  - Drive to achieve, self-control.
- When does the style work best?
  - In a crisis, to kick start a turnaround, or with problem employees.
- Not considered "true" leaders because they are leaders by title.
- Negative

Leadership styles

- "Visionary leader"
  - Mobilizes people towards a vision.
- Emotional intelligence
  - Self-confidence, empathy, change, catalyst.
- When does the style work best?
  - When changes require a new vision, or when a clear direction is needed.
- Positive

Leadership styles

- "Affiliative leader"
  - Creates harmony and builds emotional bonds.
- Emotional intelligence
  - Empathy, building relationships, communication.
- When does the style work best?
  - To heal rifts in a team or to motivate people during stressful circumstances.
- Positive

Leadership styles

- "Democratic leader"
  - Formulates decisions through participation.
- Emotional intelligence
  - Collaboration, team leadership, communication.
- When does the style work best?
  - To build buy-in or consensus, or to get input from valuable employees.
- Positive

Leadership styles

- "Pacesetting leader"
  - Sets high standards for performance.
- Emotional intelligence
  - Conscientiousness, drive to achieve, initiative.
- When does the style work best?
  - To get quick results form a highly motivated and competent team.
- Negative

Leadership styles

- "Coaching leader"
  - Develops people for the future.
- Emotional intelligence
  - Developing others, empathy, self-awareness.
- When does the style work best?
  - To help an employee improve performance or develop long-term strengths.
- Positive

Leadership styles

What is your leadership style?

Levels of leadership

Levels of leadership

Levels of leadership

Levels of leadership

Levels of leadership

Questions?

Additional trainings

Career Fair

Every semester, PLFs were required to attend a science-specific career fair. The purpose was for them to broaden their views on the different opportunities that are available to them and the peers they instruct. A mandatory assignment was developed to ensure attendance to career fair (e.g. delivery of 3-5 business cards with short description of companies).

Resume and CV Building/Headshots

Resume and CV building is a crucial skill that students need to attain during the college career. This training focused on brining experts from the Career Services at UNM to provide information and feedback on how to build/improve a resume. PLFs were told to bring their resume in order to get feedback from the speakers. Additionally, professional headshots would be taken to be used in job-seeking professional websites (e.g. Linkedin).

<u>End-of-semester PLF potluck</u>

The end-of-semester potluck was a moment where PLFs could have an enjoyable time before proctoring final exams as well as taking their own examinations. This also allowed an environment of closeness that allowed the formation of a PLF network. This activities are important between PLFs because when in need, one PLF can help another by covering a lecture in the case of an unforeseen emergency or they may help each other develop strategies to teach specific class content.

Professional Development Training Schedule

Date	Topic
Aug 24	The PLF Workplace (guest: Dr. Gary Smith, STEM Gateway)
Aug 31.	What is it like to be a PLF? (New & Returning PLF Panel)
Sept 7.	Who Comes to UNM?
Sept 14.	Men of Color Initiative (guest: Chris Ramirez, Equity & Inclusion)
Sept 21.	Undoing Rac-ism (guest: Julio Romero, School of Law)
Sept 28.	Active Learning (guest: Tim Schroeder, STEM Gateway)
Oct 5.	The Socratic Method in the Classroom
Oct 12.	*Fall Break- No Training*
Oct 19.	Data Session (guest: Vicky Dueer, STEM Gateway)
Oct 26.	The "Perfect" PLF
Nov 2.	What do you want to do? (guest: Cassandra Costley, Career Services)
Nov 9.	STEM at UNM (guest: Tim Schroeder, STEM Gateway)
Nov 16.	Test Anxiety
Nov 23.	*Thanksgiving Break- No Training*
Nov 30.	How to Apply: Grad School and Work Advice
Dec 7.	Post-Surveys & Potluck

PLF Fall 2014 Training Schedule

August 15	Pre-Semester Training	Mary Cianflone
August 22	Active Learning Buy-In	Gary Smith
August 29	Early Semester De-Brief	Mary Cianflone
September 5	Self-Advocacy	Mary Cianflone
September 12	No in-person Training – Reflections Due	
September 19	Non-Verbal Cues	Mary Cianflone
September 26	Study Skills and Learning Strategies	CAPS Rep
October 3	Why Does Active Learning Work?	Gary Smith
October 10	*No training meeting – Fall Break*	
October 17	Red Flags and Warning Signs	Carolina Belmares-Ortega
October 24	Education as a Public/Private Good	Tim Schroeder
October 31	Late Semester De-Brief	Mary Cianflone
November 7	*No in-person training – Reflections Due*	
November 14	STEM Gateway Grant and Data	Mary Cianflone
November 21	Ask-It Basket	Mary Cianflone
November 28	*No training meeting – Thanksgiving Break*	
December 5	Farewell Potluck	Mary Cianflone

Spring 2015 Professional Development Training Schedule

Date	Topic
Jan 16.	The Perfect PLF Group Activity
Jan 23.	Ask-it-Basket Group Activity
Feb 6.	No in-person training: Reflections due
Feb 13.	Metrics (Yadeeh Sawyer)
Feb 20.	Critical Thinking (Yadeeh Sawyer)
Feb 27.	Motivation and Mindset (Tara Hackel)
Mar 6.	Public Speaking (Albuquerque Toast Masters)
Mar 13.	Spring Break
Mar 20.	No in-person training: Reflections due
Mar 27.	Basic Excel (Yadeeh Sawyer)
Apr 3.	Advanced Excel (Yadeeh Sawyer)
Apr 10.	No in-person training: Reflections due
Apr 17.	No in-person training: PLFs attend Shared Knowledge Conference
May 1.	Post-surveys & Potluck

Spring 2016 Professional Development Training Schedule

Date	Topic
Jan 22.	Accessibility Resource Center (Joan Green)
Jan 29.	Preparing for a Career Fair (Shalom Bond)
Feb 5.	Active Shooter Training (Deb Kuidis)
Feb 12.	McNair/Research/Applying to Graduate School (Ricardo Romero)
Feb 19.	Creating PLF Videos & CAPS Modules
Feb 26.	PLFs in CAPS Training
Mar 4.	External Evaluator Visit
Mar 11.	PLFs to work on individual projects for the grant
Mar 18.	Spring Break
Mar 25.	PLFs in CAPS Training
Apr 1.	PLFs in CAPS Training
Apr 8.	Student & Staff Grant Update Discussion
Apr 15.	No in-person training: PLFs attend Shared Knowledge Conference
Apr 22.	Students of Concern (Rob Burford)
Apr 29.	PLFs in CAPS Training
May 6.	Post-surveys & Potluck

Resources

As additional components, resources available at the University of New Mexcio were taken advantage of for the professional development of PLFs as well as for them to gain knowledge of the resources that their peers could take advantage of.

Resources available for students at the University of New Mexico

STEM GATEWAY

Professional Development Training Options March 2012

Upcoming Events, 2 hours

You may attend an event and write a review of it. The review should be no longer than one page and address not only a summary of the presentation, but how the information relates to your work as a PLF.

Leadership Camp
Saturday, March 3 and Saturday, April 21
10:00 – 1:30
Hosted by: The Center for Academic Excellence and Leadership Development

The Leadership Camp is a free five-hour leadership workshop offered to high achieving undergraduate students at UNM. Dr. Adam Bubb who will be leading this camp has expertise in leadership development and Community Service Learning. The seats are limited to 24 students (First-come, first-served basis). Application Deadline: February 28.

Anxiety / Stress Clinic
Wednesday, March 21
3:30 PM - 5:00 PM
Hosted By: Student Health and Counseling
Location: SHAC

Learn the causes of test anxiety as well as coping skills.

Academic Success- Tips and Tricks
Thursday, March 22
3:30 PM - 5:00 PM
Hosted By: Student Health and Counseling
Location: SHAC

Learn tips and tricks to deal with barriers to academic success.

Etiquette Dinner
Thursday, March 29
4:30 PM - 8:30 PM
Hosted By: Career Services
Location: Student Union Ballroom

The free dinner is a formal three-course meal where UNM Career Services staff and employers coach students. General tips included are: networking basics, proper topics of conversation, proper place setting usage etc. For more information, contact Jennifer Crabb at jennas@unm.edu or call 277-2531. Registration is required.

Professional Development Training Options March 2012

Face-to-Face Sessions, 1-2 hours

{I am scheduling additional sessions for the month of March and will update you as confirmed}

LGBTQ Safe Zone Training
Friday, March 23
3:00-5:00
Hosted by: LGBTQ Resource Center
Location: tba

The Safe Zone training is designed to increase the overall campus community's understanding and awareness of lesbian, gay, bisexual, transgender, and questioning issues. Participants in the training will gain a better understanding of homophobia, heterosexism, transphobia, and LGBT issues on UNM's campus.

Undoing Racism
Friday, March 30
3:00-4:30
Hosted by: PIUSS
Location: tba

This session is not the typical lecture on generic tolerance, but goes over the real definitions of racism, prejudice, and bigotry, and the historical roots of institutional racism.

STEM Research, 2 hours

A big part of your job falls under the category of "STEM Education," which is a trendy topic right now. But, a lot of people have strong and differing opinions about how to "fix" the STEM Education problem right now.

Research an article, blog post, or other related to STEM in higher education and academic success and write a review of it. The review should be no longer than one page and address not only a summary of the article, but how the information relates to your work as a PLF.

Some websites to get you started:

- http://www.theatlantic.com/
- http://www.wired.com/geekdad/
- http://scienceblogs.com/
- Search The New York Times, The Guardian, The Washington Post, even the Albuquerque Journal to find articles (note: using the search term "STEM education" instead of just "STEM" will help you avoid finding stuff on stem cells)

Professional Development Training Options March 2012

Upcoming Events, 2 hours

You may attend an event and write a review of it. The review should be no longer than one page and address not only a summary of the presentation, but how the information relates to your work as a PLF.

Graduate School 101/Recuritment Panel
Wednesday, April 4, 2012
1:00 – 2:30
Mesa Vista Hall Suite 1057
Hosted by: Graduate Resource Center

Undergraduate Research and Creativity Conference:
Tuesday, April 10, 2012
9:00 – 5:00
SUB Ballrooms
Hosted by: University College

Resume/Cover Letter Presentation
Friday, April 20, 2012
1:30 – 2:30
UNM Career Service Room 220
Hosted by: Career Services

NM Graduate & Professional Student Conference: Uniting Diverse Disciplines & Distinct Voices
Monday, April 23, 2012 – Tuesday, April 24, 2012
8:00 – 5:00
SUB
Hosted by: Graduate Resource Center

Face-to-Face Sessions, 1-2 hours

Active Learning in the Classroom
Friday, April 6, 2012
3:00-5:00
Hosted by: Tim Schroeder, Director of STEM Gateway
Location: tba

CAPS Subject Meetings (for Math and Chemistry)
Fridays in April

** You must contact me to RSVP for these trainings and get the exact schedule/locations. All PLFs are invited to sit in any of the CAPS Discipline-Specific Meetings to discuss subject-related items.

Scavenger Hunt

A scavenger hunt has the objective of searching for set clues that are around campus. This is a good approach for PLFs to become familiar with locations of different departments. The scavenger hunt was devised with the intent of sending PLFs to offices that are commonly utilized by the student population. Within the set offices, we also included STEM-specific departments that could be of most help to the student population we were focusing on.

Friday! I haven't been so excited about friday since last friday.

As diligent students and hard-working staff members, we have many reasons to “TGIF” here at Stem Gateway! But admittedly, one of our favorite things about Fridays is weekly training with our Peer Learning Facilitators. During these sessions, PLFs further develop their skills as peer-tutors and receive programming on how to become better students themselves.

On October 18, 2013 PLFs got a break from their typical training routine to host a special visitor, Kelli Hulslander! Kelli is the new Student Advisement Coordinator for STEM majors in the UNM College of Arts and Sciences. Since taking her new position, Kelli was kind enough to stop by our training session to get feedback from the PLFs about what improvements could be made to STEM advisement. As tutors in STEM classes and students of those disciplines themselves, the PLFs had quite a lot to share! Overall, it was a very upbeat and enlightening meeting for both parties. The PLFs were very excited to share personal anecdotes with Kelli, and she had the unique opportunity of connecting with students willing to assess her program.

Since that training, Kelli has continued to support our PLFs. Through email correspondence, booking rooms for study sessions and more, she has become an invaluable resource at Stem Gateway. Kelli is going above and beyond in her new position and we are so grateful to have had the opportunity to connect with her this semester!

Names of group members:

UNM Resources Scavenger Hunt

Visit each of the locations on this worksheet and answer the following questions. Throughout your journey, keep in mind how these unconventional student resources could be of interest to you and your students.

Northrop Hall

Here you will find UNM's Earth & Planetary Sciences Department. There is a lot of free fun going on in here! The Meteorite Museum and Geology Museum are open to UNM students and the general public.

1. Find the Geology Museum and find the Orbicular granite (hint: it is the giant rock that you see when you first enter). Where was the rock found? Which of the fluorescent minerals come from New Mexico? _____
2. In the Geology Museum there is a Worldwide Earthquake tracker. Find and take a picture with your phone of the places that suffered of earthquakes today.
3. The Meteorite Museum is closed today (Feb.24). However, realize that this a resource available to you and your students.

Castetter Hall

As most of you know, Castetter Hall is home to UNM's Biology Department. However, this building is relevant to all students on campus, not just STEM majors.

1. Which speaker was part of the department seminars held on Thursdays 2/23 at 3:30PM? _____
2. When entering the main doors, to the right you will find a showcase with an exhibition from the Museum of Southwestern Biology, specifically from the division of parasitology. Name two worms and snails that are displayed.
   _____

Fine Arts & Design Library

You don't have to be a Fine Arts student to use their library. You can even make reoccurring reservations in the Fine Arts study rooms for your office hours or study groups. This space is definitely one of UNM's hidden treasures.

1. The Fine Arts & Design Library has an extensive film and music selection for check out by UNM students. What is the checkout period for items from this media library? _____

Global Education Office (GEO)

In case you have students that came from abroad, the GEO provides services to international students and scholars coming to UNM. It also coordinates opportunities for UNM students to study overseas!

1. In the front desk, ask for an education abroad postcard. Don't forget your circular pin in any language you want!

Student Health and Counseling (SHAC)

"It does a student body good!" The SHAC has a variety of services available to students including medical appointments, counseling services, and a full-service pharmacy. Check out some of these lesser-known student benefits from the SHAC!

1. When is the "Coping with Anxiety & Depression" workshop for students taking place in Spring 2017?
   _____
2. On which floor of the SHAC can students get a reasonably priced massage? How much does it cost? _____
   _____
3. What is the phone number to call for Mental Health/After-Hours Crisis Resources available to UNM students? _____

LGBTQ Resource Office

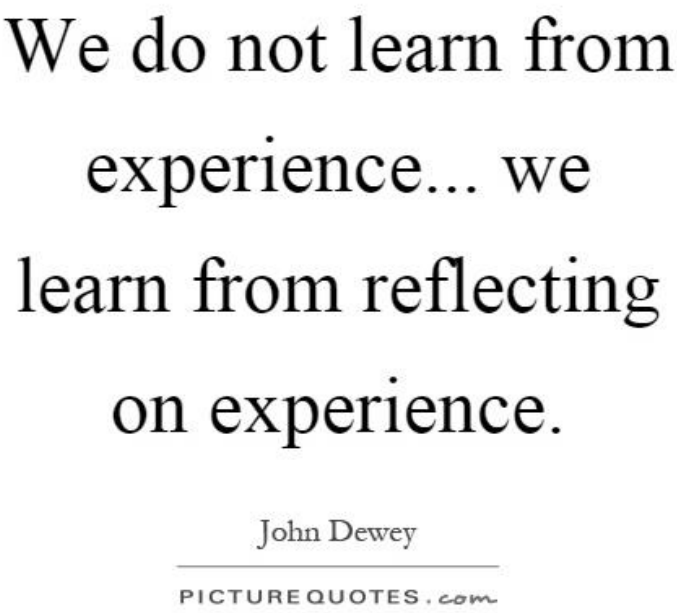
Through safety, education, advocacy, and support, the LGBTQ Resource Center serves as a physical environment from which LGBTQ visibility on the UNM campus can grow. Also, if you sign up for their mailing list you'll get notice for FREE Frito pie days!

1. The resource table contains information on centers, social events, anything and everything students can take advantage of here at UNM. Pick up the resource center card (card with the lobo paw in the middle).

CONGRATULATIONS! You have completed the scavenger hunt. Please head back to DSH 317 and turn in your worksheet!

PLF reflections

Trainings were mandatory and only excused in special circumstances. If absent, PLF were required to turn in a reflection assignments.



STEM GATEWAY

STEM Research, 2 hours

A big part of your job falls under the category of “STEM Education,” which is a trendy topic right now. But, a lot of people have strong and differing opinions about how to “fix” the STEM Education problem right now.

Research an article, blog post, or other related to STEM in higher education and academic success and write a review of it. The review should be no longer than one page and address not only a summary of the article, but how the information relates to your work as a PLF.

Some websites to get you started:

- http://www.theatlantic.com/
- http://www.wired.com/geekdad/
- http://scienceblogs.com/
- Search The New York Times, The Guardian, The Washington Post, even the Albuquerque Journal to find articles (note: using the search term “STEM education” instead of just “STEM” will help you avoid finding stuff on stem cells)

Peer Learning Facilitator Professional Development Reflection

Name: Click here to enter text.

Date: Click here to enter text.

Use the following questions to help guide your reflections this week. Use complete sentences and be thoughtful, honest, and comprehensive in your responses.

In the Classroom

What material was covered in class this week?

Click here to enter text.

Was the pace appropriate for students? If not, how did they respond? Did you take any different steps in the way you helped?

Click here to enter text.

What was one technique or example your instructor used that was especially effective or memorable?

Click here to enter text.

Prep and Office Hours

What did your prep time consist of this week?

Click here to enter text.

Did you feel prepared for the material covered in class? Why or why not?

Click here to enter text.

Briefly describe your weekly meeting with the instructor. What form did it take and what items did you go over together?

Click here to enter text.

Reflection

Talk about one way in which you feel you excelled as a PLF this week.

Click here to enter text.

Which aspect of your work this week did you find most challenging and why?

Click here to enter text.

Briefly describe a notable interaction (positive or negative) you had with a student this week and explain why you think it went well (or not).

Click here to enter text.

What was something you appreciated about your PLF teammate(s) this week? Did they teach or show you anything new?

Click here to enter text.

STEM Gateway
Peer Learning Facilitator Program

Part III: Learning as you go.

After completing this session of the institute, program coordinator will be able to…

…design evaluation strategies to identify outcomes.

i) Student survey
ii) PLF survey
iii) Instructor survey
iv) PLF observations

…use data to inform on applicability and efficacy of PLFs to identify modifications and implementation of such.

…develop alternatives for sustaining the PLF program in courses that opted for incorporation of PLFs for course redesign.

Project for Inclusive

Undergraduate STEM Success

Student survey

Surveys were done at the end of the semester. PLFs could not be present for the surveys in order to get honest feedback from students in course.

PLF Survey – Course Title, Instructor– PLFs:

1. Does working with other students in class help you learn more than you would otherwise? **(Circle only one answer)**

   A. Yes, I learn much more when I work with other students.

   B. I don't learn more or less.

   C. No, I don't learn more at all.

2. About how many times have you asked PLFs for help during class? **(Circle only one answer)**

   A. never

   B. 1-2 times

   C. 3-4 times

   D. 5 or more times

3. How many times so far this semester have you met with a PLF outside of class time? **(Circle only one answer)**

   A. never

   B. 1-2 times

   C. 3-4 times

   D. 5 or more times

4. In this class, how important is it for you to have a PLF available? **(Circle only one answer)**

   A. Very important

   B. Moderately important

   C. Not at all important

5. What would you do to make the PLF program better? **(Circle all that apply)**

   A. Have more PLFs in class

   B. Have the PLFs hold more / longer office hours

   C. Have the PLFs spend more time helping on in-class assignments

   D. Have PLFs organize and assist study groups outside of class time

   E. Other (suggestions):

(semester)

PLF Survey – Course Title, Instructor– PLFs:

6. When do you feel like you get to learn the most about the material? **(Circle all that apply)**

   A. When my instructor lectures and goes over examples

   B. When I answer iClicker questions

   C. When I work with a PLF on in-class assignments

   D. When I work with other students on in-class assignments

   E. When I visit a PLF outside of class

7. How were PLFs used in your class this semester? **(Circle all that apply)**

   A. Grading assignments

   B. Proctoring exams

   C. Taking attendance

   D. Helping with in-class assignments

   E. Holding office hours or individual tutoring sessions

   F. Holding exam review sessions

   G. Other (please write in):

8. What do you expect your final grade to be in this class? **(Circle only one answer)**

   A B C D F

9. Was this class a requirement for:
   (Circle only one answer)

   Major Minor Not Required

(semester)

PLF survey

PLFs provided unique perspectives because of being in the “trenches” of course redesign. PLF surveys were done at the beginning and end of semester to get as much data with regards to their observations related to course, classroom setting, instructors, professional and personal development, etc.

STEM GATEWAY

PLF Initial Survey

How do you currently feel about your decision to be a PLF? (choose only one answer)

A. I believe that being a PLF this semester was a good decision.
B. I am not sure whether being a PLF this semester was a good decision.
C. I do not believe that being a PLF this semester was a good decision.

About how many times do you think students will ask you for help during class?

A. 0 times
B. 1 time
C. 2 times
D. 3 times
E. 4 times
F. 5 or more times

How many times this semester do you think you will meet with a student outside of class time?

A. 0 times
B. 1 time
C. 2 times
D. 3 times
E. 4 times
F. 5 or more times

In this class, how important do you think it will be for you to be available? (choose only one answer)

A. Very important
B. Moderately important
C. Not at all important

How do you think you will be used as a PLF in your class this semester? (circle all that apply)

A. Grading assignments
B. Proctoring exams
C. Taking attendance
D. Helping with in-class assignments
E. Holding office hours or individual tutoring sessions
F. Holding exam review sessions
G. Other (please write in):

How would you rate any feelings of anxiety regarding your role as a PLF? (choose only one answer)

A. No anxiety – I feel confident about being a PLF
B. Mild anxiety – I am a little bit worried about being a PLF
C. Moderate anxiety – I have some real concerns about being a PLF
D. Severe anxiety – I am seriously questioning my ability to be a PLF

What are your greatest concerns regarding being a PLF? (circle all that apply)

A. I have no concerns
B. Finding time to attend classes and office hours along with my own schoolwork
C. Communicating with the course instructor
D. Communicating with the students
E. Understanding the material well enough to help other students
F. Other (please write in):

(semester)

STEM GATEWAY

PLF Follow-Up Survey

1. How do you currently feel about your decision to be a PLF? **(choose only one answer)**

    A. I believe that being a PLF this semester was a good decision.
    B. I am not sure whether being a PLF this semester was a good decision.
    C. I do not believe that being a PLF this semester was a good decision.

2. About how many times do students ask you for help during each class? **(choose only one answer)**

    A. never
    B. 1-2 times
    C. 3-4 times
    D. 5 or more times

3. How many times so far this semester have you met with a student outside of class time? **(choose only one answer)**

    A. never
    B. 1-2 times
    C. 3-4 times
    D. 5 or more times

4. In this class, how important is it for you to be available? **(choose only one answer)**

    A. Very important
    B. Moderately important
    C. Not at all important

5. How were you used as a PLF in your class this semester? **(circle all that apply)**

    A. Grading assignments
    B. Proctoring exams
    C. Taking attendance
    D. Helping with in-class assignments
    E. Holding office hours or individual tutoring sessions
    F. Holding exam review sessions
    G. Other (please write in):

6. As of today, how would you rate any feelings of anxiety regarding your role as a PLF? **(choose only one answer)**

    A. No anxiety – I feel confident about being a PLF
    B. Mild anxiety – I am a little bit worried about being a PLF
    C. Moderate anxiety – I have some real concerns about being a PLF
    D. Severe anxiety – I am seriously questioning my ability to be a PLF

(semester)

7. As of today, what are your greatest concerns regarding being a PLF? **(circle all that apply)**

   A. I have no concerns
   B. Finding time to attend classes and office hours along with my own schoolwork
   C. Communicating with the course instructor
   D. Communicating with the students
   E. Understanding the material well enough to help other students
   F. Other (please write in):

Thank you for your time!

PLF observations

Every semester, the PLF coordinator would sit in a lecture to observe PLFs at work and provide constructive feedback with regards to their interactions with students and active teaching strategies.

STEM GATEWAY

PLF Observation

Peer Learning Faciliatator:
Date of Observation:
Class:
Instructor:
Number of Students:
Room:
Team Members:

Professionalism	
arrives to class on time	
displays a positive attitude	
works as team member	
Relationship with Faculty	
communicates productively	
respects role of instructor	
supports classroom goals	
Relationship with Student Learners	
awareness of student needs	
questions and probes	
acts with empathy and respect	
Comments	

(semester)

Instructor survey

Surveys for instructors were focused on getting constructive feedback to PLFs.

STEM GATEWAY

Faculty PLF Survey Spring 2013

1. How do you currently feel about having a PLF assist with your class? (choose only one answer)
   A. I believe that having a PLF assist with my class will be beneficial.
   B. I am not sure whether having a PLF assist with my class will be beneficial.
   C. I do not believe that having a PLF assist with my class will be beneficial.

2. To the best of your knowledge, about how many times do students ask your PLF for help during class?
   A. 0 times
   B. 1 time
   C. 2 times
   D. 3 times
   E. 4 times
   F. 5 or more times

3. To the best of your knowledge, about how many times so far this semester has your PLF met with students outside of class time? (choose only one answer)
   A. 0 times
   B. 1 time
   C. 2 times
   D. 3 times
   E. 4 times
   F. 5 or more times

5. How will you utilize the PLF in your class this semester? (circle all that apply)
   A. Grading assignments
   B. Proctoring exams
   C. Taking attendance
   D. Helping with in-class assignments
   E. Holding office hours or individual tutoring sessions
   F. Holding exam review sessions
   G. Other (please write in)

6. What would you do to make the PLF program better? (circle all that apply)
   A. I have no suggestions
   B. Have more PLFs in class
   C. Have the PLFs hold more / longer office hours
   D. Have the PLFs spend more time helping with in-class assignments
   E. Have PLFs organize and assist study groups outside of class time
   F. Other (please write in)

7. When do you feel your students learn the most about the material? (circle all that apply)
    A. When I lecture and go over examples
    B. When I present iClicker questions
    C. When my students work with me on in-class assignments
    D. When my students work with a PLF on in-class assignments
    E. When my students work with other students on in-class assignments
    F. When my students visit me outside of class
    G. When my students visit a PLF outside of class
    H. Other (please write in)

8. In this class, how important is it for your PLF to be available? (choose only one answer)
    A. Very important
    B. Moderately important
    C. Not at all important

9. As of today, what are your greatest concerns regarding your PLF assisting with your class? (circle all that apply)
    A. I have no concerns
    B. The PLF finding time to attend classes and office hours along with their own schoolwork
    C. My communication with the PLF
    D. My students' communication with the PLF
    E. The PLF understanding the material well enough to help other students
    F. Other (please write in):

10. In which UNM college are you currently teaching? (E.g., Arts & Sciences, Anderson, etc.)

    _____

11. Please use the space below to suggest any other comments, concerns, questions, or suggestions regarding the assistance of a PLF in your class.

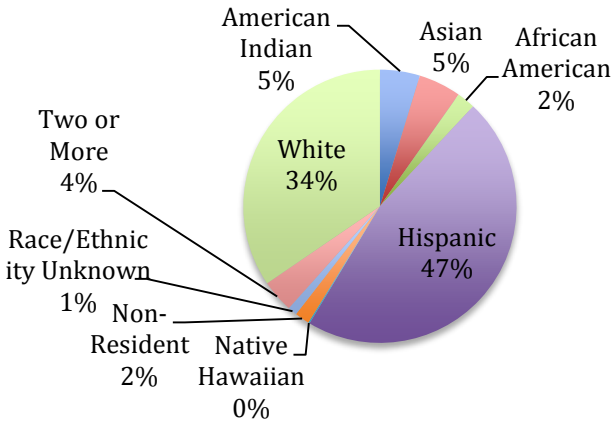
Peer-Learning Facilitator Program

Transforming Higher Education to what Students Want and Need

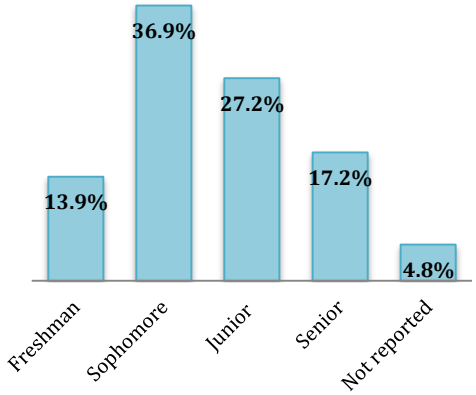
Overview

- **Peer-Learning Facilitators** (PLFs) assist with **active learning** approaches that involve students working with each other during class, which features three essential elements for student learning:
  - As their most important task, PLFs work with small groups of learners to support the successful completion of in-class assignments or to lead small-group, in-class discussions
  - Clarifying and explaining assignment expectations or reviewing the material.
  - PLFs enable instructors to use active-learning techniques that would otherwise be very challenging in a large class size with a single instructor
- 2014-2015 PLF-served courses: Bio 202L, Chem 121, Chem 122-001, Chem 301, Chem 302, EPS 101, Math 121, Math 150, Math 116, Math 180, and Math 162

Students Served

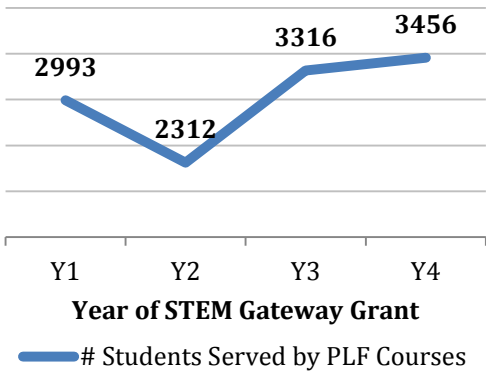


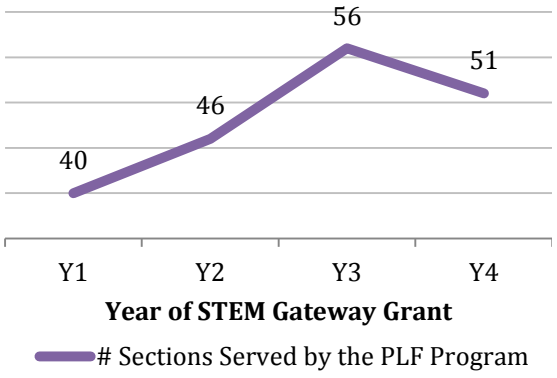
Race/Ethnicity in PLF Courses (2014-2015)



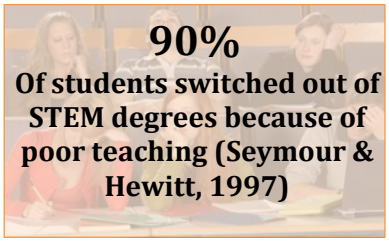
Classification in PLF Courses (2014-2015)

Gender in PLF-served Courses (2014-2015)





Need



- Of students who start at UNM declaring a STEM major, 42.5% will switch majors out of STEM, 29.6% will stop attending UNM with no degree, and only 22.2% will graduate with a STEM degree (STEM Gateway, 2014).
- On average, STEM students left UNM after 3.5 semesters. Also, the average time students switched majors occurs after 3.5 semesters, the same time as students leaving UNM (STEM Gateway, 2014).
- STEM Gateway studied the grade distribution patterns for the following sixteen STEM-based courses on this list: MATH 120, 121, 123, 150, 162, 163, 180, 181; ENVS 101; CHEM 121, 122, 301, 302; BIOL 201, 202; PHYC 160. The study yielded the following results:

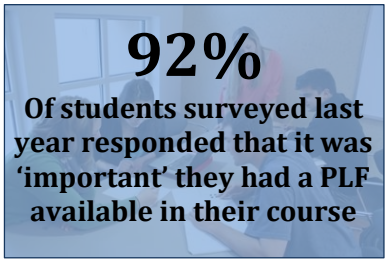
	GRADUATED in	SWITCHED out of STEM	LEFT UNM
Percentage of enrollments in this group of courses that earned an A, B or C	86.18 %	65.33% (20.85 points lower than GRADUATED)	54.36% (31.82 points lower than GRADUATED)

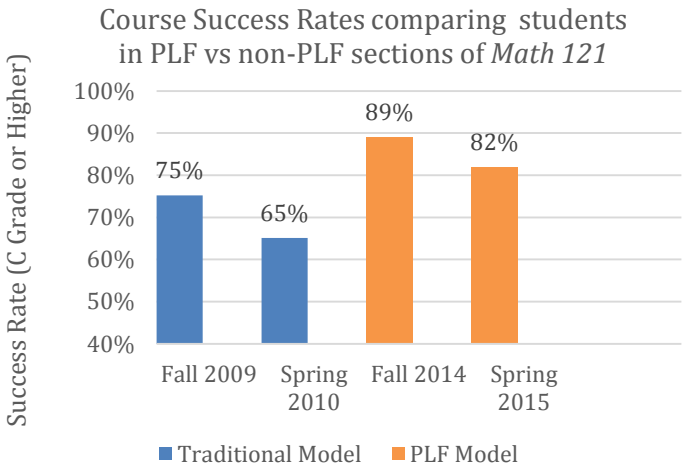
- Research has concluded that STEM students who engage with the instructors and interact with the subject are more likely to be successful in the classroom (Stigler & Hiebert, 2004).

STEM degree success requires intervention within the first 3-4 semesters focused on effective teaching in gateway courses.

Impact

- Active learning is a path for more engagement with the material and "instructors."
- The assistance of PLFs allows instructors to incorporate a wider variety of effective instructional strategies and collaborative learning activities in large gateway sections.





Student Comments:

- "PLFs are great helpers and it is not intimidating to ask for help because they are peers."
- "Classes with just a professor [are] very difficult because its hard to help and give each student necessary time."
- "Having a PLF provides one-on-one learning opportunities that we wouldn't have if they weren't there."
- "With the PLFs more students are able to receive help in the class at once."

(2014-2015 PLF Satisfaction Survey)

PLFs Transform Classrooms
http://stemgateway.unm.edu/peer-learning-facilitators

Moving forward…

The goal of STEM gateway was to understand and improve the teaching of difficult entry-level courses that trumped degree progress for students, with a focus for underrepresented groups. As the grant closes, the PLF program was deemed impactful by students and alternatives for sustainability are needed for courses that decide to redesign lecture-base courses to an active learning interphase. A crucial component to obtaining sustainability is extending knowledge/communication of the PLF program to other departments in the university. Through communications, three alternatives were considered to obtain sustainability of the PLF program:

1. Institutionalization

An effort can be made to institutionalize the PLF program by incorporating it to a department that provides required services to faculty and students.

2. Departmentalization

Individual departments may have funds available to support facilitators in their courses.

3. Course Model

Undergraduate students can take a credit course to facilitate in previously passed entry-level course.

All three alternatives have the need for supervision of undergraduate facilitators, which can be costly to departments. An option to maximize fund usage is to leave the position as an internship for graduate students that are already knowledgeable with some aspects of teaching and management.