



Tufts
UNIVERSITY

NOWETAS conference presentation

November 4th, 2010

- **Professor Lynne Pepall,
Dean of the Graduate School of Art & Sciences**
- **Dr. Sinaia Nathanson, Director of GIFT**

US Research Universities

- 4391 higher degree granting US institutions,
- 96 or 2.2% are RU/VH by Carnegie Classification
- RU/VHs enroll 2.4 million students, 13.5%
- Average enrollment at RU/VH is 25,000
- 2/3 of RU/VH are large public universities

Tufts University: Research University with a Liberal Arts heart

- Tufts is RU/VH, enrollment roughly 9000
- 5000 undergraduates, 4000 graduate
- Liberal arts college nested within graduate and professional schools
- “Undergraduate experience inseparable part of integrated whole”, 1998 Boyer Commission, Educating Undergraduates in the Research University

Teaching mission at Tufts

- Integration of teaching and research
- Engaging top researchers in teaching mission
- Summer Scholars
- Complementarities between graduate and undergraduate teaching mission
- Partnership: “3-legged stool” not ladder
- **CELT (Center for the Enhancement of Learning and Teaching)**

Role of doctoral students in Tufts teaching mission:

- Our goal is to integrate faculty into both undergraduate and graduate teaching mission
- Today's doctoral candidates are tomorrow's future professors
- Excellence in teaching to be signature of our doctoral candidates



- In 2006 translated our commitment to teaching into a formal program:
GRADUATE INSTITUTE FOR TEACHING
- Prepare doctoral students and post-docs for college teaching
- Establish a community across disciplines
- Structured mentoring program that includes faculty and administrators

The GIFT Model

- Goal: collaborative learning environment on the craft of teaching *across disciplines*
- Diversity among fellows
- Enrollment capped: members commit to attend all workshops and program events
- Group cohesiveness important for building community, peer mentoring and critique

GIFT Incentives

- Summer stipend for doctoral students
- Transcript notation
- Opportunity to work with faculty other than research advisor
- Teaching support for mentors
- Training program for postdoctoral fellows
- Role for university leadership



Graduate Institute For Teaching (GIFT):

“The gift that keeps on giving”

“Eine Gabe die stetig gibt.”

“Ein Geschenk das stetig gibt”



GIFT

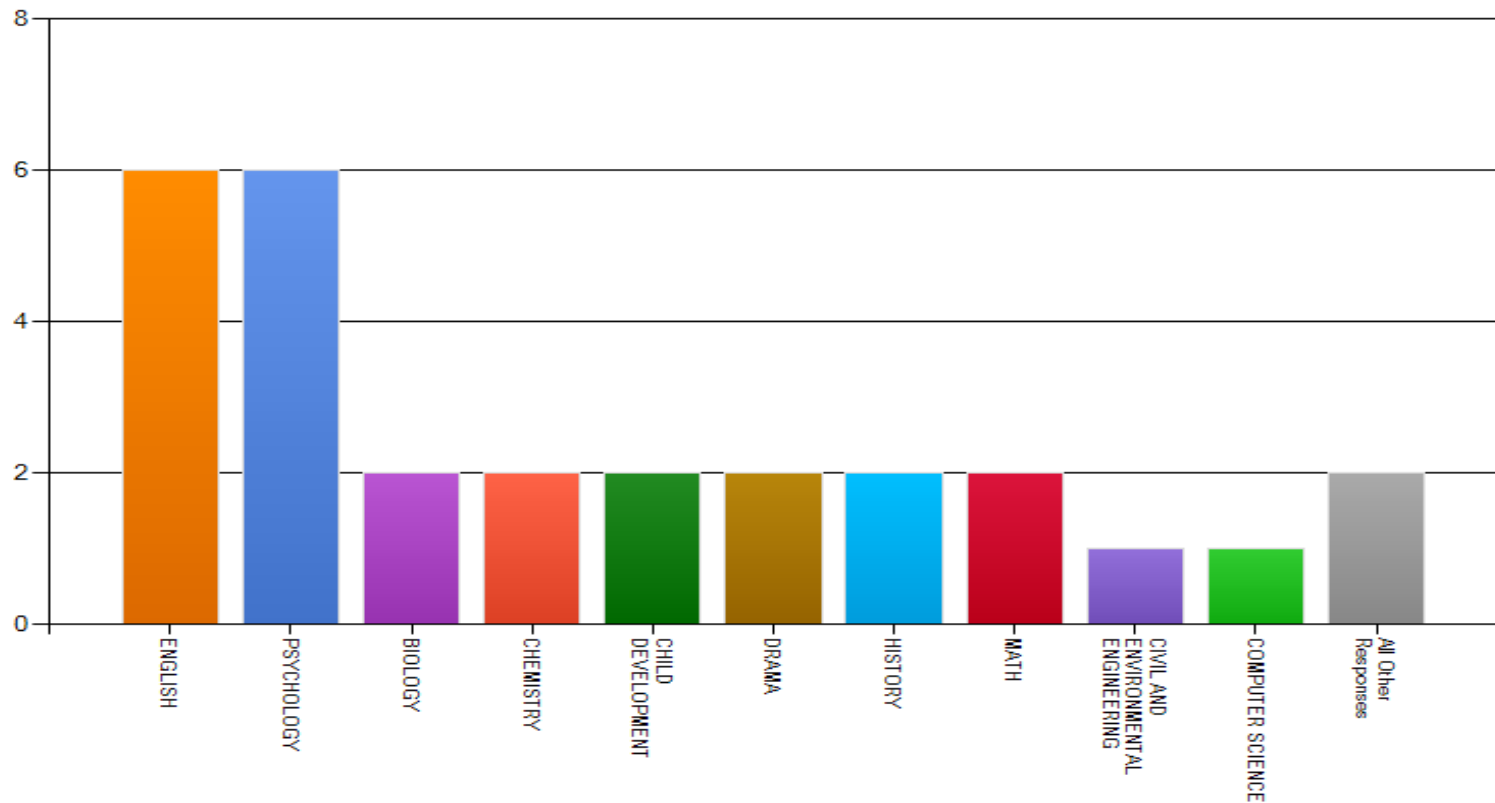


Graduate Institute for Teaching (GIFT)

The Graduate Institute for Teaching is divided into two phases. The first phase focuses on a series of **training workshops** while the second phase occurs in classes where participating students **co-teach with a Tufts faculty mentor.**

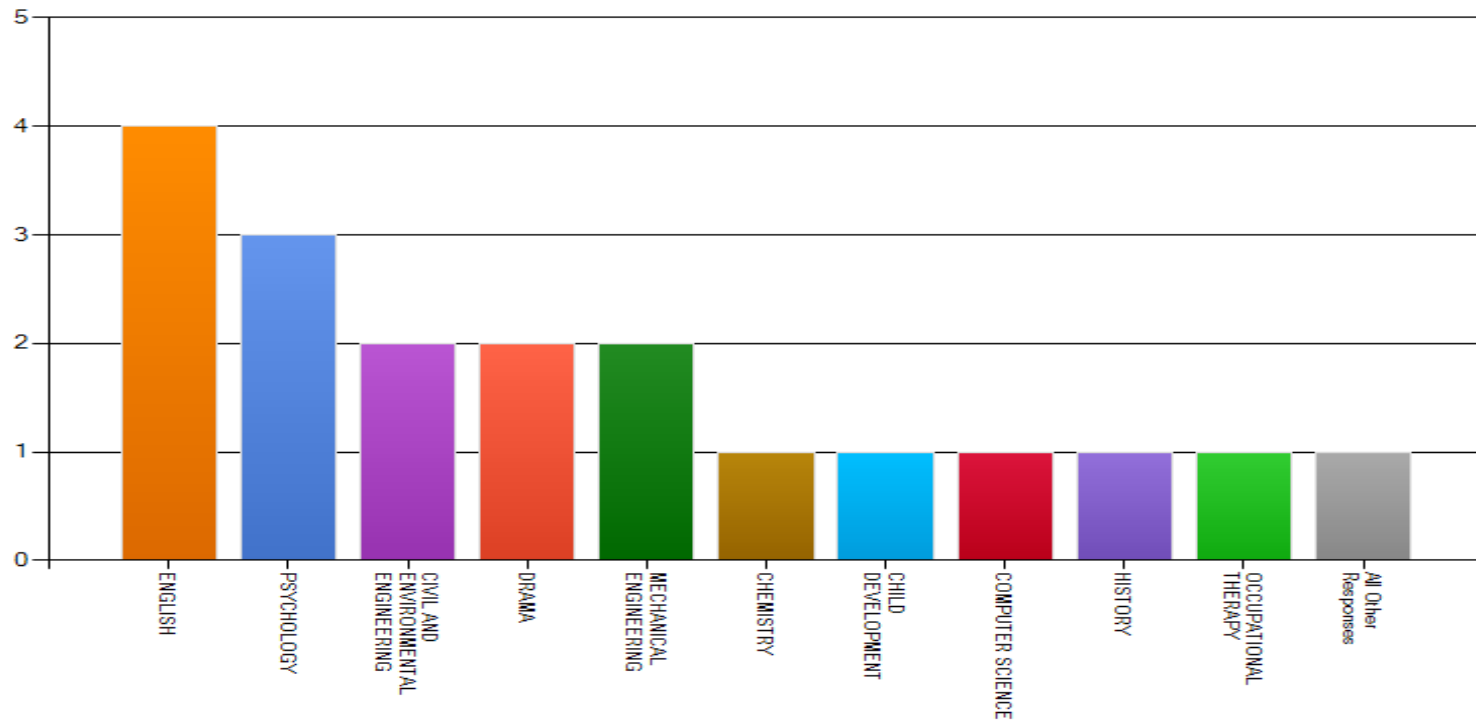
Graduate Institute for Teaching (GIFT) 2010 Survey Results

IN WHICH TUFTS DEPARTMENT ARE YOU A PH.D. STUDENT?



Graduate Institute for Teaching (GIFT) 2010 Survey Results

IN WHICH TUFTS DEPARTMENT ARE YOU A FACULTY MEMBER?



MENTOR	DEPARTMENT	FALL COURSE	FELLOW	Degree
Baise, Laurie	Civil & Env. Eng.	En75	Morgan, Eugene	PhD 2011
Camara, Kathleen	Child Development	CD 175/MU220	Rodriguez, Masami	PhD 2013
DeBold, Joseph	Psychology	PSY 025	Allen, Patricia J.	PhD 2012
Edelman, Lee	English	ENG 81	Stanitzke, Mareike	PhD 2011
Ford, Lawrence	Physics		Parkinson, Victor	PhD 2013
Hasselblatt, Boris	Mathematics	Math 38	Qing, Yulan	PhD 2013
Ramsey, Noman	Computer Sci.	Comp 40	Daniels, Noah	PhD 2012
Ramsey, Noman	Computer Sci.		Ricci, Nathan	PhD ?
Reed, Michael & Orians, Colin	Biology	Bio 7	Morton, Tegan	PhD 2014
Ruane, Kim	Mathematics	Math 5	Carlson, Jeffrey	PhD 2012
Schwartzberg, Sharan	OT	OTS 219	Vega, Vanessa	MS
Sellers, Martha Julia Garcia-	Psychology	CD142	Trindade, Agatha	PhD 2011
Babbitt, Eileen F.	INCR/Fletcher	DHP D223	McClintock, Elizabeth A.	PhD
Shultz, Richard	ISSP/Fletcher		Travayiakis, Marina	PhD 2012
SACKLER				
Claire Moore	Neurobiology	TEACRS	Dahlberg, Lina	
	Microbiology		Dugan, Aisling	
	Biology - (Medford)		Koch, Melissa	
	Microbiology		Maldonado-Arocho, Francisco	
Boston University	BU Post-Doc		ArRejaie, Aws	DSCD'10
	BU Post-Doc		BinmahFooz, Abdulelah	DSCD'12

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Graduate Institute for Teaching (GIFT) Continued

Phase I: Summer Workshops

Each summer GIFT teaching fellows attend fifteen workshops on teaching pedagogy. The workshops focus on such areas as the following.

- Syllabus and course design
- Presentation skills
- Engaging and motivating students
- Leading group discussions, lab sections, and class projects
- Teaching with technology
- Teaching science
- Teaching large lectures
- Assessing, testing, and grading learning outcomes
- Instructor-student relationships
- Inquiry-Driven PBL



Graduate Institute for Teaching (GIFT)

Beyond pedagogy...

Survival kit for junior faculty members

“What have you always wanted to know but never dared to ask....?”

- Lunch with the Provost
- Panel of Excellence
- Role playing cases of conflicts in an academic settings

Sample of GIFT fellows' questions for the Panel of Excellence

- *Do you feel pressure to advance your research at the expense of teaching? How do you deal with that pressure?*
- *What is the best/most rewarding part of teaching? What is the worst/most frustrating part of teaching?*
- *I am in my twenties, unmarried, in the early stages of my grad school program, and worried about my future family life (if I will have one), do you have children / get married and if you do, did you have them / get married before, during, or after gradschool?*
- *I've been told the first year/class of an educator's career is full of surprises. What is one lesson you learned your first semester teaching that you wish someone had at least warned you about?*

Sample of GIFT fellows' questions for the Panel of Excellence

- *What was the worst mistake you ever made teaching?*
- *When you encounter a question from a student that you can not answer and it is asked in front of the entire class....how do you/ have you best handled it?*
- *How have you managed to teach a class with varied national, cultural, and family backgrounds?*
- *Did you think (when accepting your first job offer) that you may become the President of the University?*

How do we create a cohesive group?

- Pre-meeting with GIFT presenters
- Role-playing games
- “Current Events” activity
- Parties
- BB discussions’ site
- Food, food & food



Graduate Institute for Teaching (GIFT) Continued

Phase II : Classroom Experience

During the fall semester, each GIFT teaching fellow co-teaches a Tufts course, sharing responsibility with a faculty member. During the course, fellows will gain experience in the following.

- Preparing a course syllabus
- Classroom teaching (fellows lead a minimum of two classroom sessions)
- Developing exam and essay questions
- Applying what they learned during the workshops in a classroom setting
- Receiving and putting into practice feedback from their mentors



Faculty Mentors: Expectations

- At least one meeting with the Teaching Fellow (TF) prior to the co-teaching semester. Use the **first meeting** to discuss the following:
 - Your teaching philosophy
 - Goals for the course
 - Course content
 - Syllabus
 - Policies & testing
 - Assessment
 - Special activities, projects & assignments
 - Topics for your TF's lectures

Faculty Mentors: Expectations

- **Second meeting** should be set up during the term prior to the TF lectures. Use the second meeting to discuss the following:
 - Review of how the course is going
 - Students with difficulties
 - Assignment outcomes
 - Suggestions for ways to improve the TF presentations
 - Suggestions for discussions and demonstrations

Faculty Mentors: Expectations

After the TF presentations:

- Review strengths, weaknesses and effectiveness of the presentations
- Collect test items from the TF for assessment of their sessions
- Provide the TF with a written assessment and send a copy to the director of GIFT

What have GIFT mentors learn from their fellows?

- Viewing your own course through a new lens and redesigning accordingly
- Discussing the course with a teaching colleague infuses enthusiasm

GIFT instructors

- Best Tufts' professors
- View GIFT as a way to support future scholars
- Volunteers
- Individual pre- preparation
- Role models
- Willing to be evaluated



Evaluation of the GIFT instructors

GIFT – 2009

Workshop Evaluations

Overall Rating of Prof SC: 4.7

Poor 1	Below Average 2	Average 3	Above Average 4	Excellent 5
		2	2	14

Evaluation of the GIFT instructors

<u>Question</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>N/A</u>	<u>Avg. Score</u>
Clarity of presentation				3	14	1	4.8
Enthusiasm for the material				2	16		4.9
Engaging approach				1	17		4.9
Encouragement of class involvement			1	2	15		4.8
Quality of Demonstrations and class activities			2		16		4.8
Concern with Students Understanding			1	6	11		4.6
Applicability of the material to college teaching		1	2	6	9		4.3

Evaluation of the GIFT instructors

Comments

- Great teaching by example.
- The interest and enthusiasm of the speaker were amazing.
- Excellent presentation. A good way to introduce us to teaching that is much more than what you can read about in a text book.
- Steve C. got me thinking about various approaches to teaching and by the end I was thinking of a few ideas on how I can bring these “hooks and triggers” into a classroom that is usually much less creative and more empirical.
- Really engaging, very interesting. Excellent and developed teaching technique that I found really interesting to watch and deconstruct.
- Steve was great and I so appreciate his willingness to share of himself and his experiences. The variety was great although I would have loved to hear more about his undergrad teaching experiences. What worked/didn't work.
- I learned many things on teaching methodology it could be better if we had more content based issues rather than the field trip.
- I would be thrilled to become a teacher as skilled as Steve. He was energetic, engaging, thoughtful and clearly loved what he was doing. Perfect start to the course.**
- Excellent! A variety of styles were used but the content was still included. I think this worked much better than over generalizing would have. Very effective. I hope I can use some of it!
- This was by far the best teaching related presentation. It has been my pleasure to experience. Indeed, this was one of the better seminar type experiences which I've had since coming to Tufts.
- Very engaging speaker. Keen understanding of how to tee up “sensitive” topics. How to get us to talk about things we take for granted.
- Very engaging and able to maintain attention nicely. Summarized main points after each activity. Wish I had him for a history teacher.

Evidence-Based Learning

Different people learn in different ways





Interactive learning is most desirable



Balancing types of cognitive skills

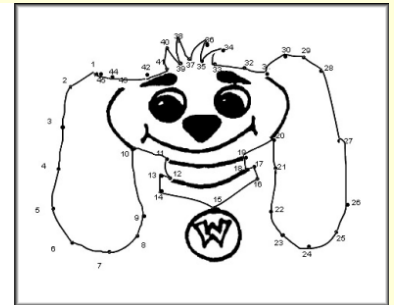
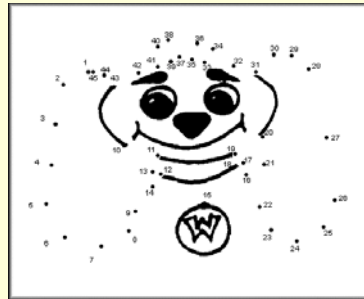
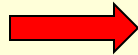
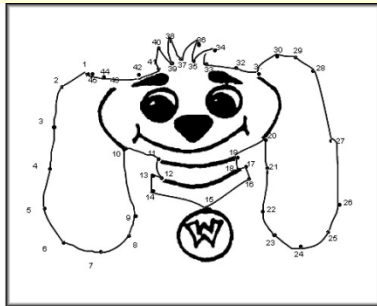
Mnemonic	Analytical	Creative	Practical
Recall	Analyze	Imagine	Apply
Name	Compare	Invent	Use
Retell	Contrast	Suppose	Implement
Say	Evaluate	Design	Do
Recite	Explain	Create	Connect to real
Describe	Critique	Brainstorm	life
List	Organize	Restructure	Find examples in
Identify	Sort	Synthesize	real life
Locate	Classify	Combine	Translate
Match	Sequence	Predict	Demonstrate
			Utilize

What Helps Information to Stick?

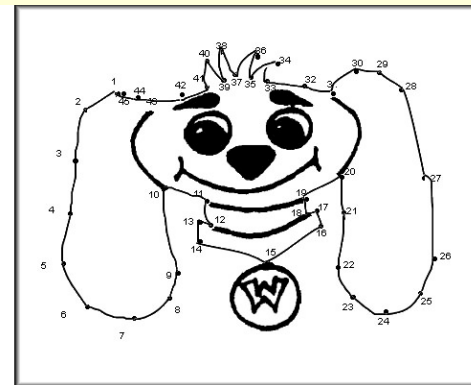
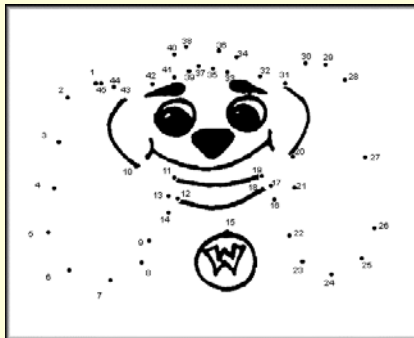
Wills, Soraci, Chechile, & Taylor (2000)

- Generation effects with pictures.

a)



b)

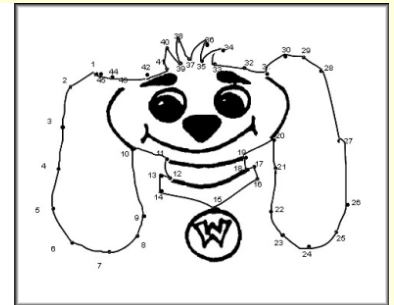
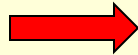
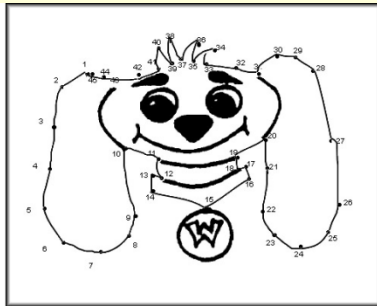


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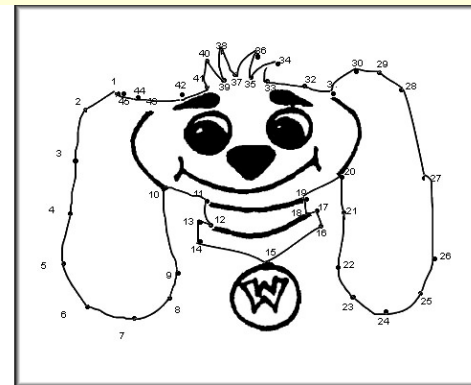
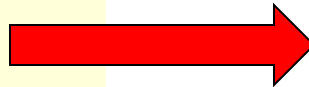
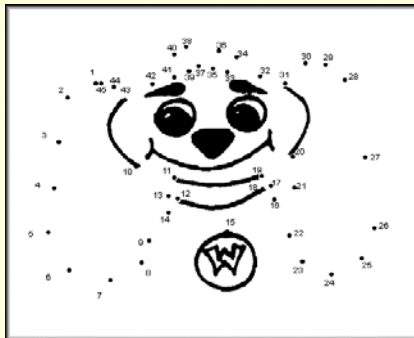
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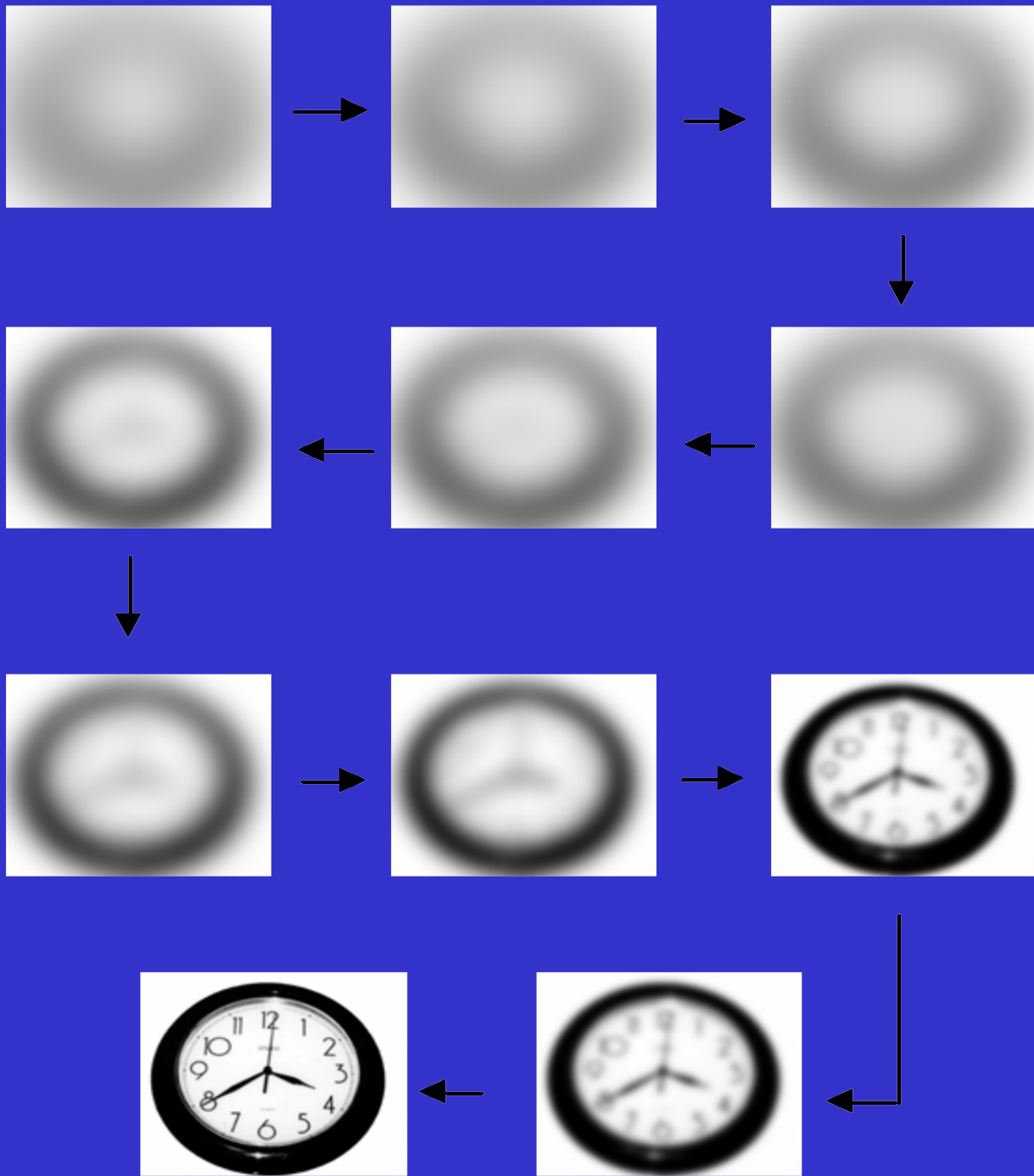
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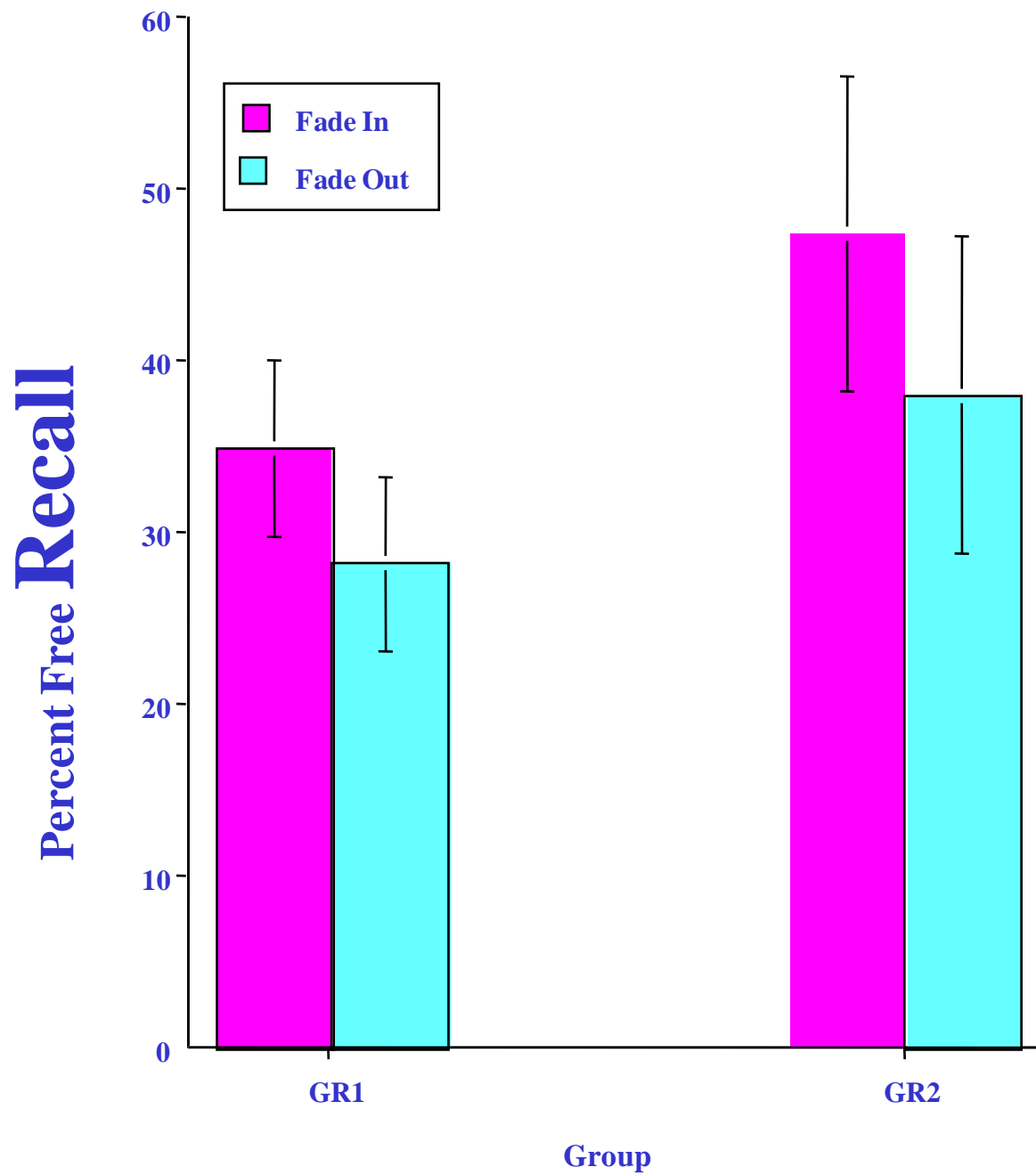
A)



B)







Aha



THE ENGAGED LEARNER

(Soracci/Carlin studies)

“Aha” -- a state of non-comprehension followed by a state of comprehension.

- What are effects of “aha”?



Auble, Franks, & Soraci (1979)

Aha effect

- **Aha effect increases recall (even with no generation) as opposed to no aha.**
- **Aha causes regeneration of understanding the sentence**

**THE HAYSTACK WAS
IMPORTANT BECAUSE
THE CLOTH RIPPED**

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THE WOMAN COULD NOT SEE
BECAUSE THE BLADE WAS
BENT

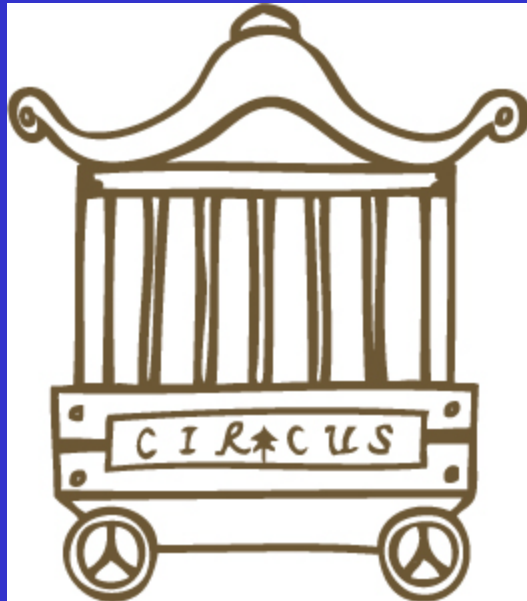


THE WOMAN COULD NOT SEE
BECAUSE THE BLADE WAS
BENT

WINDSHIELD WIPER

THE GIRL SPILLED HER POPCORN
BECAUSE THE LOCK BROKE

THE GIRL SPILLED HER POPCORN BECAUSE THE LOCK BROKE



Evidence-Based Learning

- Different people learn in different ways
 - (Adaptation to students)
- For better understanding and retention; the same concept should be taught in multiple ways
 - (Repetition for multiple encodings)
- Interactive learning is most desirable
 - (Addressing multiple cognitive skills and modalities e.g. clickers)

GIFT fellows presentations (Active learning)

- GIFT fellows prepare presentations from their own disciplines
- Presentations are video taped
- Each fellow prepares her/his own evaluation form











GIFT: Why the gift that keeps on giving?

In August 2010, a survey to assess impact of GIFT on:

- **Current and former GIFT faculty mentors**
(60 faculty, 38% response)
- **Alumni of the GIFT program**
(24 alumni, 50% response)
- **Current doctoral students who have been GIFT fellows**
(64 students, 66% response)

Survey Results: Alumni and GIFT Fellows

Q: Did the program's summer workshops on pedagogy help improve your skills as a teacher?

A: 100% of GIFT alumni responses say that the GIFT *summer workshops on pedagogy* helped improve their skills as a teacher, (response rate: 92%).

Survey Results: Alumni and GIFT Fellows

Q: Did the program's co-teaching opportunity with a Tufts faculty mentor help improve your skills as a teacher?

A: 100% of GIFT alumni responding say that the *co-teaching opportunity with a Tufts faculty mentor* helped improve their skills as a teacher, (response rate 75%).

Survey Results: Alumni and GIFT Fellows

Q: Did the GIFT experience help make you a better Teaching Assistant?

A: 75% of the alumni responses say that the GIFT experience helped make them a better Teaching Assistant, (response rate 67%).

Survey Results: Alumni and GIFT Fellows

Q: Did the GIFT experience prepare you for your career teaching at a college or university?

A: Of the alumni teaching at the college or university, 100% believe that their GIFT experience helped prepare them for this career.

Survey Results: Faculty Mentors

Q: Did GIFT's summer workshops pedagogy help improve your fellow's skills as a teacher?

A: 93% of faculty mentor responses say that the GIFT *summer workshops on pedagogy* helped improve the teaching skills of their fellow, (response rate 65%).

Survey Results: Faculty Mentors

Q: Did the GIFT program's co-teaching opportunity help improve your fellow's skills as a teacher?

A: 93% of faculty mentor responses say that the *co-teaching opportunity with a Tufts faculty mentor* helped improve the teaching skills of their fellow, (response rate: 60%).

Survey Results: Faculty Mentors

Q: Has your experience as a faculty mentor helped improve your own teaching?

A: 73% of faculty mentor responses feel that the GIFT experience helped them improve their own teaching, (response rate 65%).

Survey Results: Current Students and GIFT Fellows

Q: Did the GIFT program's summer workshops on pedagogy help improve your skills as a teacher?

A: 100% of the current student responses say that the GIFT *summer workshops on pedagogy* helped improve their skills as a teacher, (response rate: 95%).

Survey Results: Current Students and GIFT Fellows

Q: Did the program's co-teaching opportunity with a Tufts faculty mentor help improve your skills as a teacher?

A: 91% of student responses say that the *co-teaching opportunity with a Tufts faculty mentor* helped improve their skills as a teacher, (response rate: 76%).

Survey Results: Current Students and GIFT Fellows

Q: Do you plan to pursue a career teaching at the college-level, or university level?

A: 89% of student responses indicate a plan to pursue a career teaching at the college-level or university-level, (response rate: 88%).



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Center for the History of Science and Medicine

*Hope
you
visit
us at*

GIFT 2011

*Thank you !
Dankeschön
The GIFT team*