University of Arkansas
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UA Rich Mountain
Assessing Student Learning
Course Outcomes Report
Kim Meeks
Fall 2019

Purpose
The Course Outcomes Report supplies information each semester regarding student learning on the course level. This report must be submitted to your division chair by the last day of the semester. Data from this report will be integrated into the annual Program Outcomes Report on Student Learning.

Background
Course Name: College Algebra Course # MTH203

Course Outcome(s) being assessed this semester
Think of the evidence of student learning activity or project. Choose ONE outcome for this course.
Recognize the influence of physical science on their daily lives.

Strategic Goals: Select the Goal(s) associated with the Course Outcomes(s) being assessed this semester.
https://services.uarichmountain.edu/intranet/staff/annualpubs/

☐Goal One: Mission Driven
☒Goal Two: Ethically Based
☐Goal Three: Providing Access to Education
☒Goal Four: Quality Learning Environments
☒Goal Five: Student Success
☐Goal Six: Educational Partnerships
☐Goal Seven: Resource Development

Related Program Outcome:
☐Students will apply technological and research skills to identify, locate, and process information.
☐Students will demonstrate competency in writing, reading, speaking, and listening.

Related GELO category: Research

Evidence of Student Learning
Describe the classroom activity/tools related to **course** objective (What did they do for the class which was tied to this objective? Was it a project? Discussion? Quiz?)

Describe Activity: Student groups researched proportions of Internet users aged 18-25 who reported using social networks in various years. Students created a scatter plot of the data. Analyzing the trend of the scatter plot, the students determined that a least-squares logarithmic regression would produce an appropriate equation for the graph in the form $f(x) = a + b \ln x$.

Reflection

A. What was the result of this activity? (How do you know that students satisfied the course objective being measured?)

Some students argued that a logistic regression would be appropriate since the data increased rapidly at first and then more slowly. They reasoned that once the population use of social media reached 100%, the curve would flatten out. We discussed the differences in the graphs of logarithmic functions and logistic functions. The students experimented with different regressions on the same screen and were satisfied that the logarithmic regression fit the given data.

B. Enter course data

Number of students in your course(s) who met course objectives: 25

Enter the number of students total in your course section(s): 25

Enter the percent (%) of students achieving this course objective. (Data will be used on Program Outcomes Report under Evidence of Student Learning.) 100%

C. Response to data: Will you change how you teach as a result of this assessment?

Choose only one of the narration options below. If curricular changes are needed, briefly explain any changes planned for course improvement. If no changes are needed, indicate the rationale in the space provided below.

☐Changes(s) needed. *Type here*

☒No change(s) needed

****Attach anonymous student samples of each activity along with the grading rubric / scale.**

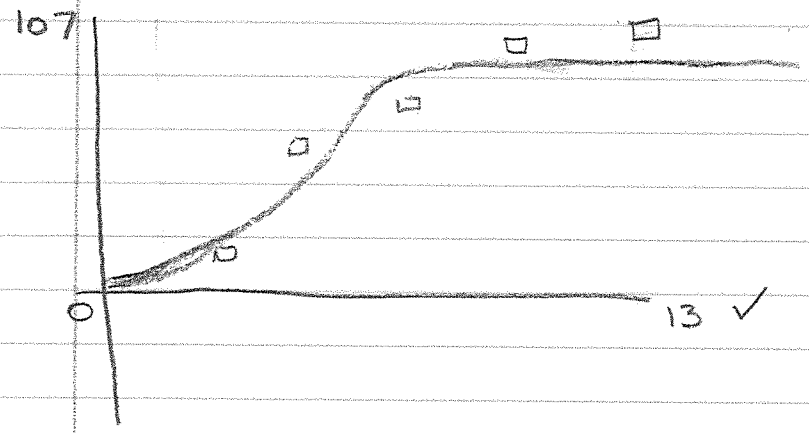
10

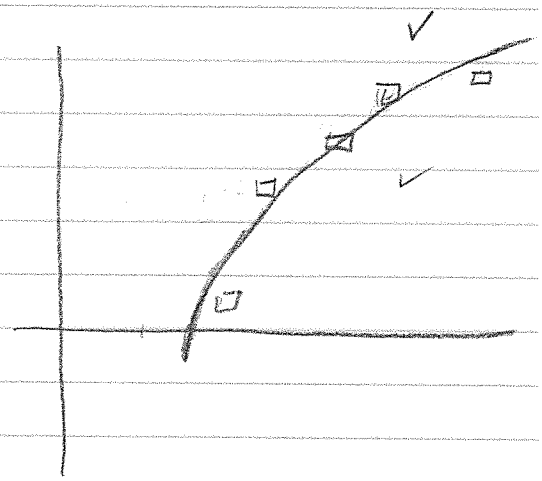
Group 2
[redacted]

Modeling Social Network use
AGES 18-25

L_1 = YEAR	L_2 = USERS ✓	STAT
2005	9%	EDIT
2006	19%	StatPlot ON
2008	67%	ZoomStat
2010	86%	
2012	92%	https://pewresearch.org/

X = 5 represents 2005 ✓





logistic Regression ✓

$$y \approx \frac{89.05}{1 + 389.8\, e^{-.9416x}}$$

ln Regression ✓

$$y \approx -122.95 + 89.38 \ln x$$

$$r^2 = .91974$$

The logistic Regression curve had ✓ much more space between it and the points. The ln Regression is a better fit.

We think that eventually the ✓ logistic equation may be better as the number of users approaches 100%.

Rubric: Modeling Social Network Use Fall 2019

Points	Element
10	Data and source
10	Calculator keystrokes
10	Variable representation
10	Scatter Plot
10	Window settings
10	Regression Equation
10	Reasoning for choice of regression
10	Other regressions considered
10	Regression curve graph
10	Conclusion
100	Total