

# 1,300 Students Must Complete Our Interactive Library Tutorial

**Presented by**

**Professor Marilyn Bodnar,  
Instructional Initiatives Librarian  
Joshua Young, Virtual Resources Manager**

**Pennsylvania College of Technology – Madigan Library  
Williamsport, PA**

April 18, 2008

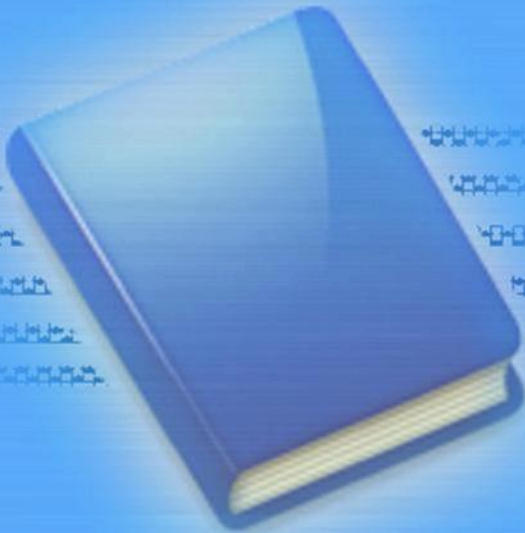
Integrating Library Services Into  
A Learning Management System  
The College at Brockport  
Brockport, NY

**Pennsylvania  
College of  
Technology**

PENNSTATE

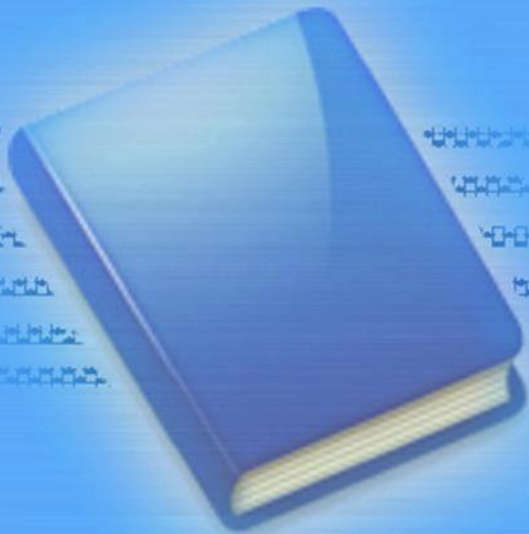


# Penn College Fast Facts



- 6,213 FTEs
- 6,682 head count
- 85% full time students
- 41% in a Bachelor's degree program
- 54% in an Associate's degree program

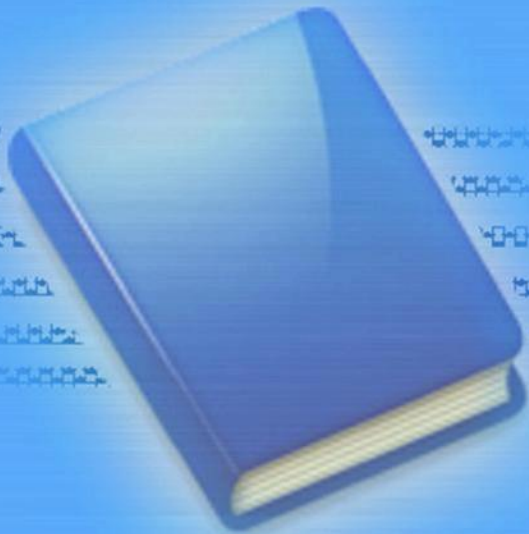
# Fast Facts About Fall 2007's English Composition (ENL 111)



- 1,288 students took ENL 111 (final number)
- 56 ENL111 classes were scheduled
- 28 instructors taught these classes
- 6 full time librarians collaborated with them
- 2 part-time librarians collaborated with them

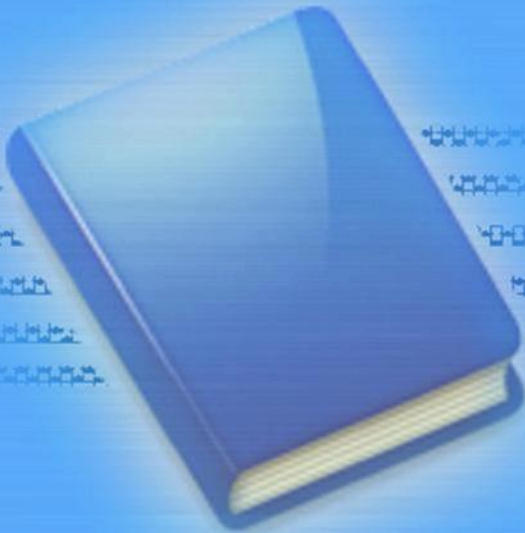


# Develop The Students' Information Literacy Skills: Our 3-Tier Process



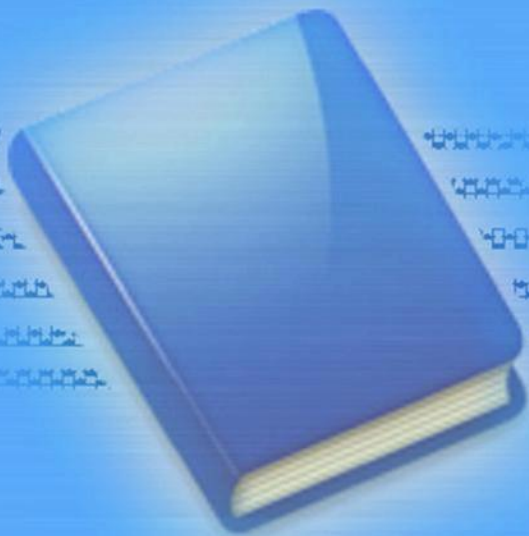
- Review the interactive Library Tutorial
  - Answer quiz questions within the tutorial
- Complete a graded library assignment
- Come to class and link concepts learned through the tutorial and assignment to the ENL111 assignments

# Joint Competencies



- Write a research statement or research question
- Create a list of searchable words from the research question
- Use the AND concept
- Evaluate the reliability of resources found
- Use a library catalog to find a book
- Use the call number of the book to locate the item on the shelf

# Joint Competencies (cont.)

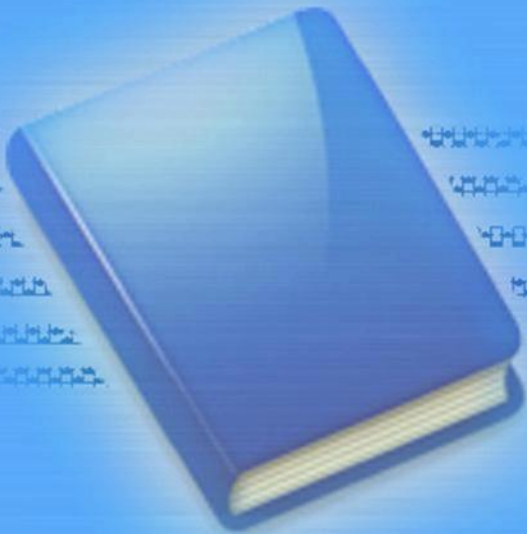


- Identify and use appropriate databases to find information
- Retrieve the appropriate articles
- Use a search engine to locate sources of information
- Identify parts of a citation
- Detect plagiarism

# “Needs Statement” Challenges:

## We wanted...

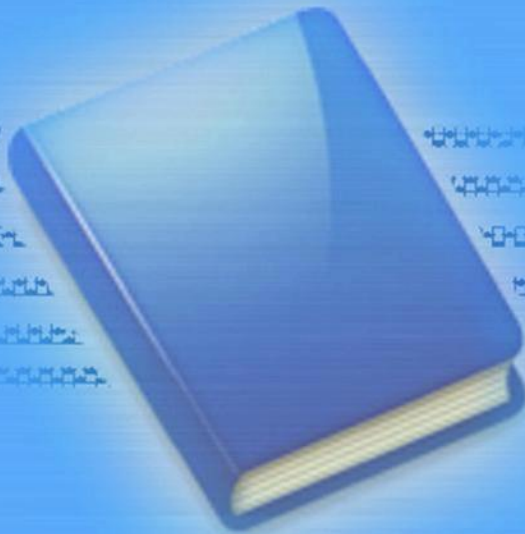
- More interaction by users
- More images or illustrations
- Clearer explanations
- More immediate feedback
- Consistent quality of instruction
- An electronic grading system
- Students to be allowed to re-take the quiz





# “Needs Statement” Challenges

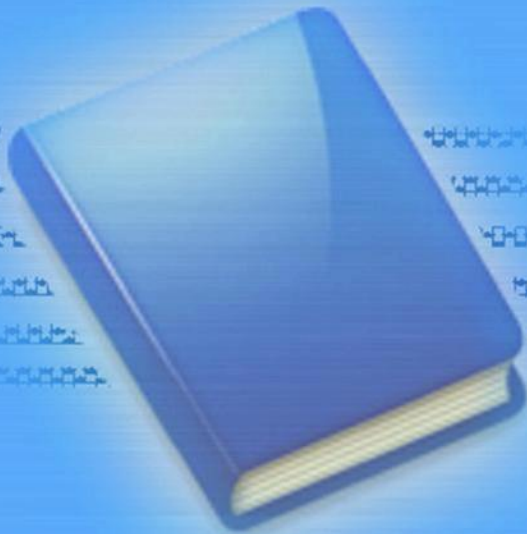
We wanted...



- A “Certificate of Completion” printed upon completion of the tutorial
- The Library Assignment printed upon completion of the tutorial
- The tutorial available to the visually impaired, eventually



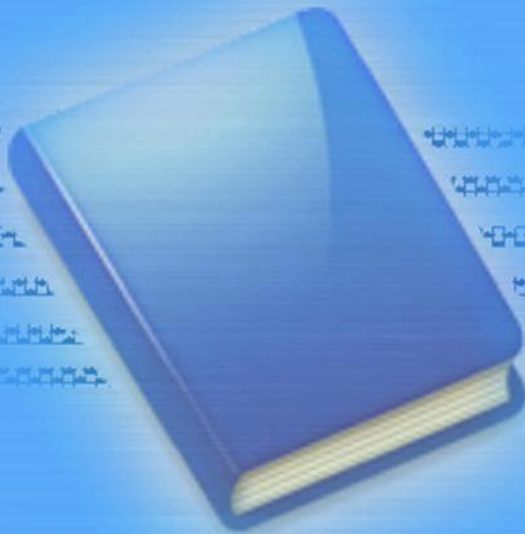
# More Challenges...



- Make the tutorial available on the Web through the efforts of the ITDL (Instructional Technology and Distance Learning) Department
- Do all of the above cost-effectively
- Make the tutorial shorter
- Make the tutorial more fun!

# Design Considerations: Producing a Solution

## Student Perspective



- Students live in a world of constant interaction between learning and leisure
- Students are “digital natives.” They have grown up in a media world, in an online world

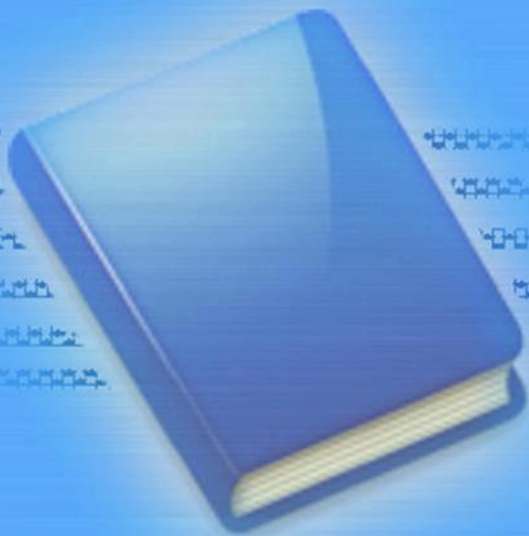
# The Solution

Flash it is!

- Create an interactive learning experience



# Why “Flash?”



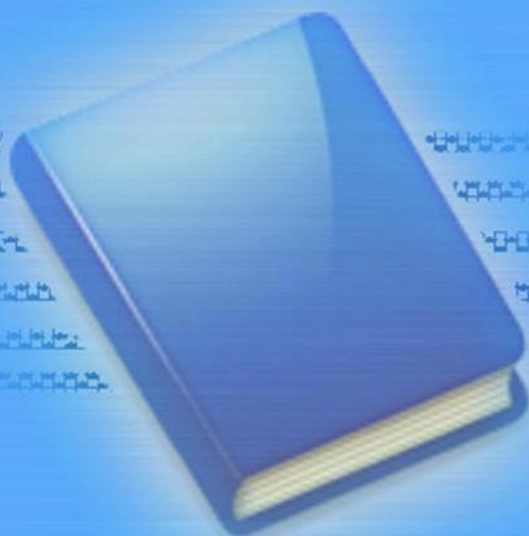
- We wanted students to open **\*one\*** program, not many programs simultaneously
- Flash connects to all printers
- Flash calls other programs to run back-end processes that increase its functionality
- We wanted the tutorial to be Web browser/operating system independent
- We wanted the program to be accessed by about 1300 students per semester.



# Why “Flash?”

Using “Flash” with the WebCT/Angel platform, it allowed us to...

- Make text move on the screen, literally
- Use animation
- Use sound
- Require responses to be interactively typed
- Mouse over graphics
- Take a quiz
- Give immediate feedback for correct/incorrect responses



# *Move Text* - Example # 1: The Research Question

- The tutorial illustrates how to generate a list of words to search from a research question.



Where can I find **resources** about a **career** in the **information technology** industry?

What are the key words in this question?

# Example #2: Old Boolean Logic Format

The screenshot shows the Madigan Library website. The top navigation bar includes links for Home, About Us, Contact Us, Visit Us, Apply, Catalog, Calendars, News, and a search box. The main header features the Pennsylvania College of Technology logo and the text 'Madigan Library' with contact information: 'Roger and Peggy Madigan Library · (570) 327-4523'. There are links for 'Printer-friendly' and 'E-mail This Page'. The main content area is titled 'Applying Boolean Logic' and contains the following text: 'Computers organize sets of keywords. Use "And, Or, or Not" to control the results you want. For example, think of the concept chocolate, and the concept cake.' Below this is a section for 'AND' with the instruction 'Search the word chocolate and the word cake: "chocolate and cake"'. A search box contains the text '"chocolate and cake"' and a 'Search' button. The text continues: 'Both words have to be in the document found. Results: documents about "chocolate" and about "cake". Be careful: a document could also be about chocolate icing on a white cake. Both words are inside the document, but we didn't ask the computer to put the words right next to one another.' A Venn diagram with two overlapping circles labeled 'Chocolate' and 'Cake' is shown. The intersection of the two circles is shaded blue. The text below the diagram states: 'The blue would be the outcome of the search for "chocolate and cake".'

Home | About Us | Contact Us | Visit Us | Apply | Catalog | Calendars | News | Search

**Madigan Library** [Printer-friendly](#) [E-mail This Page](#)

Roger and Peggy Madigan Library · (570) 327-4523

## Applying Boolean Logic

Computers organize sets of keywords. Use "And, Or, or Not" to control the results you want. For example, think of the concept chocolate, and the concept cake.

### AND

Search the word chocolate and the word cake: "chocolate and cake".

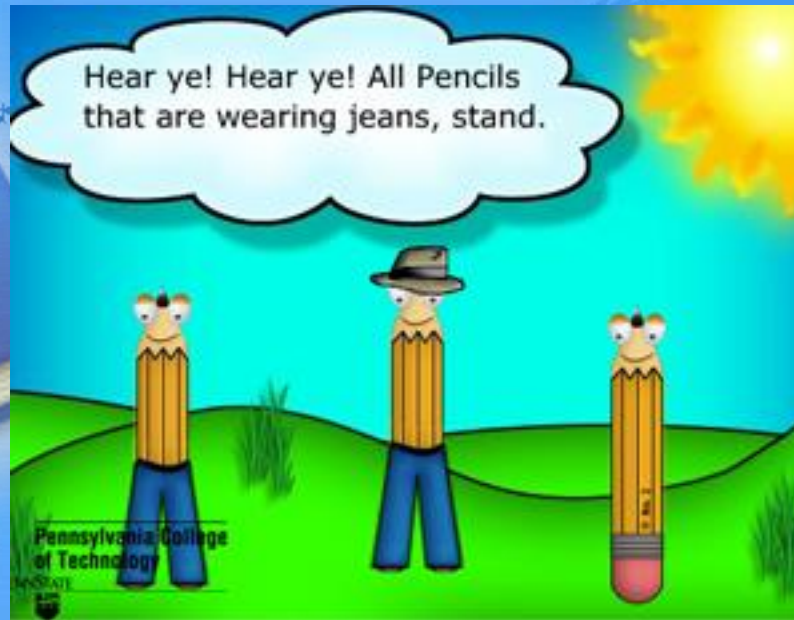
Both words have to be in the document found. Results: documents about "chocolate" and about "cake". Be careful: a document could also be about chocolate icing on a white cake. Both words are inside the document, but we didn't ask the computer to put the words right next to one another.

The blue would be the outcome of the search for "chocolate and cake".

**Madigan Library**  
Home  
Library Catalog  
**Research Tools**  
Course Guides  
Resources by Subject  
How-to Guides  
Library Tutorial  
Ask A Madigan Librarian  
Database/Internet Resources  
Collections  
Services  
General Information  
Contact Us  
Site Index  
**E-mail**

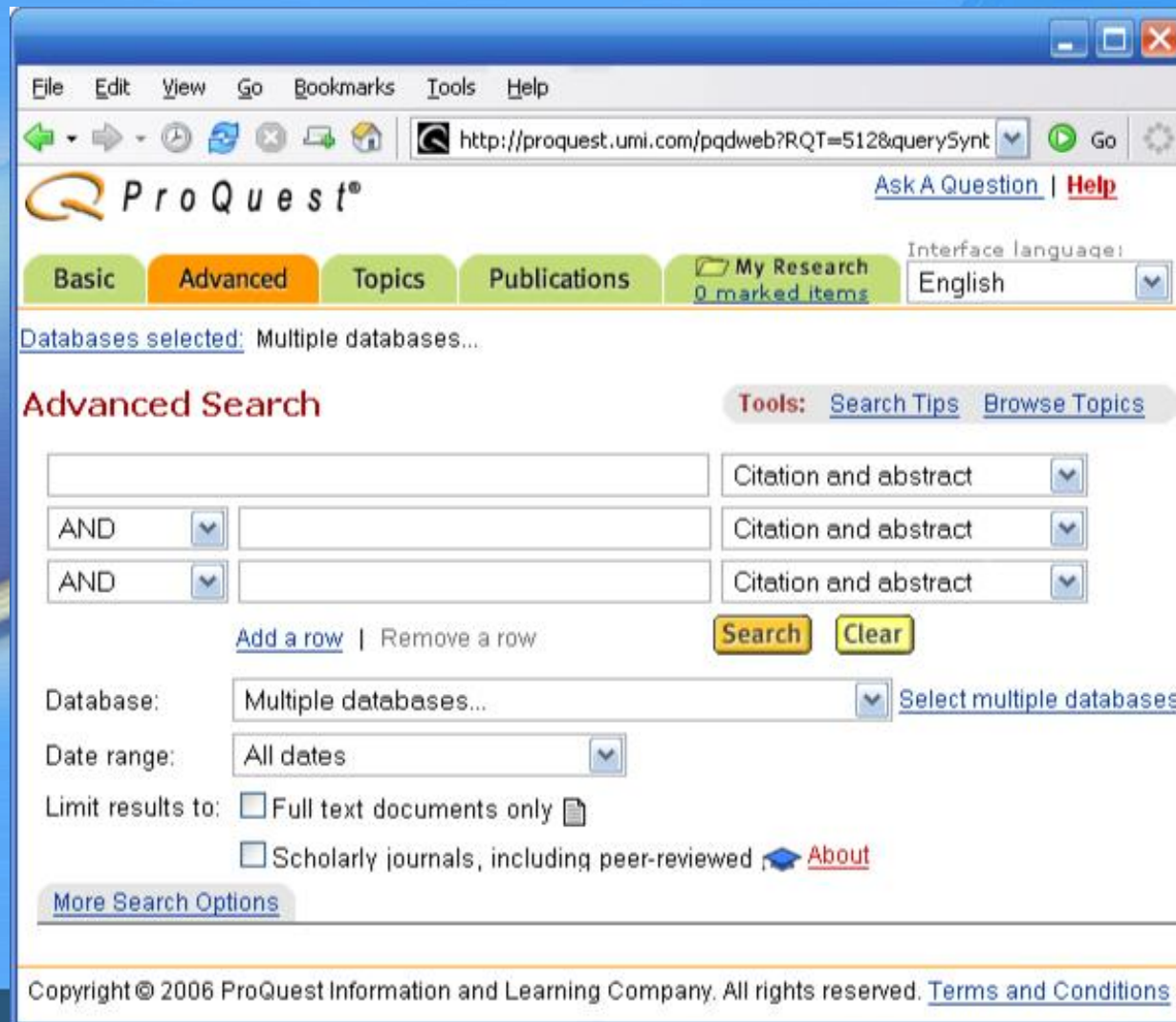


# *Use Animation – New Format to Illustrate Boolean Logic*



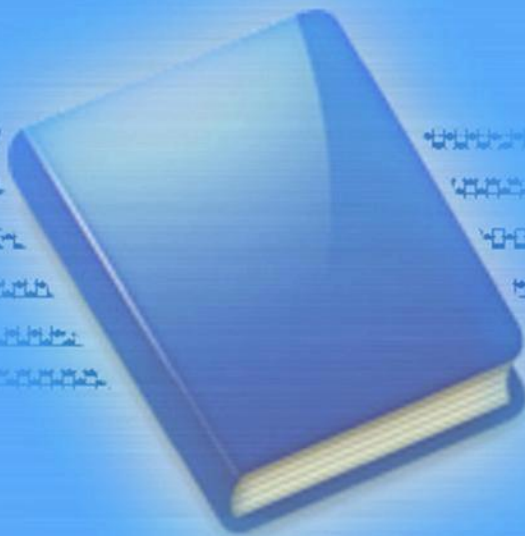


# Type Responses - Example #3: Apply Boolean Logic When Searching (Catalog, Database, Search Engine)



The screenshot displays the ProQuest website's advanced search interface. At the top, there is a navigation menu with 'File', 'Edit', 'View', 'Go', 'Bookmarks', 'Tools', and 'Help'. The address bar shows the URL 'http://proquest.umi.com/pqdweb?RQT=512&querySynt'. The ProQuest logo is prominently displayed, along with links for 'Ask A Question' and 'Help'. Below the logo, there are tabs for 'Basic', 'Advanced', 'Topics', and 'Publications', with 'Advanced' currently selected. A 'My Research' section shows '0 marked items'. The interface language is set to 'English'. The 'Databases selected' section indicates 'Multiple databases...'. The 'Advanced Search' section features three search rows, each with a text input field, a dropdown menu set to 'AND', and a dropdown menu set to 'Citation and abstract'. Below the search rows are 'Add a row' and 'Remove a row' links, and 'Search' and 'Clear' buttons. Further down, there are options for 'Database' (set to 'Multiple databases...'), 'Date range' (set to 'All dates'), and 'Limit results to' with checkboxes for 'Full text documents only' and 'Scholarly journals, including peer-reviewed'. A 'More Search Options' link is at the bottom of the search section. The footer contains the copyright notice: 'Copyright © 2006 ProQuest Information and Learning Company. All rights reserved. Terms and Conditions'.

# Mouse Over Graphics - Example #4: Find a Book on the Shelf



Let's try it! Find BF698.9 .O3 A7 2003

<b>The Course of Life</b>	<b>Nurture by Nature</b>	<b>Charisma</b>	<b>The Rorschach Technique</b>	<b>Bridging Cultural Conflicts</b>	<b>The Role of Emotions in Social and Personality Development</b>	<b>It takes all types</b>	<b>In Our Minds</b>
BF 698 .C68 V.4	BF 698.3 .T54 1997	BF 698.35 .C45 A44 1998	BF 698.8 .R5 A764 1994	BF 698.9 .C8 L43 2003	BF 698.9 .E45 M34 1995	BF 698.9 .O3 A7 2003	BF 698.95 .G36 2003

Pennsylvania College of Technology  
eBooks

# Take a Quiz - Example #5: A Quiz Question

Complete: 1 %

Table of Contents:

- Introduction
- Research Question
- Word or Phrase
- Word/Phrase Quiz
- Boolean Logic
- Boolean Quiz

## Test Question 4:

Will connecting the key words with AND result in locating more or fewer resources?

More       Fewer

Complete: 1 %

Table of Contents:

- Introduction
- Research Question
- Word or Phrase
- Word/Phrase Quiz
- Boolean Logic
- Boolean Quiz
- Search Strategy
- Authorship
- Authorship Quiz
- Objectivity
- Objectivity Quiz
- Accuracy Currency
- Accuracy Currency Quiz
- Library Catalog
- Library Catalog Quiz

## Test Question 4:

Will connecting the key words with AND result in locating more or fewer resources?

More       Fewer

**Correct!**  
There will be fewer resources because each word searched must appear in each resource located.

Sound: On  
Key  
**Continue**

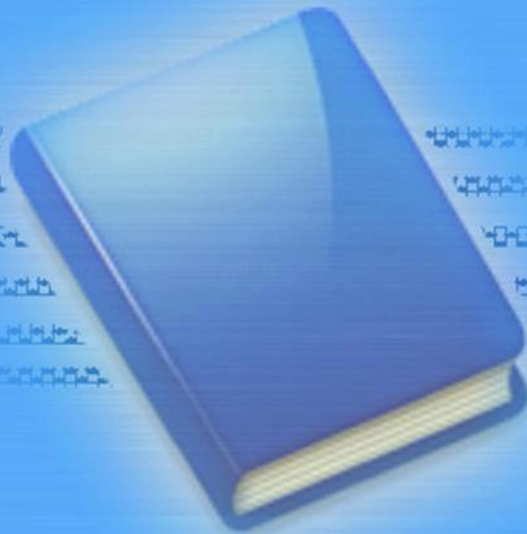
# Assessment



- Present the concept
- Immediately test for understanding
  - Used multiple choice questions
  - Immediate feedback given for right or wrong answers
  - Quiz was within the tutorial, itself, not independent of the tutorial
  - When the quiz was finished, a grade was produced for the student



# Assessment: Get Grades Many Ways



Password:  Semester:

Use the menu items below to select the data that you wish to retrieve.

Select all the fields that you wish to retrieve:

- Student Name
  ENL Faculty
  Quiz Grade  
 Librarian Name
  Date Complete
  Section Number

Select the field that you wish to sort the results by:

- Librarian
  ENL Faculty
  Section Number  
 Student Grade
  Student Last Name
  Tutorial Completion Date

Select the order to sort the results by:

- Ascending
  Descending

Select any other criteria to be met: (Note:  concept used)

- Librarian Name  is:  
 Student Section Number  2 digits (01) is:  
 Student Last Name is:   
 ENL Faculty Name is:   
 Student Grade  1-3 digits (5, 50, 100) is:  
 Tutorial Completion Date:  /  /

Student Name	ENL Faculty	Section	Librarian	Date	Grade
STUDENT NAME	FACULTY NAME	10	Marilyn Bodnar	9-11-2007	95
STUDENT NAME	FACULTY NAME	10	Marilyn Bodnar	9-11-2007	75
STUDENT NAME	FACULTY NAME	10	Marilyn Bodnar	9-11-2007	90
STUDENT NAME	FACULTY NAME	10	Marilyn Bodnar	9-11-2007	80
STUDENT NAME	FACULTY NAME	10	Marilyn Bodnar	9-11-2007	75
STUDENT NAME	FACULTY NAME	10	Marilyn Bodnar	9-11-2007	85
STUDENT NAME	FACULTY NAME	10	Marilyn Bodnar	9-11-2007	90
STUDENT NAME	FACULTY NAME	10	Marilyn Bodnar	9-11-2007	75

# Assessment: Get Statistics per Question per Track

Password:

Semester:

**Use the menu items below to select the data that you wish to retrieve.**

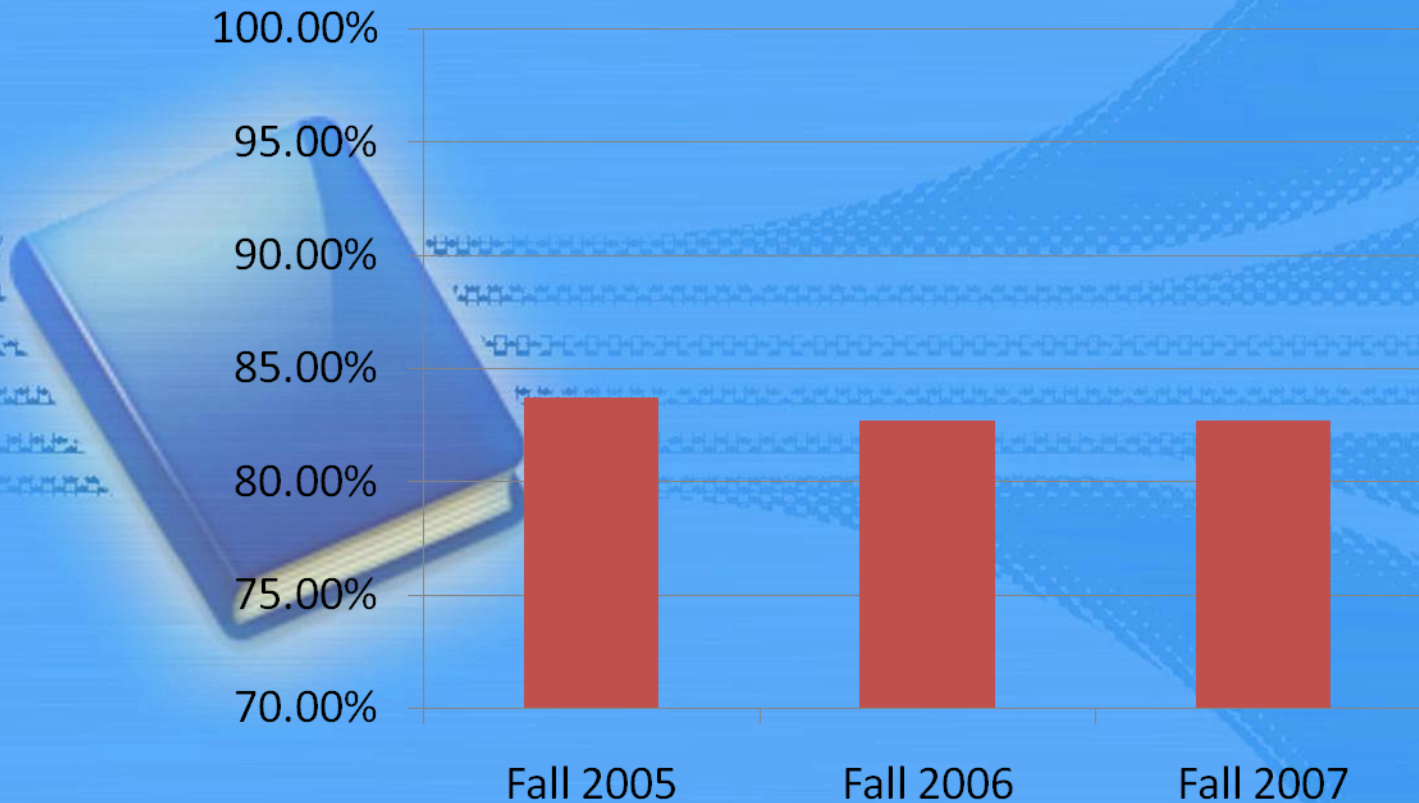
This is a specific breakdown of the number of times each question was answered 1, 2, 3 or 4.

Results are organized by response number (far left column) and track.

Grey shaded boxes are correct answers

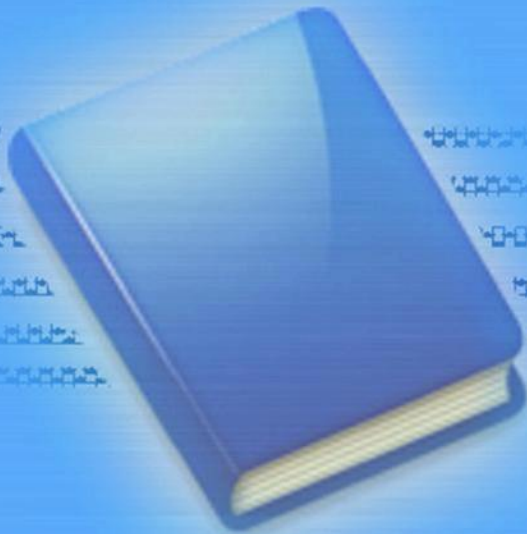
Student Answer Number	Track	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14	Q 15	Q 16	Q 17	Q 18	Q 19	Q 20
1	Information Technology	25	279	278	115	1	276	74	9	288	93	292	255	59	34	206	91	283	211	295	281
	Construction	4	344	349	164	1	353	92	8	360	11	371	326	61	146	115	134	347	303	371	353
	Healthcare	2	334	362	169	0	345	100	18	373	29	374	319	37	105	235	111	351	287	373	352
	Engineering	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Food Services	0	80	83	45	0	81	22	4	85	37	84	71	11	13	51	17	82	71	87	81
	Human Services	0	76	78	41	0	75	20	2	81	40	81	70	19	15	38	32	75	60	82	77
	Landscaping	2	96	109	57	1	108	30	5	112	8	114	99	16	35	55	31	106	90	115	105
2	Information Technology	7	17	18	181	295	20	222	287	7	178	6	43	236	17	63	207	15	87	3	17
	Construction	50	31	26	211	374	22	283	367	15	238	4	49	311	28	74	241	28	72	4	22
	Healthcare	75	43	15	208	377	32	277	359	4	247	3	58	338	18	51	266	26	90	4	25
	Engineering	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Food Services	12	7	4	42	87	6	65	83	2	39	3	16	75	11	20	70	5	16	0	6
	Human Services	18	6	4	41	82	7	62	80	1	34	1	12	58	16	38	50	7	22	0	5
	Landscaping	12	20	7	59	115	8	86	111	4	65	2	17	98	59	55	85	10	26	1	11

# Average Tutorial Quiz Grade is...





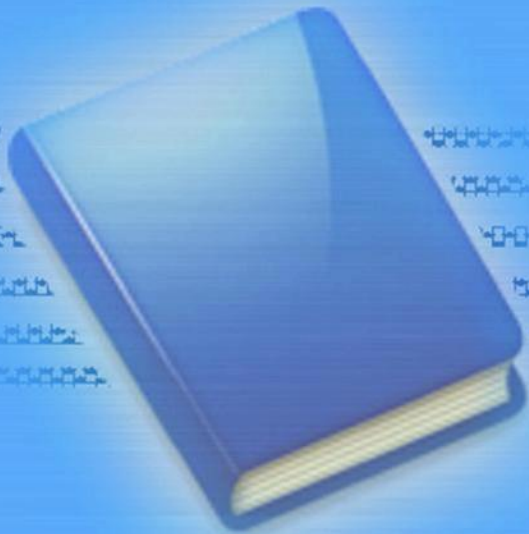
# Any Correlation of Tutorial Quiz Grade & the Student's Final ENL111 Grade?



- Minitab (Version 15) was used
- 1,022 grades were inputted
- Pearson correlation of the tutorial quiz grade and student's final grade = + 0.207 (the r value)
- P-value = .000 means there is strong evidence to reject the null hypothesis of no correlation in favor of the alternative hypothesis of a positive correlation

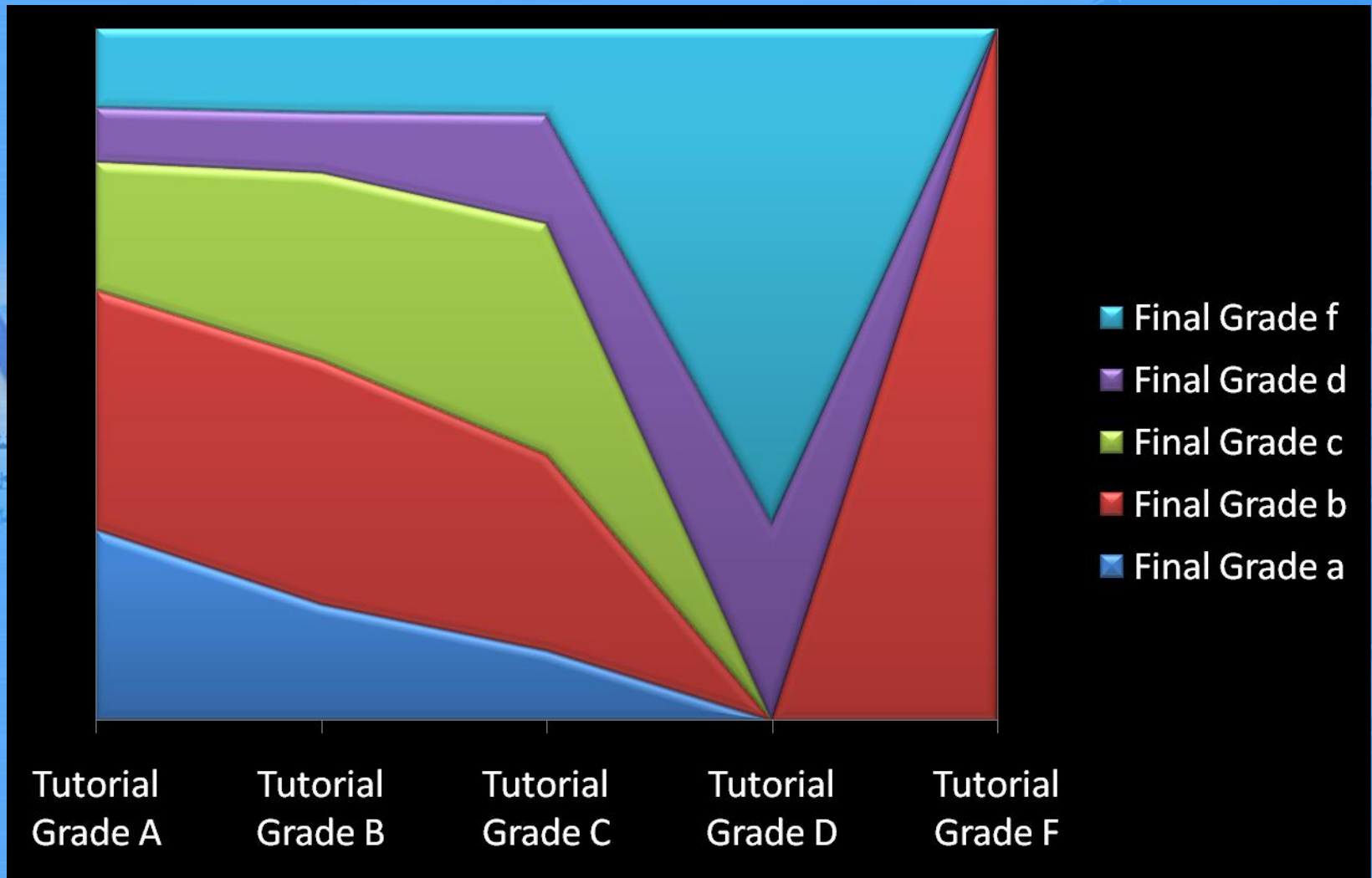


# Any Correlation of Tutorial Quiz Grade and the Student's Final Grade? (cont.)

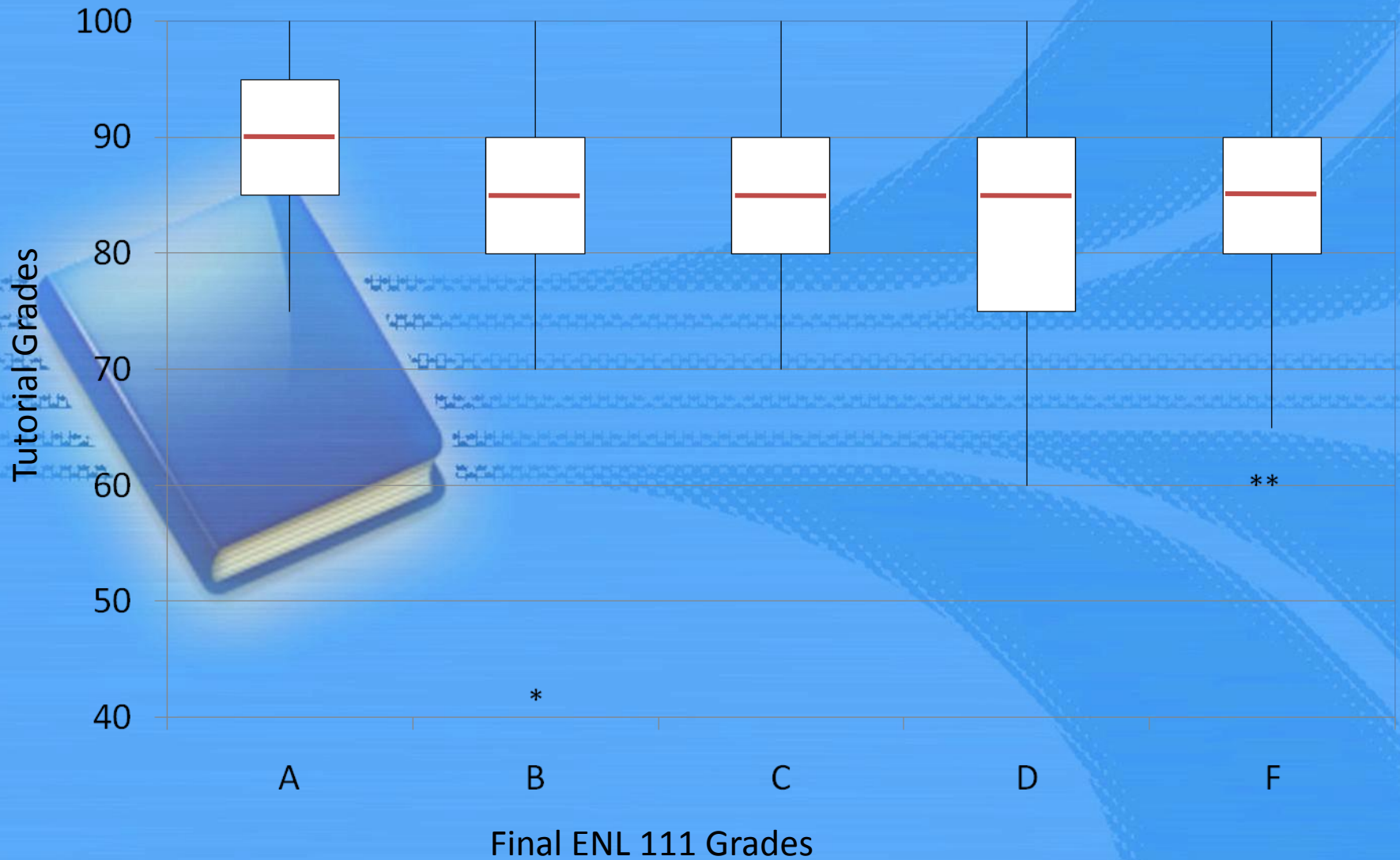


- In English, that means there is sufficient evidence to show that there is a positive linear relationship between the quiz grade,  $x$ , and the student's final grade,  $y$ .
- $R^2$  (the coefficient of determination) =  $.207^2 = .043$  which means 4.3% of the variation in final ENL111 grades is accounted for or predicted by the tutorial grade

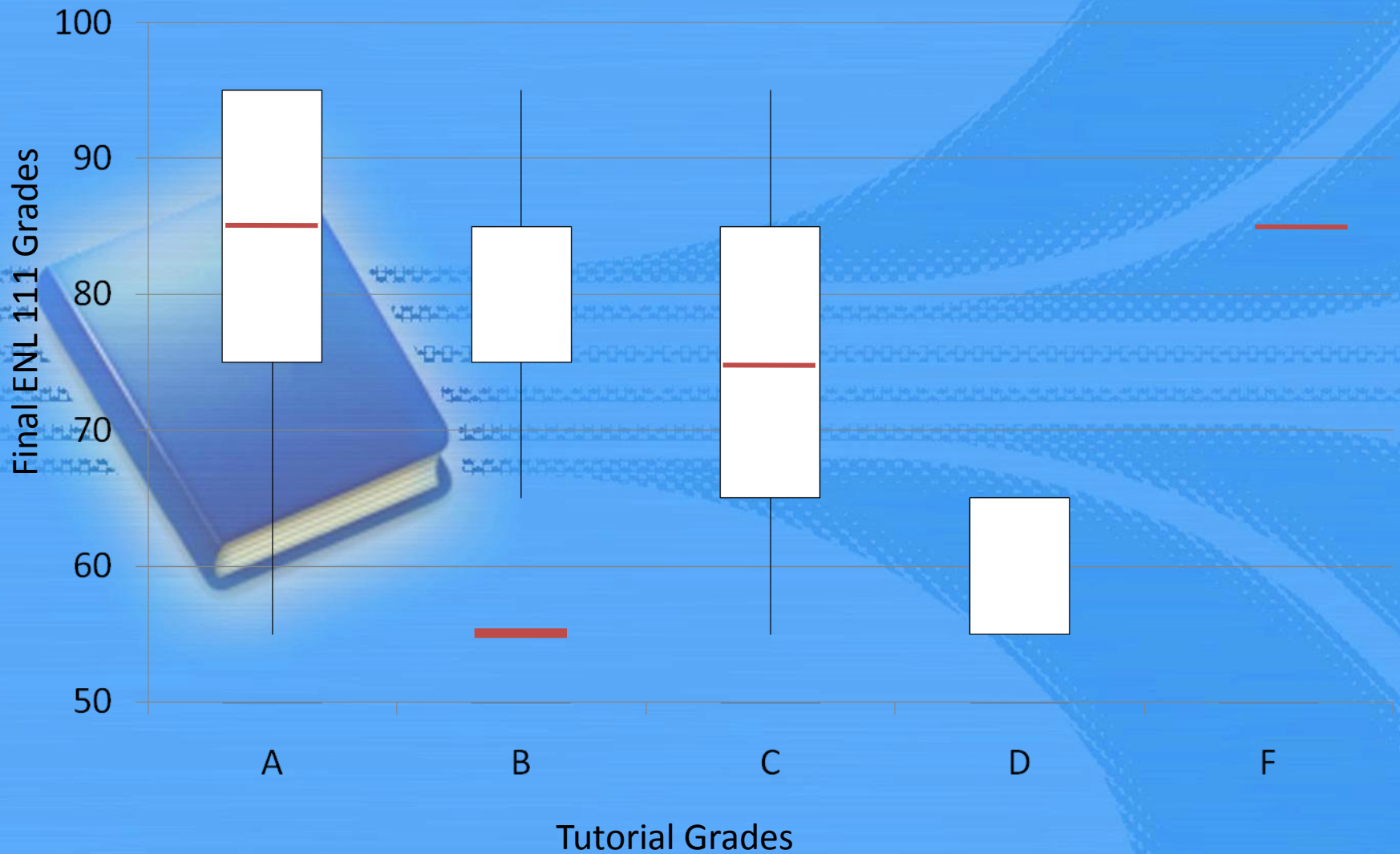
# Trends in Grades



# Tutorial Grades vs. Final ENL 111 Grades

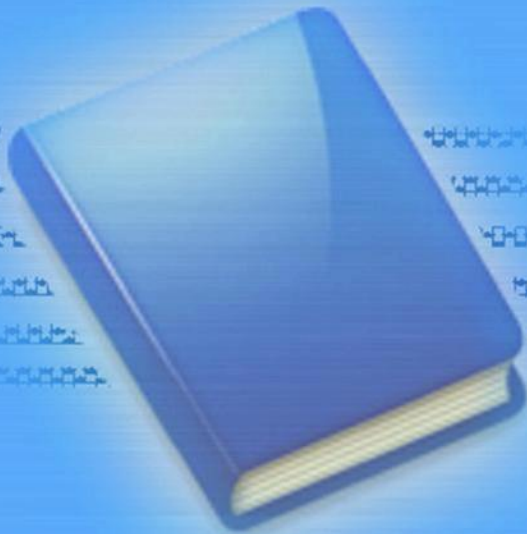


# Final ENL 111 Grades vs. Tutorial Grades





# Any Correlation of Tutorial Quiz Grade and the Student's Final Grade?



- This data did not measure a cause and effect relationship. However, it did confirm that a positive relationship exists.
- The probability of a Type 1 error was very small due in part to a very large sample size.
- Data for students falling in either of the following categories was not entered:
  - Zero grades on the tutorial
  - Grades for students who dropped or withdrew from ENL111

# Look At This Data

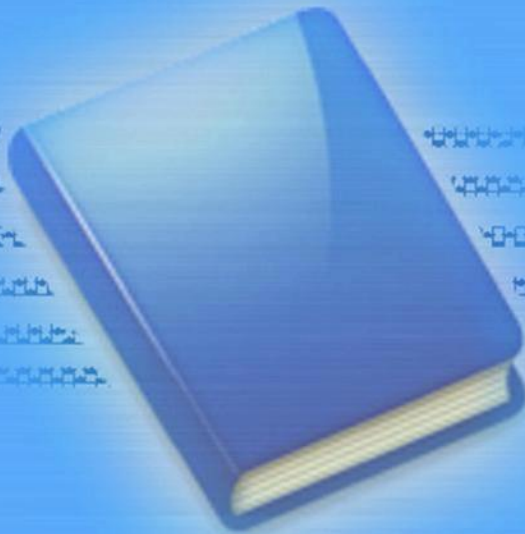
(This describes a relationship not a cause.)

## Student's Grades on the Tutorial:

- 78% → A, B, C
- 55% → A
- 46% → B
- 21% → C

## Student's Final Grade in the Course:

- A, B, C
- A
- B
- C
- D or F



# Outcomes:

## Was This Tutorial Practical?



- Concepts were uniformly presented
- Students had to interact with the material
- Immediate feedback given per individual question
- Immediate visual information given
- Higher levels of research skills were taught



# Outcomes: The Tutorial Addressed Students Learning Preferences



- Graphics-based visuals
- Text-based visuals
- Auditory modes
- Tactile or kinesthetic methods used



# Outcomes

## Certificate of Completion

First Name: Library

Middle Initial:

Last Name: Staff

English 111 Faculty: Schell, J.

Librarian: Marilyn Bodnar

Section: 13

Grade: 100%

To receive credit for the Library Tutorial,  
hand this in at the Library's Reference Desk.

Completed: 4-15-2008 11:49:25

# Outcomes

## LIBRARY ASSIGNMENT for Students in ENL111 Spring 2006

ENL111 section: 03      ENL111 faculty member: Bunting, K

Librarian's name: Librarian

Student's name: John P Doe

Complete these sections of the assignment by:

Part One: \_\_\_\_\_  
Part Two: \_\_\_\_\_  
Part Three: \_\_\_\_\_  
Part Four: \_\_\_\_\_

After finishing all four parts, hand in the completed assignment at the Library's Reference Desk by: \_\_\_\_\_. The librarian will grade it.

Come to class that will be held in the Library, LRC 151, on: \_\_\_\_\_

### The Library Assignment

**Part One:** Developing the research question and the list of words or short phrases

I. Write your research question here:

II. Using the research question above, develop a list of 3 words, 3 keywords, or 3 very short phrases here: Do not write a complete question or complete sentence below.

A. \_\_\_\_\_

B. \_\_\_\_\_

C. \_\_\_\_\_

**Part Two:** Finding references to books by using a catalog

I. Use the Library's home page found at <http://www.pct.edu/library>

II. Choose the link to the "Library Catalog" located on the left side of the screen in the blue column.

III. Before typing your search strategy, choose "Power Search".

IV. Use "AND" to connect at least two of the three words, related words, or very short phrases from "Part One: Section II: A, B, or C" above. If you don't get any results, use only one word, or one very short phrase, and search.

V. From the list of results, choose one book and click on "Details". The "Item Information" about that book will appear. Check to be sure that the book you choose is really on your topic. (If the book is checked out, choose another on your list. Repeat this until you find a book. Need help? Go to the Reference Desk.)

VI. Print the first page of the "Item Information."  
On the menu bar, click "File," the "Print." In the "Page Range" section, choose "Pages:," enter 1 in the box, and click "OK." (This will save you few pages on your printing quota.)

\*VII. Staple the "Item Information" to this assignment sheet.

VIII. Using the "Item Information" page that you printed, find the book on the shelf in our library. Bring the book to the Reference Desk of the Library where the reference staff will stamp the "Item Information" page as being approved. (Part Two is finished.)

**Part Three:** Finding references to articles by using a database of articles

I. Use the Library's home page found at <http://www.pct.edu/library>

II. Choose the link to the "Databases" page.

III. Choose the database "ProQuest-(general)".

IV. Choose "Advanced Search".

V. Use "AND" to connect at least two of the three words, related words, or very short phrases from "Part One: Section II: A, B, or C" above. Use at least two search boxes.

VI. **Print the first page of the list of articles retrieved**, not the first page of the first article opened.

On the menu bar, click "File", then "Print". In the "Page Range" section, choose "Pages:," enter 1 in the box, and click "OK". (This will save you a few pages on your printing quota.) Do not print the article! Need help? Go to the Reference Desk.

\*VII. **Staple** that page to this assignment sheet. (Part Three is finished.)

**Part Four:** Finding information by using a search engine

I. Use the search engine Google found at <http://www.google.com>.

II. Choose "Advanced Search".

III. Use "AND" to connect at least two choices from "Part One: Section II: A, B, or C" above. Remember that when using Google, the word "AND" is not shown. Type one word, one related word, or one very short phrase in one search box. Type another word, related word, or very short phrase in the second search box. Choose the English language.

Does your research require information from only the past year? Any time? Do you want to retrieve web pages from a .gov domain?

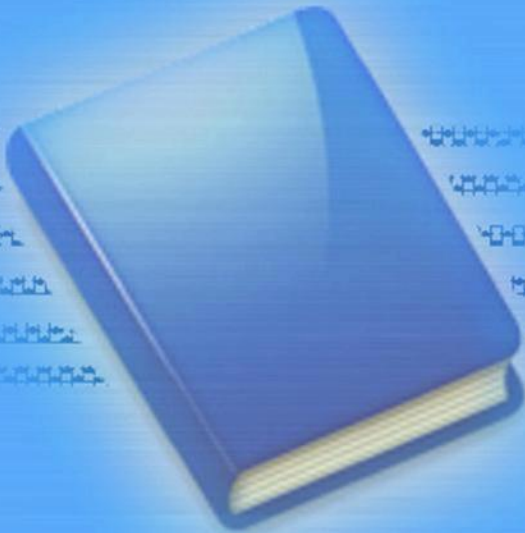
IV. **Print the first page of the list of web sites retrieved**, not the first page of the first website opened.

On the menu bar, click "File", then "Print". In the "Page Range" section, choose "Pages:," enter 1 in the box, and click "OK". (This will save you a few pages on your printing quota.) Do not print the information from any of the web sites! Need help? Go to the Reference Desk.

\*V. **Staple** that page to this assignment sheet. (Part Four is finished.)

**The Library Assignment is finished!**  
**Hand in the finished assignment at the Library's Reference Desk!**

# Outcomes



- Library Assignment graded by librarian
- Easy to convert to a new LMS platform
- Decreases the learning curve in having to make repeated changes transitioning from one platform to another

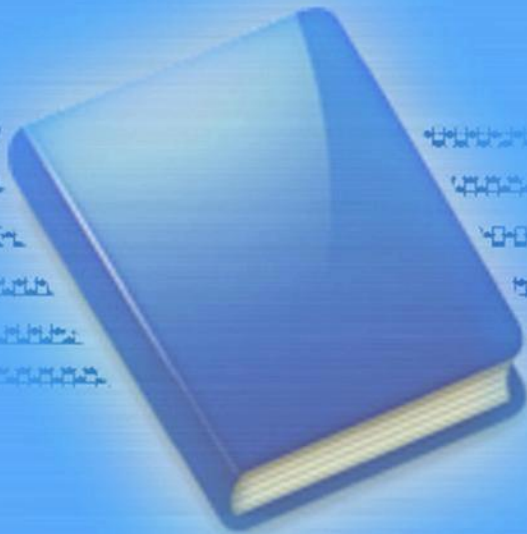
The most unexpected feature:

- Students seemed to embrace this learning method!



# The Future

## Survey students

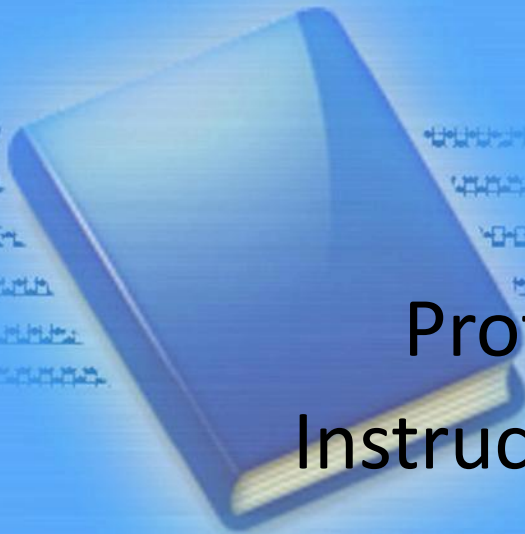


- Did they use this material throughout their college career?
- Did they use this material after they graduated?
- Ask the students for comments about what other material should be included



# Questions? Comments?

**“1,300 Students Must Complete Our Interactive Library Tutorial”**



**Presented by  
Professor Marilyn Bodnar,  
Instructional Initiatives Librarian  
mbodnar@pct.edu**

**Joshua Young, Virtual Resources Manager  
jyoung2@pct.edu**