

2007 OSEA Evaluation

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Introduction

- Welcome
 - New director – Cyndi Freeman Fail
 - Steering committee (SC) members
- Acknowledgements
 - OSEA Steering Committee
 - Jean & Desi
 - OAIRP & Institutional Research Offices
- Evaluation Team
- Today's Agenda
 - Overview of recent and past evaluations
 - Provide a snapshot of descriptive data

Evaluation Objectives

- General Objectives
 - Collect & provide information for OSEA
 - Evaluation of major Alliance activities
- Specific Objectives for major surveys, ascertain...
 - Student perceptions of importance, competency, & frequency of use of key skills for academic success
 - Student perceptions of various services to enhance student retention in STEM
 - Faculty perceptions of above skills and services

Structure & Instrumentation

- Nature of Surveys
 - Online survey had 2-3 scales for sections (n = 5)
 - Data collected January – mid-March, 2007
 - Schedule determined by institutional terms/breaks
- Improvement of 2005 instrument
 - Rewrite, restructure, or combine (“Explaining basic ideas orally” to “Communicating orally”)
 - Expanded/clarified scales (awareness of/use of services)
 - Expanded “Pre-college Activities” section
 - More “Demographic/Background” questions
- Many iterations of forms
- Input from numerous sources

Results

Table 1. Survey Response Rates

	2007			2005		
	Sample	n	Response rate	Sample	n	Response rate
Student	1051	166	16%	1112	152	15%
Faculty	126	31	25%	86	36	44%

Note: Some minor issues with sampling frame of faculty.

Results

Table 2. Scale Internal Consistency Estimates (2007 and 2005).

	2007	2005
Student Skills		
Importance	.93 (20)	.98(28)
Competence	.84 (20)	.95 (28)
Frequency of use	.83 (20)	.99(28)
Pre-college Services	.88 (7)	.79 (3)
Academic Services		
Importance	.84 (12)	.97 (15)
Satisfaction	.83 (12)	.93 (15)
Frequency of use	.79 (12)	.94 (15)
Financial Services		
Importance	.71 (5)	.86 (6)
Dependence	.71 (5)	.92 (6)
Satisfaction	.78 (5)	.72 (6)
University Services		
Importance	.63 (11)	--
Satisfaction	.74 (11)	--

Note: Internal consistency is measured by Cronbach's alpha with number of items in parentheses.

Student Demographics (not collected in 2005)

Parent Education

Father		Mother	
H.S. or less	34%	H.S. or less	25%
some college	16%	some college	21%
post-secondary degree	50%	post-secondary degree	54%

Family Home ownership

Yes	77%
No	23%

Student Employment status

Not employed	38%
Work 10 hours or less	10%
Work 11-20 hours/wk	32%
work 21-30 hours/wk	8%
work 30+ hours/wk	12%

What is your awareness of and participation with the Ohio Science and Engineering Alliance and its sponsored programs?

Not aware	67%
Aware but never participated	20%
Participated	13%

Table 3. Student Demographics (2007 and 2005)

		2007	2005
Gender	Male	48%	58%
	Female	52%	43%
Class rank	1 st year	25%	25%
	Sophomore	23%	23%
	Junior	19%	22%
	Senior	27%	29%
	Other	6%	1%
Race/ Ethnicity	African American	53%	60%
	Hispanic/Latino	28%	28%
	Native American/ Alaskan Native	2%	2%
	Other	17%	9%
Major	Agriculture Sciences	1%	2%
	Chemistry	9%	8%
	Computer Sciences	9%	11%
	Engineering	29%	36%
	Environmental Sciences	3%	2%
	Geosciences	1%	1%
	Life and Biological Sciences	32%	30%
	Mathematics	3%	2%
	Physics	1%	0%
	Astronomy	0%	0%
	Undecided	0%	2%
	Other academic major	13%	4%

Note: Percentages indicate portion of respondents selecting answer choice.

Table 4. Student Perceptions of Skills – High (4,5) Responses Across Years

Note: Percentages responding with a 4 or 5 on the scale. Number of respondents varied for items.

Scales are:

Importance
(1=very unimportant, 3 = neutral, 5=very important)
Competence
(1=not good, 3 = average, 5=very good)
Frequency of use
(1=never, 3 = sometimes, 5=very frequently)

* Minor item revision from 2005 to 2007

** Major item revision

*** Separate items in 2005, combined in 2007.

	Importance		Competence		Frequency of use	
	2007	2005	2007	2005	2007	2005
Academic Skills						
Thinking critically & creatively*	88	81	78	61	82	69
Integrating ideas*	88	82	63	54	66	60
Analyzing & solving problems*	94	89	80	59	86	74
Understanding scientific & technical material **	90	85	65	49	78	51
Understanding mathematical concepts*	80	80	66	58	70	70
Communication Skills						
Communicating in writing*	78	76	67	69	57	58
Communicating orally*	87	79	68	72	67	51
Leadership & Team-building Skills						
Planning & managing time***	92	87/94	62	66/55	82	72/79
Multi-tasking	77	86	68	71	75	83
Delegating & sharing responsibility***	71	69/90	71	46/87	38	42/69
Trusting others to perform*	64	76	43	52	29	49
Fulfilling commitments to others*	87	88	85	86	62	77
Cooperating & team building***	87	91/84	75	91/69	54	82/57
Coping & Interaction Skills						
Assertiveness	78	76	56	57	45	54
Resolution & negotiation of conflict***	78	79/77	67	75/70	30	51/47
Flexibility & adaptability***	84	84/90	76	82/77	66	63/67
Management of stress*	90	87	50	59	76	64
Socialization with others*	77	78	60	66	66	67
Other						
Class attendance	95	90	84	91	92	88
Punctuality	90	84	83	83	85	86

Table 5. Faculty Perceptions of Students' Skills – High (4,5) Responses (2007)

Note: Numbers of respondents varied for each item.

	Importance	Competence	Frequency of Use
Academic Skills			
Thinking critically & creatively	90%	23%	30%
Integrating ideas	93%	38%	34%
Analyzing & solving problems	93%	45%	59%
Understanding scientific & technical material	97%	31%	45%
Understanding mathematical concepts	93%	31%	38%
Communication Skills			
Communicating in writing	97%	10%	34%
Communicating orally	90%	48%	48%
Leadership & Team-building Skills			
Planning & managing time	90%	34%	62%
Multi-tasking	48%	34%	66%
Delegating & sharing responsibility	62%	24%	21%
Trusting others to perform	41%	31%	21%
Fulfilling commitments to others	79%	45%	31%
Cooperating & team building	79%	41%	34%
Coping & Interaction Skills			
Assertiveness	76%	34%	21%
Resolution & negotiation of conflict	45%	17%	7%
Flexibility & adaptability	83%	38%	28%
Management of stress	86%	24%	41%
Socialization with others	69%	60%	69%
Other			
Class attendance	79%	55%	72%
Punctuality	93%	31%	66%

Table 6. Student & Faculty Perceptions of Students' Skills – High (4,5) Responses (2007)

	Importance		Competence		Frequency of use	
	Student	Faculty	Student	Faculty	Student	Faculty
Academic Skills						
Thinking critically & creatively	88%	90%	78%	23%	82%	30%
Integrating ideas	88%	93%	63%	38%	66%	34%
Analyzing & solving problems	94%	93%	80%	45%	86%	59%
Understanding scientific & technical material	90%	97%	65%	31%	78%	45%
Understanding mathematical concepts	80%	93%	66%	31%	70%	38%
Communication Skills						
Communicating in writing	78%	97%	67%	10%	57%	34%
Communicating orally	87%	90%	68%	48%	67%	48%
Leadership & Team-building Skills						
Planning & managing time	92%	90%	62%	34%	82%	62%
Multi-tasking	77%	48%	68%	34%	75%	66%
Delegating & sharing responsibility	71%	62%	71%	24%	38%	21%
Trusting others to perform	64%	41%	43%	31%	29%	21%
Fulfilling commitments to others	87%	79%	85%	45%	62%	31%
Cooperating & team building	87%	79%	75%	41%	54%	34%
Coping & Interaction Skills						
Assertiveness	78%	76%	56%	34%	45%	21%
Resolution & negotiation of conflict	78%	45%	67%	17%	30%	7%
Flexibility & adaptability	84%	83%	76%	38%	66%	28%
Management of stress	90%	86%	50%	24%	76%	41%
Socialization with others	77%	69%	60%	60%	66%	69%
Other						
Class attendance	95%	79%	84%	55%	92%	72%
Punctuality	90%	93%	83%	31%	85%	66%

Note: Percentages of those responding with a 4 or 5 on the scale. Numbers of respondents varied for each item.

Table 7. Student Perceptions of Pre-college Services (2007)

	Importance to your decision to attend college			Importance to your academic success		
	NA	Low (1,2,3)	High (4,5)	NA/DK	Low (1,2,3)	High (4,5)
High school academic counseling	5%	59%	36%	9%	56%	35%
H.S. teacher mentoring	16%	44%	40%	15%	34%	51%
Mailings from colleges	5%	53%	42%	8%	64%	28%
Campus visits**	8%	27%	64%	15%	47%	38%
Pre-college programs on college campus(es)**	21%	36%	42%	24%	39%	36%
College staff recruitment visits (to your H.S.)*	18%	43%	38%	21%	53%	26%
Pre-college programs in your local schools /community	23%	39%	38%	25%	39%	36%

Note: NA = “Not Applicable” and DK = “Don’t Know”. Numbers varied for each item.

Percentages could be recalculated based upon “NA” responses.

* Minor revision from 2005 to 2007 instrument

** Major revision from 2005 to 2007 instrument

Table 8. Faculty Perceptions of Pre-college Services (2007)

	Importance to students' decision to attend college			Importance to students' academic success		
	NA	Low (1,2,3)	High (4,5)	NA/DK	Low (1,2,3)	High (4,5)
High school academic counseling	11%	11%	70%	15%	26%	59%
H.S. teacher mentoring	11%	8%	81%	4%	7%	89%
Mailings from colleges	15%	37%	48%	15%	52%	33%
Campus visits	7%	23%	70%	26%	44%	48%
Pre-college programs on college campus(es)	7%	52%	41%	19%	66%	15%
College staff recruitment visits (to your H.S.)	4%	29%	67%	15%	59%	26%
Pre-college programs in your local schools /community	7%	0%	93%	7%	37%	56%

Note: NA = "Not Applicable" and DK = "Don't Know". Numbers of respondents varied for each item.

Table 9. Student & Faculty Perceptions of Pre-college Services (2007)

	Importance to students' decision to attend college		Importance to students' academic success	
	Student	Faculty	Student	Faculty
High school academic counseling	36%	70%	35%	59%
H.S. teacher mentoring	40%	81%	51%	89%
Mailings from colleges	42%	48%	28%	33%
Campus visits	64%	70%	38%	48%
Pre-college programs on college campus(es)	42%	41%	36%	15%
College staff recruitment visits (to your H.S.)	38%	67%	26%	26%
Pre-college programs in your local schools /community	38%	93%	36%	56%

Note: NA = "Not Applicable" and DK = "Don't Know". Numbers of respondents varied for each item.

Table 10. Student Perceptions of Academic Services (2007)

	Awareness and Use			Importance			Satisfaction	
	Unaware (1)	Aware but never use (2)	Use (3,4,5)	NA	Low (1,2,3)	High (4,5)	Low (1,2,3)	High (4,5)
Peer study groups	14	23	63	14	39	47	70	30
Tutoring	3	33	64	14	30	56	54	46
Supplemental instruction	17	19	64	19	29	52	60	40
Cohort groups in classes	34	13	53	32	35	33	73	27
Living learning program in residence halls	3	40	28	46	36	18	83	17
Drop-in center	45	21	34	48	30	22	81	19
Summer Research Internships	21	48	31	37	19	44	73	27
Academic Year Research Internships*	27	45	28	41	19	40	74	26
Faculty mentoring	24	24	52	27	21	52	61	39
Peer mentoring	23	36	41	31	37	32	74	26
Grad student mentoring	44	30	26	48	25	27	84	16
Industrial rep mentoring	75	18	7	64	19	16	95	5

Note: NA = "Not Applicable". Numbers varied for each item.

Table 11. Student Perceptions of Academic Services – High (4,5) Responses Across Years

	Importance		Satisfaction		Frequency of Use	
	2007	2005	2007	2005	2007	2005
Peer study groups	47	67	30	56	63	32
Tutoring	56	76	46	53	64	31
Supplemental instruction*	52	72	40	56	64	29
Cohort groups in classes*	33	59	27	55	53	43
Living learning program in residence halls*	18	60	17	45	28	33
Drop-in center*	22	70	19	62	34	36
Summer Research Internships*	44	78	27	57	31	23
Academic Year Research Internships*	40	71	26	41	28	26
Faculty mentoring	52	71	39	56	52	28
Peer mentoring	32	57	26	47	41	24
Grad student mentoring	27	46	16	36	26	14
Industrial rep mentoring	16	65	5	37	7	15

Note: Numbers of respondents varied for each item.

* Minor revision from 2005 to 2007 instrument

Table 12. Faculty Perceptions of Academic Services (2007)

	Importance			Satisfaction		
	NA	Not important (1,2,3)	Important (4,5)	NA	Not high (1,2,3)	High (4,5)
Peer study groups	11%	26%	63%	26%	37%	37%
Tutoring	7%	32%	61%	19%	37%	44%
Supplemental instruction	7%	49%	44%	19%	62%	19%
Cohort groups in classes	15%	37%	48%	30%	48%	22%
Living learning program in residence halls	25%	46%	29%	30%	44%	26%
Drop-in center	21%	36%	43%	33%	33%	33%
Summer Research Internships	0%	19%	81%	7%	26%	67%
Academic Year Research Internships	4%	22%	74%	7%	30%	63%
Faculty mentoring	0%	4%	96%	4%	37%	59%
Peer mentoring	7%	23%	70%	22%	41%	37%
Grad student mentoring	7%	26%	67%	22%	52%	26%
Industrial rep mentoring	30%	48%	22%	41%	40%	19%

Note: NA = "Not Applicable". Numbers of respondents varied for each item.

Table 13. Faculty Perceptions of Academic Services – High (4,5) Responses Across Years

	Importance		Satisfaction	
	2007	2005	2007	2005
Peer study groups	63%	91%	37%	56%
Tutoring	61%	79%	44%	68%
Supplemental instruction*	44%	72%	19%	53%
Cohort groups in classes*	48%	60%	22%	23%
Living learning program in residence halls*	29%	57%	26%	40%
Drop-in center*	43%	72%	33%	50%
Summer Research Internships*	81%	86%	67%	63%
Academic Year Research Internships	74%	74%	63%	65%
Faculty mentoring	96%	95%	59%	54%
Peer mentoring	70%	89%	37%	49%
Grad student mentoring	67%	66%	26%	43%
Industrial rep mentoring	22%	55%	19%	26%

Note: Numbers of respondents varied for each item.

* Minor item revision from 2005 to 2007.

Table 14. Student & Faculty Perceptions of Academic Services – High (4,5) Responses (2007)

	Importance		Satisfaction	
	Student	Faculty	Student	Faculty
Peer study groups	47%	63%	30%	37%
Tutoring	56%	61%	46%	44%
Supplemental instruction	52%	44%	40%	19%
Cohort groups in classes	33%	48%	27%	22%
Living learning program in residence halls	18%	29%	17%	26%
Drop-in center	22%	43%	19%	33%
Summer Research Internships	44%	81%	27%	67%
Academic Year Research Internships	40%	74%	26%	63%
Faculty mentoring	52%	96%	39%	59%
Peer mentoring	32%	70%	26%	37%
Grad student mentoring	27%	67%	16%	26%
Industrial rep mentoring	16%	22%	5%	19%

Note: Numbers of respondents varied for each item.

Table 15. Student & Faculty Perceptions of Financial Services – High (4,5) Responses (2007)

	Importance to students' decision to attend college		Students' dependence on this service to continue in school		Satisfaction	
	Student	Faculty	Student	Faculty	Student	Faculty
Financial aid grants & loans	82%	100%	80%	100%	58%	38%
Scholarships	83%	96%	77%	100%	59%	33%
Work study programs	30%	89%	23%	84%	25%	33%
Help getting on campus jobs	41%	78%	28%	72%	36%	26%
Help getting off campus jobs	26%	54%	25%	63%	21%	22%

Note: Numbers of respondents varied for each item.

Table 16. Student Perceptions of University-wide Services (2007)

	Importance to academic success			Satisfaction		
	NA	Low (1,2,3)	Important (4,5)	NA	Low (1,2,3)	High (4,5)
Course availability	0%	5%	95%	0%	53%	47%
Flexibility in scheduling	0%	5%	95%	0%	61%	39%
Counseling services (social career etc.)	4%	19%	77%	7%	41%	52%
Student to faculty ratio	1%	22%	77%	0%	57%	43%
Quality of teaching	0%	6%	94%	0%	48%	52%
Residence halls	19%	26%	55%	18%	48%	34%
Off campus housing	24%	37%	39%	30%	50%	20%
Student organizations	6%	31%	63%	10%	36%	54%
Study abroad	26%	37%	37%	37%	29%	34%
Service learning/co-op	21%	22%	57%	32%	30%	38%
Internships	12%	16%	72%	27%	28%	45%

Note: Numbers of respondents varied for each item.

Table 17. Faculty Perceptions of University-wide Services (2007)

	Importance to students' academic success			Satisfaction		
	NA	Low (1,2,3)	High (4,5)	NA	Low (1,2,3)	High (4,5)
Course availability	0%	4%	96%	0%	37%	63%
Flexibility in scheduling	0%	19%	81%	0%	67%	33%
Counseling services (social career etc.)	0%	12%	88%	0%	56%	44%
Student to faculty ratio	0%	15%	85%	0%	67%	33%
Quality of teaching	0%	0%	100%	0%	37%	63%
Residence halls	7%	56%	37%	12%	69%	19%
Off campus housing	7%	67%	26%	12%	69%	19%

Note: Numbers of respondents varied for each item.

Table 18. Student & Faculty Perceptions of University-wide Services - High (4,5) Responses (2007)

	Importance to students' academic success		Satisfaction	
	Student	Faculty	Student	Faculty
Course availability	95%	96%	47%	63%
Flexibility in scheduling	95%	81%	39%	33%
Counseling services (social career etc.)	77%	88%	52%	44%
Student to faculty ratio	77%	85%	43%	33%
Quality of teaching	94%	100%	52%	63%
Residence halls	55%	37%	34%	19%
Off campus housing	39%	26%	20%	19%

Note: Numbers of respondents varied for each item.