



Survey offered to all students who took a course in this K-State 8 area in the Fall of 2015. The survey was sent via email at the beginning of December 2015 and remained open until mid-December of 2015.

Demographics

Respondents by College of K-State 8 Course

	Count
Agriculture	60
Architecture, Planning, and Design	9
Arts and Sciences	361
Business Administration	81
Education	2
Engineering	54
Human Ecology	31
Total	598

Respondents by College of Student Major

	Count
Agriculture	127
Architecture	9
Arts and Sciences	119
Business Administration	73
Education	23
Engineering	175
Human Ecology	67
Polytechnic	5
Total	598

Course Designation

	Count
Empirical and Quantitative Reasoning Only	265
Multiple Areas	333

Student Classification

	Count
Freshman	108
Junior	136
Senior	191
Sophomore	163

Response Rates

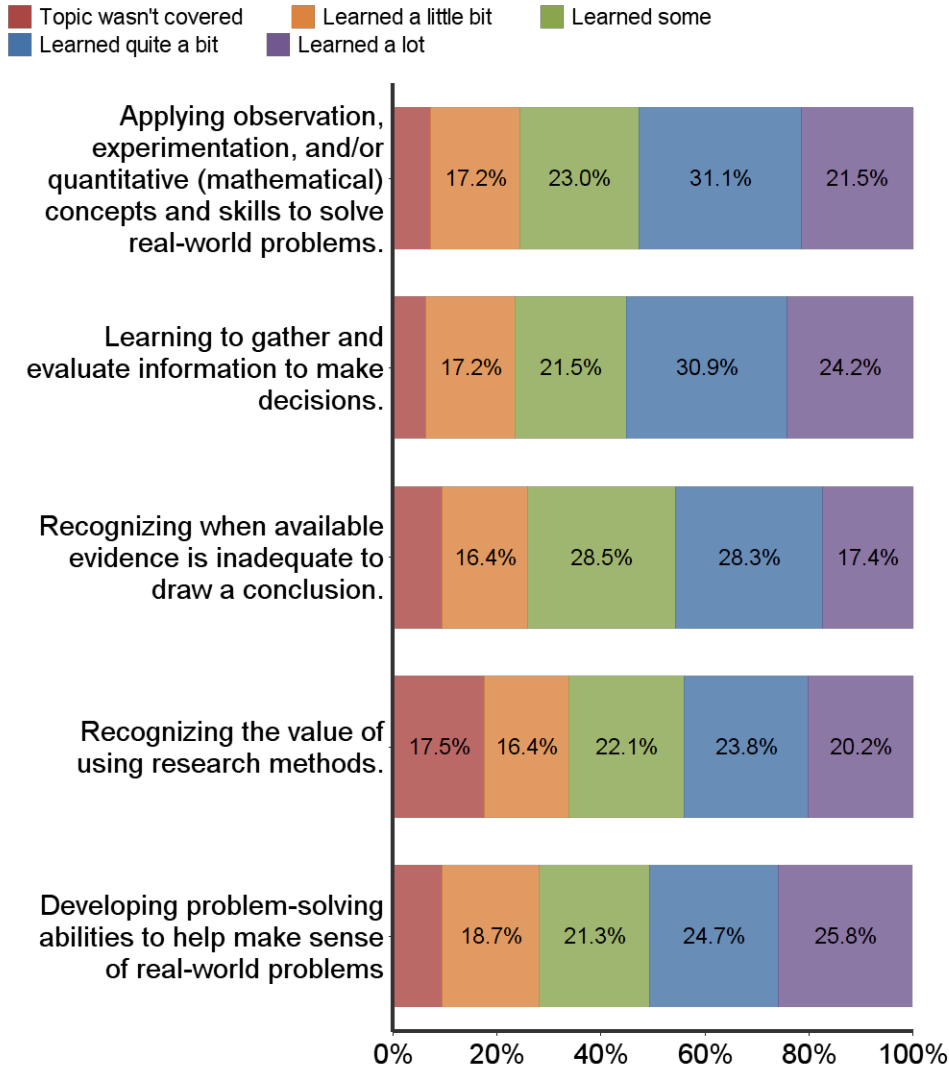
	Respondents
Responses (Res.):	598
Population (Pop.):	4000
Response Rate (R.R.):	14.95%

* If a student had more than one course in the area or was also taking a course in the other K-State 8 area surveyed this semester, one course was randomly selected for the student. 4,000 students were randomly selected for the survey.

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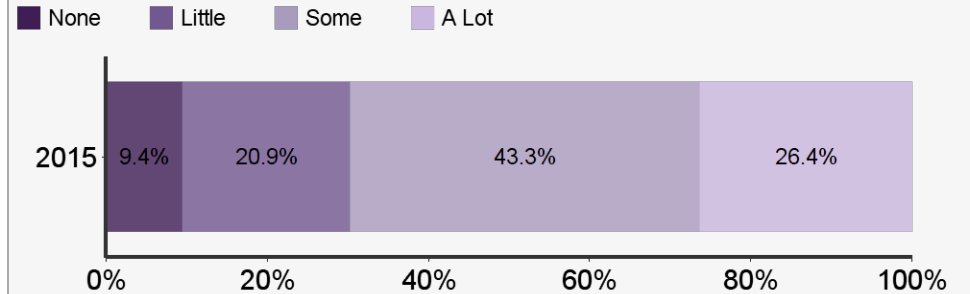
Please indicate how much you learned about the five possible learning outcomes listed below for **Empirical and Quantitative Reasoning**



Alumni Survey

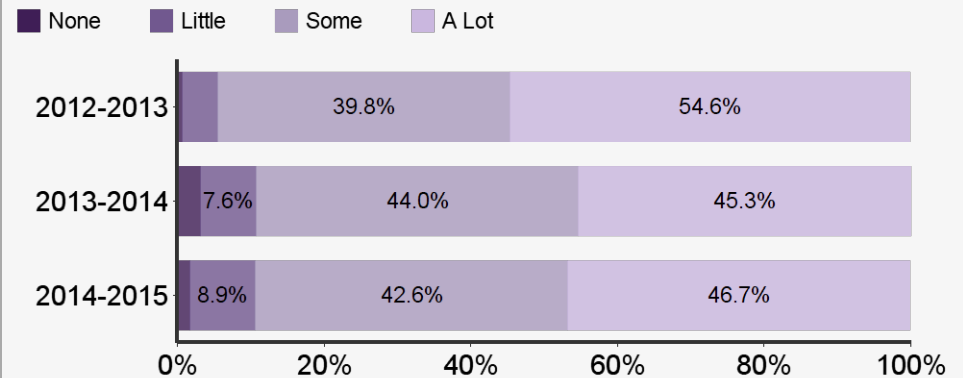
To what extent did the K-State area **Empirical and Quantitative Reasoning** contribute to your understanding of your profession and/or the world around you? (2013-14 graduates)

* In the 2015 Alumni Survey this particular question was changed from previous surveys.



Senior Survey

3-Year Trend: Progress made in **Empirical and Quantitative Reasoning** (2012-13, 2013-14, and 2014-15 Graduates)



Please indicate how much you learned about the five possible learning outcomes listed below for Empirical and Quantitative Reasoning

	Topic wasn't covered	Learned a little bit	Learned some	Learned quite a bit	Learned a lot	Mean (Out of 5)
Applying observation, experimentation, and/or quantitative (mathematical) concepts and skills to solve real-world problems.	7.2%	17.2%	23.0%	31.1%	21.5%	3.43
Learning to gather and evaluate information to make decisions.	6.2%	17.2%	21.5%	30.9%	24.2%	3.5
Recognizing when available evidence is inadequate to draw a conclusion.	9.4%	16.4%	28.5%	28.3%	17.4%	3.28
Recognizing the value of using research methods.	17.5%	16.4%	22.1%	23.8%	20.2%	3.13
Developing problem-solving abilities to help make sense of real-world problems	9.4%	18.7%	21.3%	24.7%	25.8%	3.39

Alumni Survey

To what extent do you feel the following K-State area contributed to your understanding of your profession and/or the world around you: Empirical and Quantitative Reasoning?

	None	Little	Some	A Lot
2015	9.0%	21.1%	48.6%	21.3%

Senior Survey

How much progress do you feel you have made in the following K-State 8 learning outcome: Empirical and Quantitative Reasoning?

	None	Little	Some	A Lot
2012-13	0.7%	4.8%	39.8%	54.6%
2013-14	3.1%	7.6%	44.0%	45.3%
2014-15	1.7%	10.1%	43.4%	44.7%



	By College				By K-State 8 Tag			
	Courses taken within Student's College		Courses taken outside of Student's College		Courses tagged in empirical and quantitative issues only		Courses tagged in multiple K-State 8 Areas	
	Mean (Out of 5)	Count	Mean	Count	Mean	Count	Mean	Count
Applying observation, experimentation, and/or quantitative (mathematical) concepts and skills to solve real-world problems.	3.55	225	3.34	305	3.47	237	3.39	293
Learning to gather and evaluate information to make decisions.	3.7	225	3.34	305	3.5	237	3.49	293
Recognizing when available evidence is inadequate to draw a conclusion.	3.41	225	3.18	305	3.31	237	3.25	293
Recognizing the value of using research methods.	3.32	225	2.98	305	3	237	3.23	293
Developing problem-solving abilities to help make sense of real-world problems	3.57	225	3.25	305	3.45	237	3.34	293

	By Student Classification							
	Freshman		Sophomore		Junior		Senior	
	Mean (Out of 5)	Count	Mean	Count	Mean	Count	Mean	Count
Applying observation, experimentation, and/or quantitative (mathematical) concepts and skills to solve real-world problems.	3.26	101	3.42	147	3.33	123	3.61	159
Learning to gather and evaluate information to make decisions.	3.4	101	3.44	147	3.41	123	3.69	159
Recognizing when available evidence is inadequate to draw a conclusion.	3.32	101	3.32	147	3.06	123	3.38	159
Recognizing the value of using research methods.	3.04	101	3.05	147	2.97	123	3.37	159
Developing problem-solving abilities to help make sense of real-world problems	3.39	101	3.37	147	3.24	123	3.52	159