

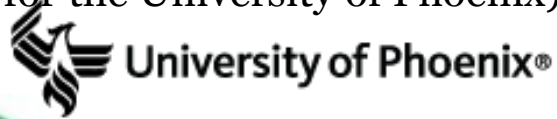
# The Role of Learning Centers in Planning for New and Emerging Technologies for Online Tutoring

Temenoujka Fuller, Ph.D.

(Associate Director, Learning Support at Central Arizona College)

& Marie Abram, Ph.D.

(Faculty for the University of Phoenix)



Presented at the:

7<sup>th</sup> ATP Conference  
Orlando, Florida  
March 2011

# Planning for New and Emerging Technologies

- The goal of this session: to collectively brain storm the role learning center personnel should ideally play in planning for new and emerging technologies in online tutoring
- The output desired by the end of this session: a group reflection on the Strengths-Weaknesses-Opportunity-Threats that might be involved in embedding a single new technology into an online tutoring program at your institution

The emerging technology we will deal with is the **hologram** and explore, together, how an institution might go about planning for its incorporation into the online tutoring services at your institution

# What Is the Notion of Holographic Tutoring?

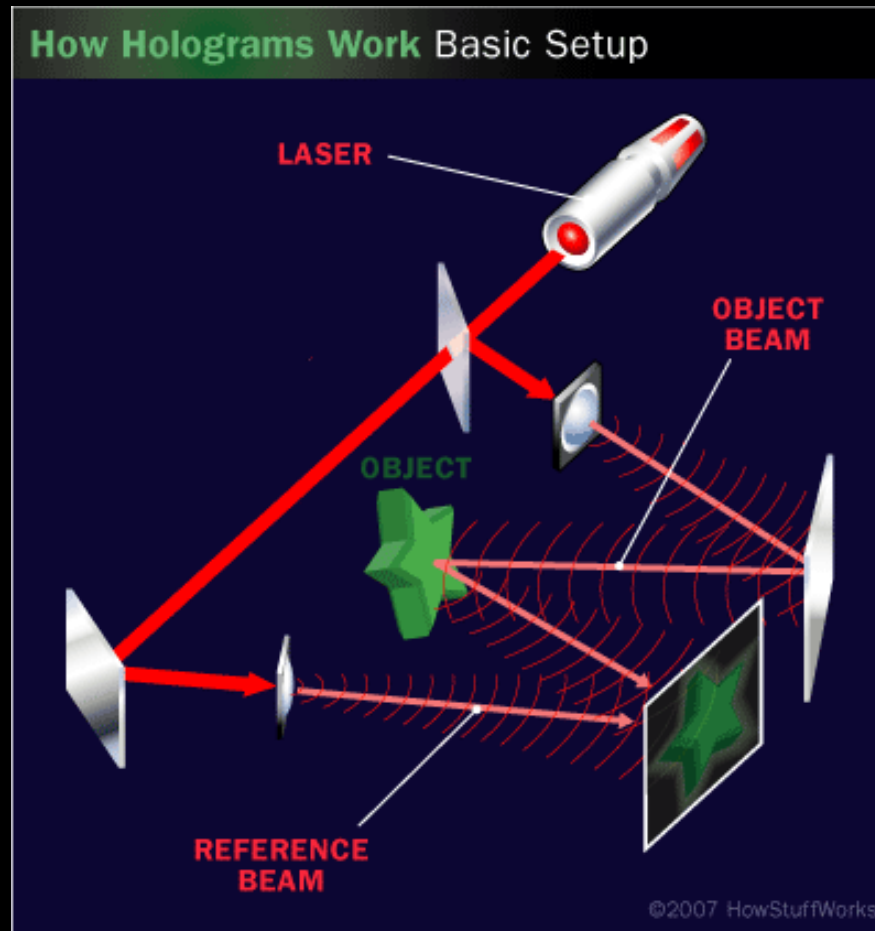
1. WHAT IS HOLOGRAPHY?

2. WHY SHOULD I CARE ABOUT HOLOGRAPHIC TUTORING?



# WHAT IS HOLOGRAPHY?

From the Greek, ὅλος-hólos whole + γραφή-grafē



## WHY SHOULD I CARE ABOUT HOLOGRAPHY?

YEAR 2004/2005

To explore how students see the future of new educational technologies, the U.S. Department of Education, in partnership with the U.S. Department of Commerce and NetDay, has release *Visions 2020.2: Student Views on Transforming Education and Training Through Advanced Technologies*



# FINDINGS OF VISIONS 2020.2 RELATED TO TUTORING

## INTELLIGENT TUTOR/HELPER

### **Citation:**

**No concept drew greater interest from the student responders than having some sort of an intelligent tutor/helper.** Math was the most often mentioned subject for which tutoring help was needed. Many students desired such a tutor or helper for use in school and at home. In addition, there was significant interest in a single, all-knowing information resource

.....

**Help, I Need Somebody:** While many students referred generically to a tutor or helper, others were more specific, describing a live tutor at a web site or just a tutoring web site, an interactive online tutor or counselor, **a holographic or virtual tutor**, online experts, and the ever popular robot tutor.

**End of the Citation.**



# Developing an Educational Technology Plan



# Institutional Planning

- All successful educational institutions have an institutional strategic plan, generally one that covers 3-5 years
- The overall strategic plan is supported by departmental plans
- The departmental plan in the Instructional area should contain a variety of supporting plans for the various delivery segments:
  - curriculum development/improvement
  - technology usage
  - faculty development
  - tutoring development, etc.

# Strategic Plan of Central Arizona College

Vision

Mission

Core Values

	<b>Goal 1</b>	<b>Goal 2</b>	<b>Goal 3</b>	<b>Goal 4</b>	<b>Goal 5</b>
<b>Objectives</b>	<b>Create a Dynamic Environment for Learner Success</b>	<b>Maintain a Culture Supporting Employee Success</b>	<b>Advance Community Relations and Partnerships</b>	<b>Strengthen Effective Communication throughout the Internal and External College Community</b>	<b>Maximize Fiscal and Physical Resources</b>
Objective 1					
Objective 2					

# Criteria of Successful Institutional Plans

- Begin with a S-W-O-T analysis
  - Identify institutional *Strengths* and *Weaknesses* – build on strengths, shore up weaknesses
  - Identify *Opportunities* and *Threats* external to institution – build on opportunities, protect institution from threats
  - Identify S-W-O-Ts at various levels of institution beginning at top level
  - Set goals/objectives/standards (best if measurable) at each level
  - Coordinate each lower level to support upper level
  - Coordinate within each level – give example(s)

# Assumptions

- For purposes of completing this exercise we must make several assumptions:
  - Grant money has been obtained for setting up 5 holographic generating sites within the tutoring center that supports online tutoring (i.e., costs are of no concern)
  - Grant money allows for training all tutors in (a) using the holographic equipment by experts in holography, (b) technology in general, and (c) tutoring via holographic images
  - Online students excited about using online holographic tutoring
  - Institution ready, willing, and able to incorporate online holographic tutoring into its strategic planning process



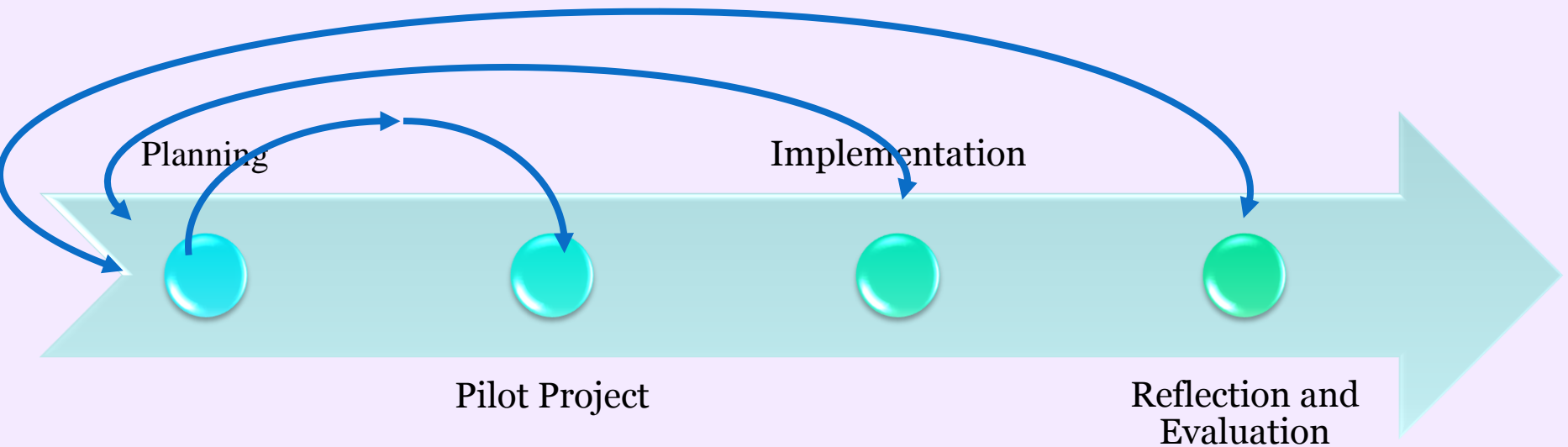
Discussion of S-W-O-Ts as  
Presently Experienced at One Institution

# *Strengths and Weaknesses* Related to One Institution

- *Strengths* of past tutoring planning processes (online and onground)
  - Strong administrative support for the tutoring department
    - fully staffed
    - use of Blackboard software
  - Excellent facilities
  - Institution routinely uses feedback loops for formative and summative evaluation of projects
  - Availability of data for formative and summative evaluation via Blackboard
- *Weaknesses* of past tutoring planning process
  - The diversity was only generally considered for our online tutoring
  - The tutors have no information about tutees learning characteristics
  - The tutors have no information about tutees learning characteristics
  - Instructors and tutors did not plan together
  - Not enough preparatory work with students
  - The transition from grant to institution was not planned well

*STRENGTH ONLINE SERVICES*: Automatic Data Collection is Available Immediately for Feedback Loops

**Feedback loops**



# STRANGTH: Easy Collection of Qualitative Data

- [Chapter 5 question - Jesus Gutierrez](#)
- [Homework ?](#)
- [Homework link...](#)
- [pay attention to Chap 6 answers..](#)
- [-RE: pay attention to Chap 6 answers..](#)
- [-Extraordinarily Frustrating Chapter](#)
- [-RE: Extraordinarily Frustrating Chapter](#)
- [-RE: Extraordinarily Frustrating Chapter](#)
- [+RE: Extraordinarily Frustrating Chapter](#)
- [Please, polish your journal #4 and #5 if needed](#)
- [-Rounding](#)

**Posted Date:** Wednesday, March 9, 2011 10:03:15 PM MST  
**Edited Date:** Wednesday, March 9, 2011 10:03:15 PM MST

I am stuck on page. 146 at question 3, and can't figure out what I'm doing wrong:  
 $X=402, s=110, n=30$   
A 95% confidence interval would have me use the following equation:

$$402 + 2.045(110 / \sqrt{30})$$

This gives me  $402 + 2.045(20.08)$   
 $402 + \text{or} - 41.06$   
The book, however, indicates that the intended answer is  $360.96--443.04$   
So what am I doing wrong that I'm not getting what the book tells me I should be getting?

Extraordinarily Frustrating Chapter >

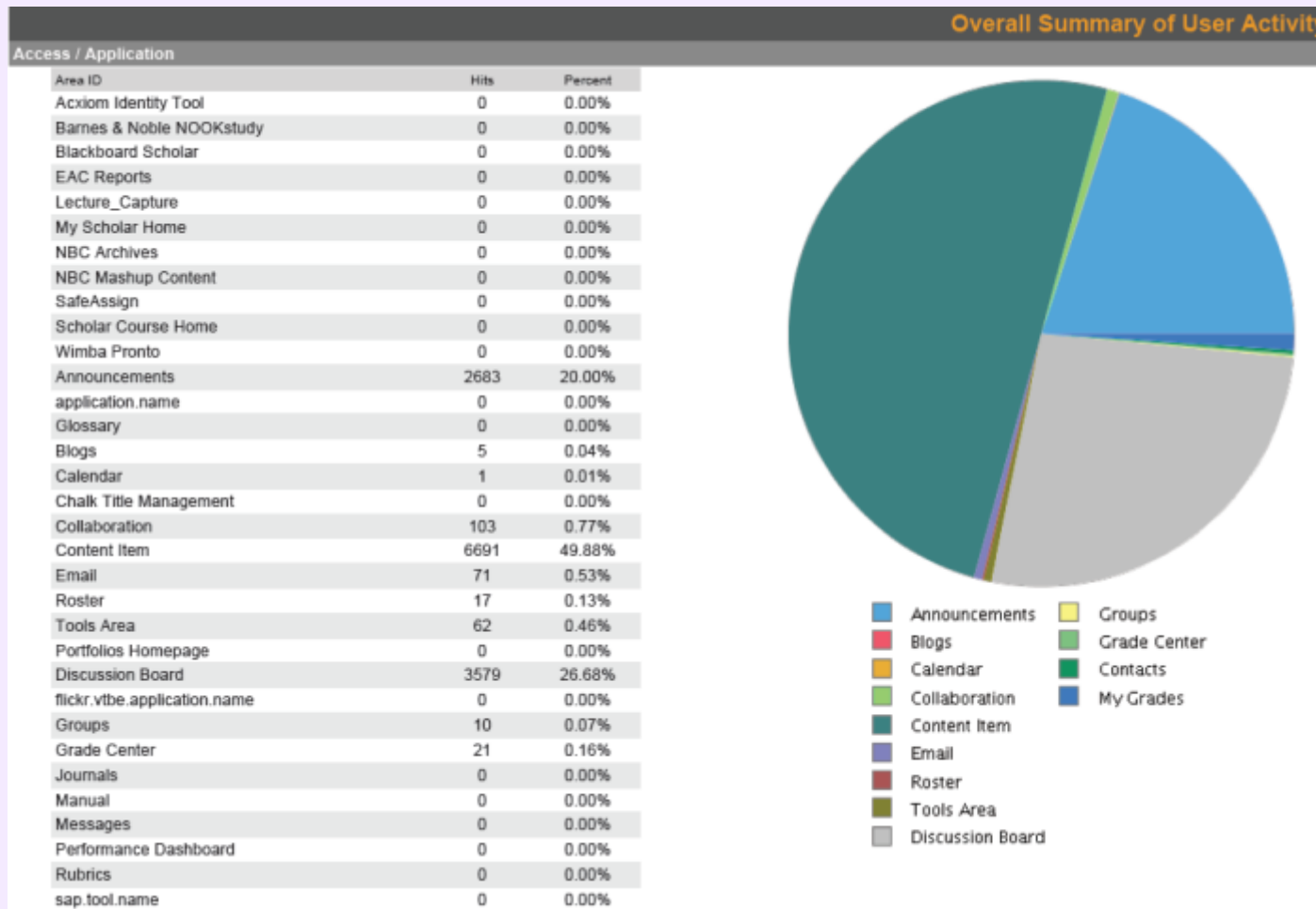
# *STRANGTH: Automatic Report Generators Embedded in the Online Learning Management System for Quantitative Data Management*

The screenshot displays the 'Run Reports' page within the Central Arizona College Online Learning system. The page is titled 'Run Reports' and includes a breadcrumb trail: 'CAC Online Math and Science Tutoring and Resources > Evaluation > Course Reports > Run Reports'. The main content is organized into three sections:

- 1. Report Information**
  - Name: Overall Summary of User Activity
  - Description: The report displays user activity for all areas of the course, as well as activity dates, times and days of the week.
  - Elapsed Time of Last Run: 32.512 seconds
- 2. Report Specifications**
  - Select Format: PDF
  - \* Select a Start Date: 03/13/2011
  - \* Select an End Date: 03/14/2011
  - Select Users: A list of users including Abbott, Corey (corey\_abbott), Abbott, Jack (jack\_abbott), Abbott, Katelyn (katelyn\_abbott), Abbs, Shandi (shandi\_abbs), and Abercrombie, Chris (chris\_abcrombie).
- 3. Run Report**

The left sidebar contains navigation links for 'Announcements', 'Tutoring and Resources', 'Tutors and Schedules', 'MATH', 'Anatomy and Physiology', 'Biology', 'Chemistry', 'Physics', 'Statistics', 'Communication', 'Contact Us', 'FAQs', 'CAC Student E-mail', and 'Tools'. The top navigation bar includes 'Central Arizona College Online Learning' and 'Courses'.

# Example: Hits from January 14 to March 14, 2011



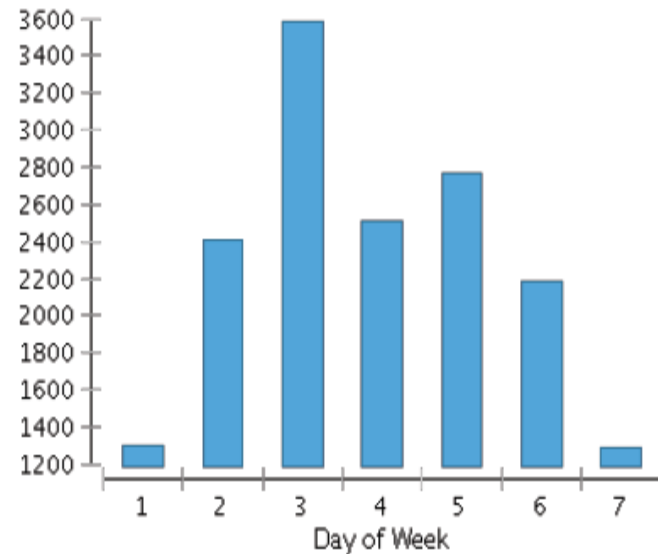
# Example: Hits versus Days of the Week

## Jan. 14 to March 14

### Overall Summary of User Activity

#### Access / Day of Week

Day of Week	Hits	Percent
SUN	1295	8.07%
MON	2404	14.99%
TUE	3588	22.37%
WED	2513	15.67%
THU	2766	17.24%
FRI	2185	13.62%
SAT	1289	8.04%
	<b>16040</b>	



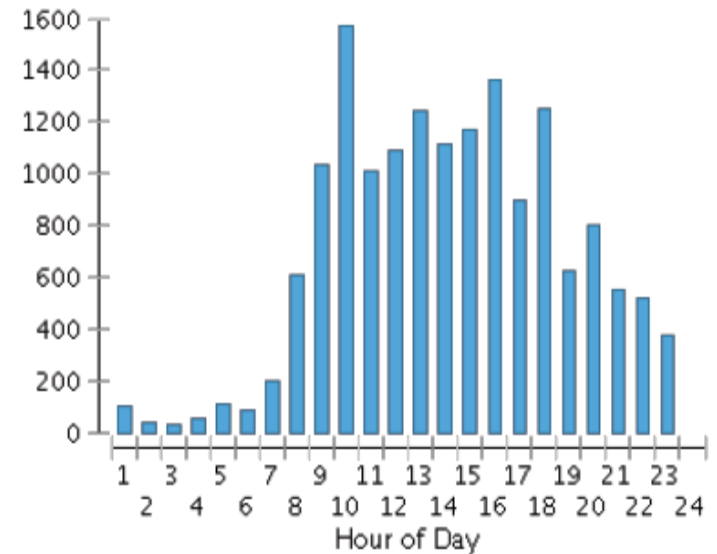
# Hits versus Hours of the Day

## Overall Summary of User Activity

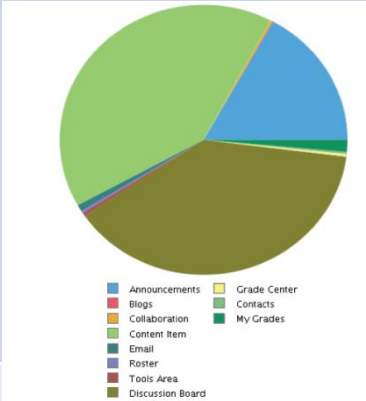
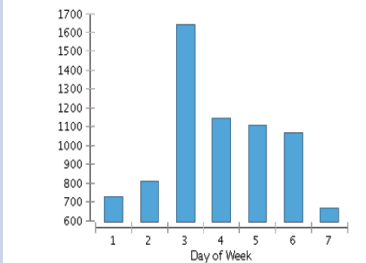
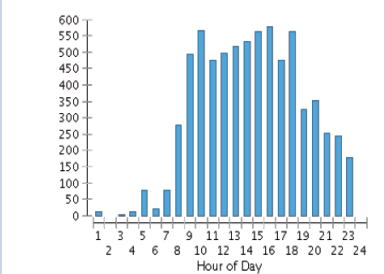
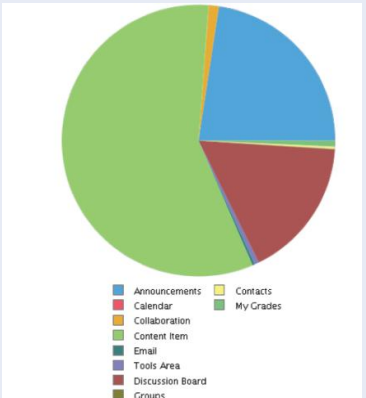
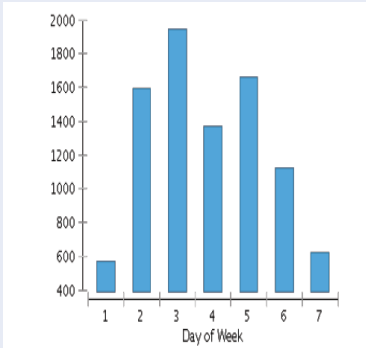
### Access / Hour of Day

Hour of Day	Hits	Percent
1	106	0.67%
2	38	0.24%
3	28	0.18%
4	54	0.34%
5	115	0.73%
6	85	0.54%
7	198	1.25%
8	606	3.82%
9	1034	6.52%
10	1570	9.90%
11	1009	6.36%
12	1092	6.89%
13	1241	7.83%
14	1118	7.05%
15	1167	7.36%
16	1362	8.59%
17	901	5.68%
18	1249	7.88%
19	622	3.92%
20	802	5.06%
21	555	3.50%
22	522	3.29%
23	379	2.39%
24	0	0.00%

15853

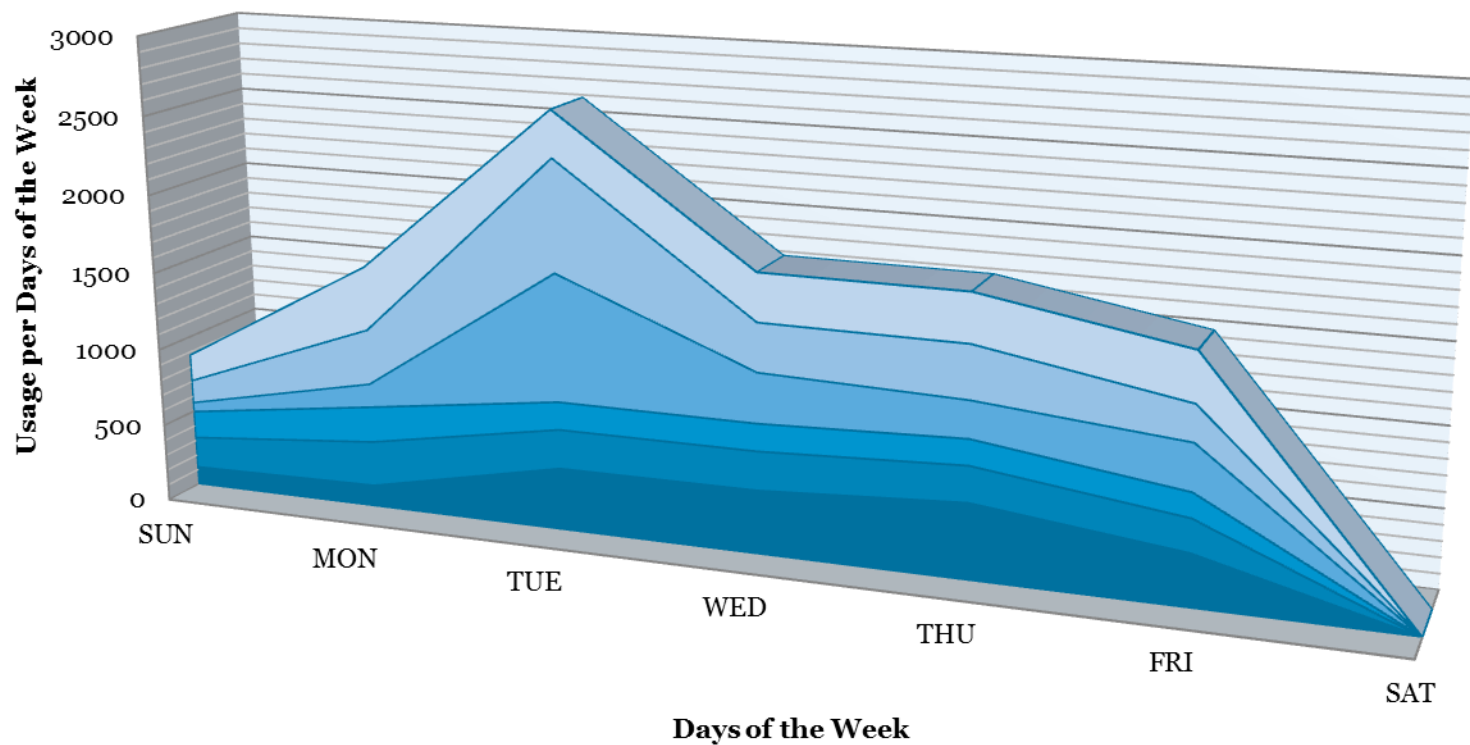


# Example: Longitudinal Data (two consecutive months)

	Summary of User Activity	Hits versus Days of the Week	Hits versus Hours of the Day
<p>Jan 14 – Feb 14 (7156)</p>	 <p>Legend:</p> <ul style="list-style-type: none"> <li>Announcements</li> <li>Blogs</li> <li>Collaboration</li> <li>Email</li> <li>Roster</li> <li>Tools Area</li> <li>Discussion Board</li> <li>Grade Center</li> <li>Contacts</li> <li>My Grades</li> </ul>	 <p>Day of Week</p>	 <p>Hour of Day</p>
<p>Feb 14 – March 14 (8884)</p>	 <p>Legend:</p> <ul style="list-style-type: none"> <li>Announcements</li> <li>Calendar</li> <li>Collaboration</li> <li>Email</li> <li>Tools Area</li> <li>Groups</li> <li>Contacts</li> <li>My Grades</li> </ul>	 <p>Day of Week</p>	 <p>Hour of Day</p>

# STRENGTH OF ONLINE SERVICES: 3D – Longitudinal Analysis of Usage

**Cumulative Usage of Online Services 01/16/2011 -  
03/05/2011**



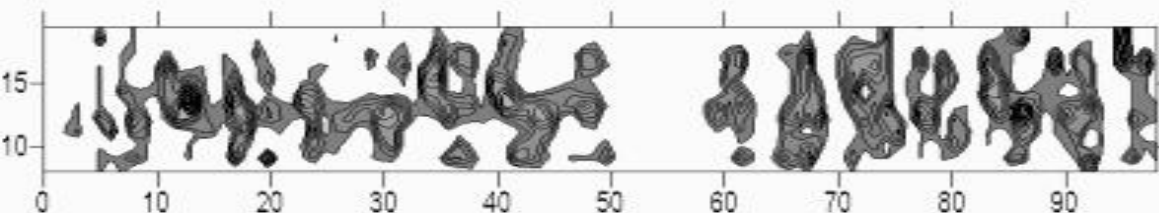
# RESEARCH STUDY:

Fuller, T., & Krumova, G. (2007). *Adaptive Learning Instruments*.

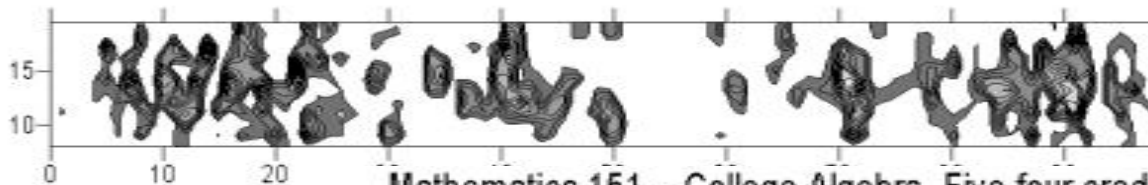
Retrieved January 30, 2011, from Learning Demand:

<http://www.learningdemand.com/MOODLE/AZiGalia/Adaptive%20Learning%20Instruments.pdf>

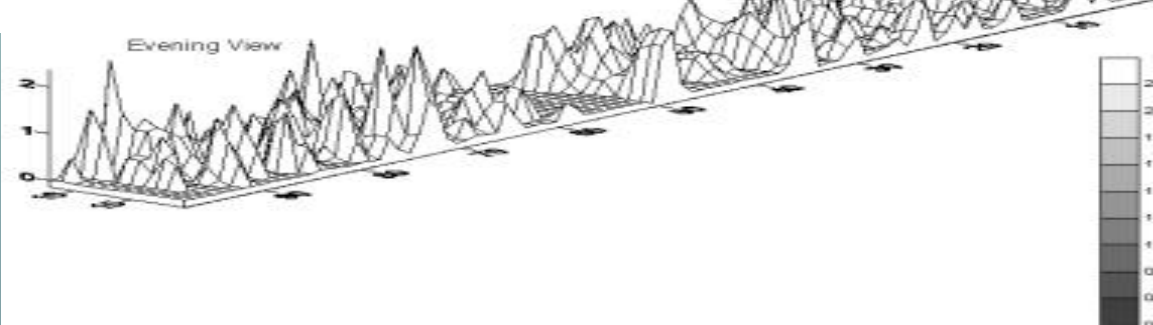
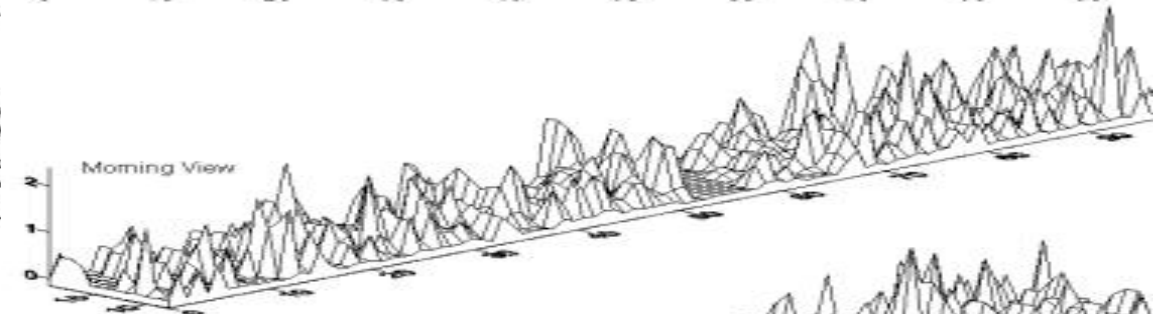
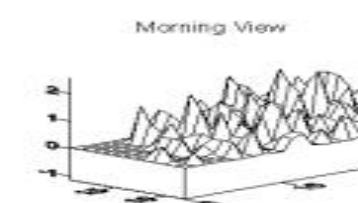
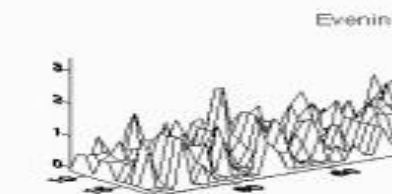
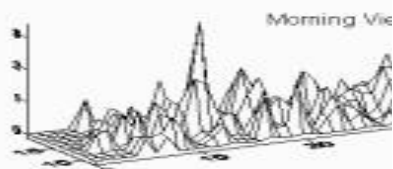
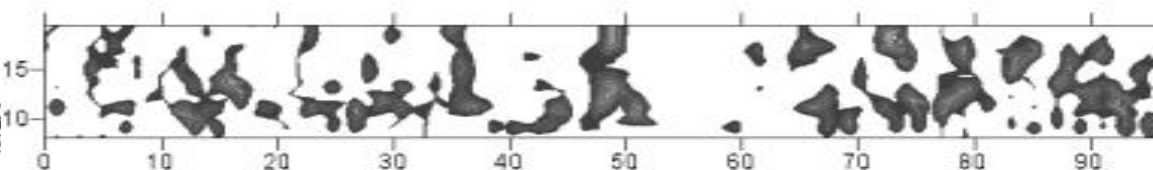
Mathematics 081 -Arithmetic Review, Five four credit classes, computer based



Mathematics 091 - Introductory Algebra, Standards, Six groups, 50% computer based

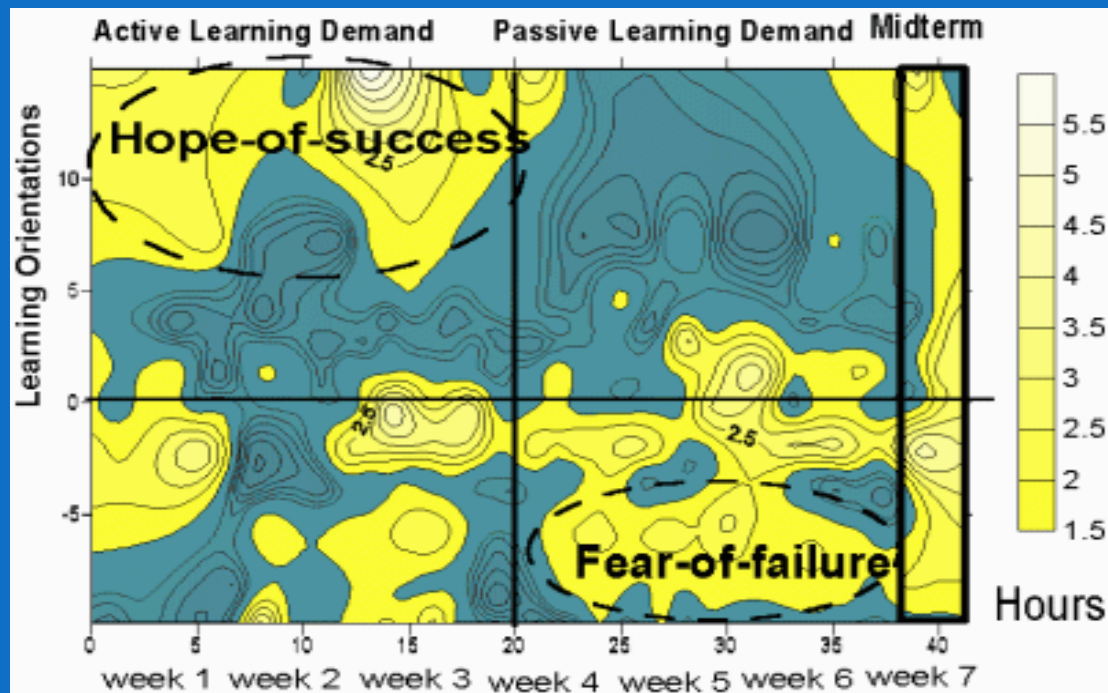


Mathematics 151 - College Algebra, Five four credit classes, Lecturers



**OPPORTUNITY:** Planning differently for students with different learning preferences is the ideal goal of tutoring.

The 3D graph represent how students with different learning orientations are using the tutoring services.



Usage of face-to-face learning services

Horizontal axis: weeks; Vertical axis: students' Learning Orientation (by Courtesy of Dr. Martinez)

# Environmental *Opportunities* and *Threats* that May Impact Online Holographic Tutoring

- *Opportunities available to support plan (situations outside institution)*
  - Students know of holographic technology and in a national survey (Vision 2020.2) called for its use in education
  - Major emphasis nationally on helping students learn more and quicker
  - The new generation is technologically savvy
  - Private and public money available now and in foreseeable future for educational practices that use technology to enhance learning
- *Threats that could hinder plan (situations outside institution)*
  - National recession may linger over next decade and limit funds available for technology and innovative educational practices
  - Present paradigm for online tutoring text based whereas onground is oral based
  - Some tutors are not highly technologically literate

# Reflecting on Embedding Holographic Online Tutoring into the Planning Process of an Institution

- Group brainstorming session – 2 tasks asked of you:
  - First, take about 3-4 minutes
    - reflect upon the role learning center personnel typically have played and ideally should play in the institutional planning of educational technology in online tutoring.
  - Second, take the next 7-8 minutes
    - create a S-W-O-T list you believe *your* institution would have to take into consideration in embedding a holographic delivery of the online tutor into the workspace of *your* students.