

STILL GROUNDED?

PUZZLES

Sharpe Art

EEGads!

Issue 2 Vol. 1

# HUDN

The HUMAN DEVELOPMENT NEWSLETTER

Summer 2009

Who  
is  
John  
Doe?

## In this issue

### **How'd We Develop?**

Diane Katanik Knows

### **Headed Black West**

Summits on Ways to Teach Learners to Be Adaptive

### **Scr@TCh that on the List**

A Day of Exploration, Learning and Discovery

### **Keeping our Hopes Up!**

May the Dan Schwartz Be with Us

### Profiles:

MA's, PhD's, '09 Grad,  
and Alumni

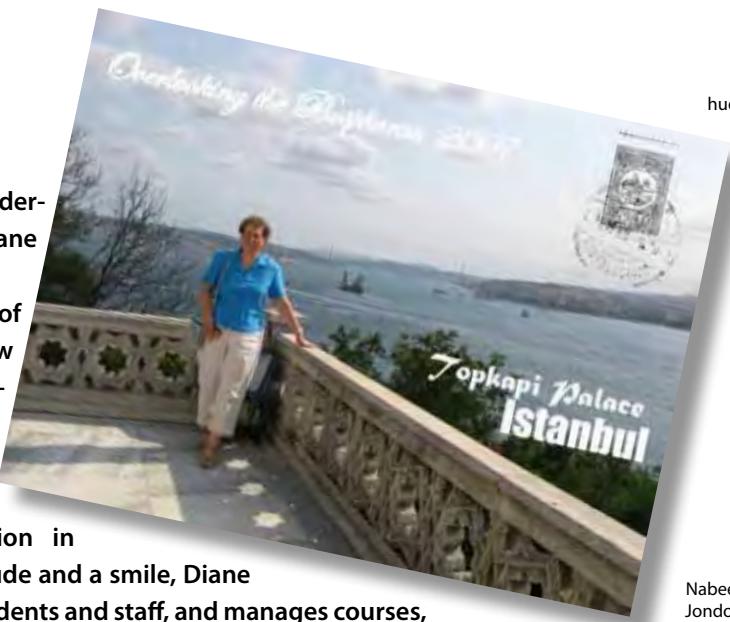
### Riddle:

Ha! Dad- again!

# Greetings

If the key to unlocking the future is understanding the past, then consider Diane Katanik the key master.

As the department's Director of Academic Administration, this native New Yorker and world traveler has literally witnessed the development of the Department of Human Development (HUD) here at Teachers College. With a masters in Social Studies Secondary Education, all-but-the-dissertation in Measurement and Evaluation, a can-do attitude and a smile, Diane Katanik's open-door policy assists faculty, students and staff, and manages courses, colloquia, research, budgets, hirings, tenurings and more.



## Where do Departments come from?

When Ms. Diane Katanik and I sat down to discuss when she first came to Teachers College, she began by saying, "In those days..."

She started her TC career as a secretary in counseling psychology (located in what is now part of Computing and Information Services in Horace Mann) but soon moved to the measurement office on the 3rd floor of Macy Hall.

"Back then, departments were divisions and programs were departments," Diane recalled. Today's Department of Human Development is an amalgam of academic areas from two of the old divisions. Cognitive psychology, developmental psychology, and measurement, evaluation and statistics were formerly in the Division of Psychology and Education (which then also included clinical psychology, counseling psychology, social and organizational psychology, and speech pathology and audiology). Sociology and education migrated from the Division of Philosophy, the Social Sciences and Education (which also included anthropology, applied anthropology, comparative and international education, economics, educational policy, politics, philosophy and religion).

Teachers College is not the only place that's been changing. "The Morningside and Harlem neighborhoods were quite different in those days," Diane recalls referring to the gentrifying of the area. "Of course Appletree Market's been there as long as I can remember. The dining options were limited to the dining hall and three restaurants along Amsterdam Avenue, two at street level and one below. Now, there are many restaurants and places to go around here- I like Sezz Medi."

Over the years, faces came and went, mayors changed the city and in 1994, the College's then president, Arthur Levine, announced that it was time for a college-wide reorganization. Consequently, Teachers College was spliced and diced into the structure that we see today. HUD found a temporary home on the 7th floor of Thorndike before finally settling into Grace Dodge Hall. Professors Jane Monroe and Herbert Ginsburg were co-chairs during the department's first year. Afterwards, Jane Monroe served as chair, followed by James Corder and the current chair, John Black.

Meanwhile Diane Katanik's been riding the 1 train to Teachers College for 37 years. She has seen five different College presidents and thousands of students become the educators of tomorrow. "I was here in the pre-computer, pre-email days when you actually went to a person's office or called them on the phone," she recollects. "Of course, not many people have a single career job anymore and the family nature of the workplace has changed." Nevertheless, Diane preserves a great atmosphere in the department. "In education, we are united by a common altruistic sense to make a difference. I like that." Fortunately, Diane dutifully keeps TC's history and ensures that the department continues to lead into the new millennium.



Diane remembers going to Yankees games with her Mom for only 50¢



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# Alumni Profile: Dan Schwartz

In his own words



## What is your full name?

\*\* Daniel L. Schwartz

## Where were you born? raised?

\*\* Born: Philadelphia.  
Raised: Los Angeles

## What interested you as a child?

\*\* Sports, stories about science.

## Young adult?

\*\* After college, I taught in the inner-city of Los Angeles, and then a remote Native American village in Alaska. My interests would be unrecognizable to people who have not lived in these places.

## Do you have a family?

\*\* A 23 year-old son.

## What Institution are you at currently and what is your official title?

\*\* Stanford University, School of Education. Full professor.



## How long have you been there?

\*\* 8 years.

## Were you at any other previous Institutions?

\*\* Peabody College, Vanderbilt University. Assistant, then Associate Professor.

## Tell me about your current labs & research?

\*\* I study the role of spatial reasoning and perception in learning, transfer, and technology. Our work ranges from an MRI scanner to classrooms. A school district recently worked with us to implement some new technology with the teachers for the complete 5th grade.

Please go to [AALab.Stanford.Edu](http://AALab.Stanford.Edu) for more detail.  
There is a lot of stuff.



## Grants?

\*\* Current funding...

\*\* 2009-2012 National Science Foundation (IIS). Choice-adaptive intelligent learning environments. PI.

\*\* 2009-2011 National Science Foundation (SLC). LIFE center. CO-DIRECTOR, Co-PI.

\*\* 2008-2011 National Science Foundation (EHR). Cognitive and cortical restructuring in the acquisition of negative number concepts. PI.

\*\* 2008-2011 WGLN III. Talking and Seeing Math in Games. PI.

\*\* 2008-2010 MacArthur Foundation. Assessing 21st Century Skills. Faculty Investigator.

\*\* 2008-2009 K-12 Initiative, Stanford. Biological Database Explorer. Co-PI.

\*\* 2007-2009 National Science Foundation (EHR). The Ideal Student. Co-PI.

## Projects?

\*\* Teachable Agents, where students learn by teaching an artificially intelligent computer agent.

\*\* Cognitive neuroscience of early mathematics.

\*\* Transfer of learning and instruction in STEM domains.

\*\* New forms of interactive assessment that emphasize choice instead of knowledge.

\*\* Social facilitation of learning in digital environments.

## Number of Students/Researchers working for you?

\*\* 6 PhD students. 3 Masters students. 5 Research Scientists.

## Previous threads of research?

\*\* My past research gets swallowed up by my current research.

## When did you start at TC?

\*\* 1987.

## Academic Interests while at TC?

\*\* Cognition, development, and learning. Computer Science.

## What focused you?

\*\* I mostly worked very hard on what I found interesting given what I was reading at the time.

## How did you derive your path?

\*\* I have not planned my path. I never really wanted to be an academic. Still don't. I can't figure out how to escape. Help me, please....

TEACHERS COLLEGE  
COLUMBIA UNIVERSITY

## How long were you at TC?

\*\* 5 years I think.

## Tell me about your work with Doctor Black?

\*\* We worked on how people imagine the physical world in their minds' eye.

## Dissertation work summary?

\*\* It compared diagrammatic a photo-realistic presentations of problems and how they influenced people's problem solving approaches.

## Tell me about your life while in New York?

\*\* I enjoyed it, and every time I come back, I feel and miss the energy. I was a single father with an infant. Except for getting strollers on the subway, and not having a washing machine in my apartment, it was a great place to raise a very young child. People were helpful, and there were lots of things to do. My favorite story is when I was pushing him down the street in a stroller, and a business man in full attire was striding past. Without missing a step, he reached into the carriage, rubbed my kid's head, and just kept on going. Very New York! The number of stories I have about Bancroft Hall is very high -- a very old building holding the brightest, most aspiring future educators from 20 nations (at least).

## Favorite spots?

\*\* There was a Mexican restaurant on Broadway about 10 blocks from TC. I would go there on Friday's, and I would have a margarita and my son would have a 7up with extra cherries. It is gone now.

## Activities?

\*\* I still like walking the streets of the city.

## Tell me about life as a successful academic? Ups? Downs? Ins? Outs?

\*\* For my particular path, the secret has always been to work very hard on something I could feel that I would find interesting. Academics, at least as a researcher, is not something to do because you are fulfilling a dream (yours or your mother's or father's). You have to like what you are doing, because there is a huge amount of ambiguity if you try to produce new ideas. You need to really enjoy it, because you never really know if it is going to be good or bad.

### **Proudest accomplishments?**

\*\* There is this one paper that took a bazillion hours to research and write. When it got accepted in a prestigious journal, I was very proud because it was unlike anything out there. I think it has only been cited 2 times. I think there are lessons in this story, but I'm not sure which one I should take.

### **Proudest Failures?**

\*\* I have no pride in failure. Failure is a huge part of this business. It is necessary, if you are daring. Failure is a source of humility... and humor several years later.

### **Recent publications?**

**Varma, S., McCandliss, B. D., & Schwartz, D. L. (2008). Scientific and pragmatic challenges for bridging education and neuroscience.** Educational Researcher, 37(3), 140-152.

Lindgren, R., & Schwartz, D. L. (2009). Spatial learning and computer simulations in science. International Journal of Science Education, 31(3), 419-438.

Okita, S., Schwartz, D. L., & Bailenson, J. (in preparation). Learning from avatars and agents in virtual reality: Why the belief of social interaction improves learning.

Schwartz, D. L., Chase, C., Oppezzo, M., & Chin, D. B. (in preparation). Why direction instruction earns a C- in transfer.

Varma, S. & Schwartz, D. L. (in revision). The Mental Representation of Integers: A Symbolic to Perceptual-Magnitude Shift

Schwartz, D. L., Lindgren, R., & Lewis, S. (2009). Constructivism in an age of non-constructivist assessments. In T. Duffy and S. Tobias (Eds.), Constructivist instruction: Success or failure (pp. xxx-xxx). New York: Routledge, Taylor & Francis.

\*\* I spent the last few years writing chapters. It is time to do the "hard yards" again, and submit research to peer reviewed journals. Peer review always makes work better, but it hurts because it is your baby they are criticizing! I have about a 10 paper backlog. These papers are not like a class paper, and they take several months to write (not to mention the hundreds of hours to collect and analyze the data, and read the relevant literatures). So, that'd be my future, along with all the other usual stuff of doing more research, advising more students, consulting with more industry, serving on more academic panels, chairing searches for new faculty hires. Academic life is not boring.

### **Your work?**

\*\* I am currently trying to rethink how we conceptualize learning. Currently, we talk in terms of knowledge, but I think this misses the major interest of our society, which is effective choice. To do this work, it is necessary to make a new kind of digital learning environment, where it is possible to see if an analysis of choice predicts learning better than assessments of knowledge (e.g., posttest answers that are right or wrong).

\*\* I am also working on making the bridge between education and cognitive-neuroscience. Neuroscience is here to stay, and education can help it. At the same time, neuroscience provides some fresh alternatives for how to think about learning. For example, learning involves integrating systems rather than strengthening a single system.

### **Where is Education headed?**

\*\* I'm not much of a visioning guy. But, I think computer technologies may provide interesting alternatives. For example, students can pursue passion topics on-line which are never taught in schools. Moreover, it is possible to get a variety of different types of lessons on the same topic. Finally, the newest technologies that create virtual worlds and simulations are unlike anything before. We'll see how far this can go to change current models of education. Critical to any successful transformation will be new models of assessment. If children learn outside of the typical linear curriculum of school, there needs to be a way to make sure they have really learned. Assessment is going to be a big issue, and ideally, technologies can introduce new models of assessment rather than just making the broken systems of the past more efficient at measuring the wrong thing. Machine learning methods that can find patterns in giant data sets (of the type found in a users logfile), will play a very big role.

\*\* I also think neuroscience is going to change the landscape of research on individual learning, just as it has already done to psychology.

### **Where do you see a need for more research?**

\*\* Top to bottom, we need more research. There simply are too few dollars dedicated to research in education compared to any other professional enterprise I can think of. Personally, I am invested in research on learning, but there are many, many places that could use more people hours. In fact, I would think spending more dollars deciding research priorities in Education would be a good place to start.

### **Do you have any wishes?**

\*\* (1) To get a few more citations for that paper I mentioned earlier.

\*\* (2) For TC to offer me a sweet job with a fat salary and a great apartment.

### **Advice for current students working in Education?**

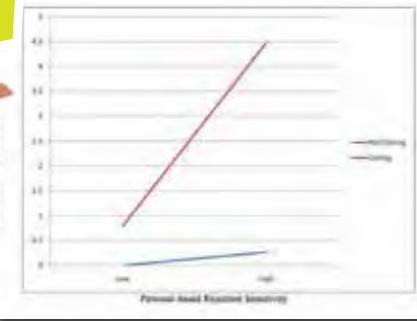
\*\* You already got it.

# POSTER PREVIEW



by: Natalie Hadad

## Disordered Eating and Attachment: Mediating Effects of Rejection Sensitivity and Moderating Effects of Relationship Status



The *family systems theory* draws together existing literature on theory of attachment with social and personality theories of relationships by emphasizing the family as a social system (Parke, 2004), where family members (such as mothers, fathers, and children) influence each other (Minuchin, 2002). Researchers (such as Eggert et al., 2007) have demonstrated that insecure parent-child attachment is linked to, among other negative outcomes, eating disorders.

Drawing on attachment theory, Downey and Feldman (1996) coined the term *interpersonal rejection sensitivity (PRS)* to describe individuals who anxiously expect rejection from significant others across a variety of situations. Park (2007) found that some individuals anxiously expect rejection based on their physical appearance alone. It's called *appearance-based rejection sensitivity (ARS)*. Whereas PRS develops from rejection experiences in a wide variety of situations, ARS develops from rejection experiences specifically based on appearance (Park, 2007). Thus, although both PRS and ARS result from similar developmental precursors of rejection, the two are distinct constructs (Park, 2007).

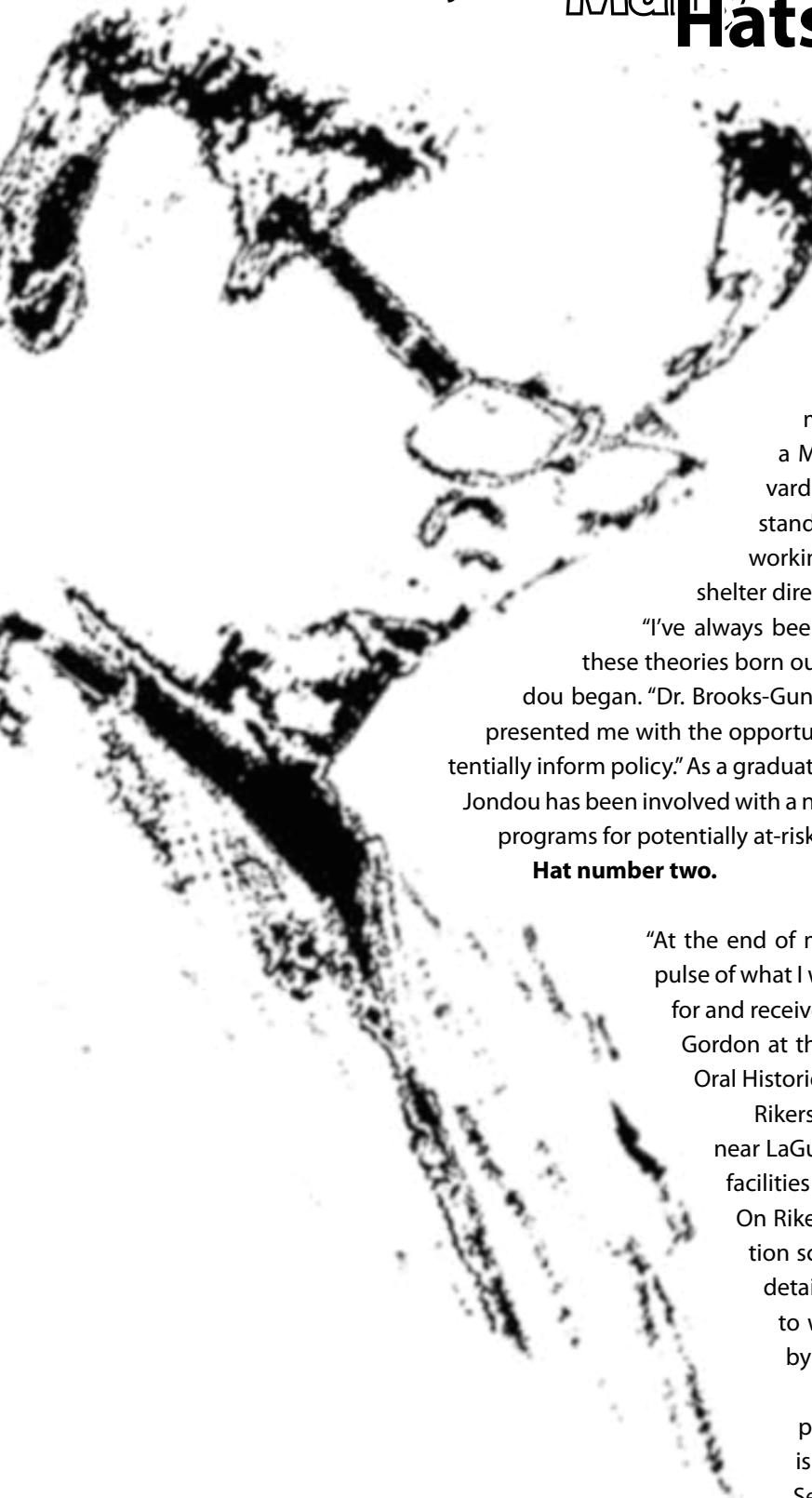
Despite the theoretical strength of the family systems model, little empirical evidence exists to provide links between attachment quality, concerns and sensitivity about interpersonal relationships and self appearance, and disordered eating behaviors. This study presents a theoretical model that integrates attachment, rejection sensitivity, relationship status, and disordered eating behavior. Under the direction of Dr. Bonita London-Thompson at Stony Brook University, Natalie's team is the first to examine the mediating effects of rejection sensitivity on the relationship between insecure attachment and disordered eating behaviors, and the first to demonstrate moderating effects of relationship status on the association between personal-based rejection sensitivity (PRS) and disordered eating behaviors.

A questionnaire packet was distributed to 312 college students. The Rejection Sensitivity Questionnaire (Downey & Feldman, 1996) was used to assess anxious expectations of rejection by significant others. The short version of the Rejection Sensitivity Questionnaire-appearance (Park, 2007) assessed participants' anxious concerns and expectations of rejection based specifically on physical appearance and attractiveness. A composite score of disordered eating symptoms from three eating disorder measures (The Eating Attitudes Test, Garner & Garfinkel, 1979; The Eating Disorder Examination Questionnaire 5.2, Fairburn & Beglin, 1994; The Body Shape Questionnaire, Cooper et al., 1987) assessed participants' engagement in disordered eating behaviors. Hazan and Shaver's (1987) Attachment Measure assessed participants' attachment styles.

Results of the study replicated findings that associate disordered eating behaviors with insecure attachment styles and Appearance-Based Rejection Sensitivity (ARS). Further, clarifying conflicting results between Atlas (2004) and Park (2007), the study found PRS to be significantly positively correlated with disordered eating symptoms. Results of The Sobel Mediator Test revealed both PRS and

ARS significantly mediated the relationship between insecure attachment style and disordered eating behaviors ( $t = 2.63, p < .01$ ;  $t = 5.04, p < .01$ , respectively). Further, results of regression analyses revealed a significant interaction effect of PRS and Relationship Status ( $\beta = 0.45, p < .01, F(6,267) = 9.32, p < .001$ ), but only a main effect for ARS ( $\beta = 0.35, p < .01, F(6,267) = 22.01, p < .001$ ). Results suggest that dating individuals who are high in PRS engage in more disordered eating behaviors than non-dating individuals who are high in PRS, while individuals who are high in ARS engage in more disordered eating behaviors than individuals who are low in ARS, regardless of dating status.

These results have clinical implications for the treatment of patients engaging in disordered eating behaviors. Clinicians should identify the importance of being in an intimate relationship for high rejection sensitive individuals and, further, teach their patients how to effectively cope with their fears of rejection by providing supportive guidance and motivation to their patients. For more information, contact Ms. Natalie Aviva Hadad via email: [nah2123@columbia.edu](mailto:nah2123@columbia.edu)



# A Man of Many Hats

by Michael Swart

He introduced himself to me as "John Doe."

I said, "Really?"

"Yes," he replied, "Jondou, and my last name is Chen."

Born and raised in California, Jondou Chen brings the ways of the west coast here to the east. He is laid back, wears flip flops and smiles.

**Hat number one.**

Working under Virginia & Leonard Marx Professor of Child & Parent Development & Education Jeanne Brooks-Gunn, Jondou is pursuing his PhD in Developmental Psychology. Chen came to Teachers College with a MED and an AB in History from Harvard University (Harvard feels the need to use different letters- it's like a metric vs. standard thing), but claims his "real education" occurred while working as an urban educator, youth worker, and homeless shelter director.

"I've always been really curious. As a practitioner in the field, I had all these theories born out of my experiences, theories that I wanted to test," Jondou began. "Dr. Brooks-Gunn told me about a number of large-scale data sets and presented me with the opportunity to develop my skills as a researcher who might potentially inform policy." As a graduate fellow at the National Center for Children and Families, Jondou has been involved with a number of research projects examining local and national programs for potentially at-risk children and youth.

**Hat number two.**

"At the end of my first year here is when I really got my finger on the pulse of what I wanted to do. At the behest of Dr. Brooks-Gunn, I applied for and received an Arthur Zankel Urban Fellowship to work with Erick Gordon at the Student Press International (SPI) on the Rikers Island Oral Histories Project."

Rikers Island, for those of you that don't know, is a small island near LaGuardia Airport here in New York City. It has 10 detention facilities and houses over 10,000 inmates, who are awaiting trial. On Rikers Island, there are also two NYC Department of Education schools. The Rikers Island Oral Histories Project provides detained men and women at both schools the opportunity to write their own oral histories and have them published by SPI.

The Rikers Island Oral Histories Project has some impressive goals. First is to promote student English/Spanish literacy and to prepare students for their GED exam. Second is to encourage student self-reflection regarding their life histories and key influences in their lives. Third

is to challenge prevailing public stereotypes about incarcerated persons by publishing their stories. For Jondou and his colleagues on the project, the work provides training in both on-site and off-site psychoeducational intervention management, curriculum development, and research design. "Rikers is essential to my sanity and my insanity," Jondou adds.

**Hat number three.**

In the program of Developmental Psychology, Jondou is also a doctoral student who advises Masters students. If you have questions regarding the masters program, he might have some answers (or will point you to the right people to ask).

#### Hat number four.

If you've lived in one of Teachers College's residential halls, especially in Whittier Hall, then you might also know Jondou as a former community assistant. Whether it's offering trips to Target and Costco or hosting a "how to?" on the green greatness of guacamole, this gourmet gladly grills good gustatory grub. "Cooking, in contrast to research, provides immediate gratification: the opportunity for tactile learning and community building."

#### Hat number five.

Then again, you might also find Jondou as your TA in a section of research methods, the doctoral pro-seminar or a research practicum in developmental psychology.

#### Hat number six.

Jondou also has served as a leader and an ardent voice in the Teacher College community. He helped to found the student organization Asians & Pacific Islanders in America (APIA) and served as a co-chair for the Coalition for Social Justice (CSJ). "There is room for everyone here at Teachers College. How much room there is, however, is up to you. You'll get what you put in, and to be effective, you have to be able to envision, articulate and execute plans of action."

#### Hat number seven.



- \* Every row includes digits 1 to 9 in any order
- \* Every column includes digits 1 to 9 in any order
- \* Every 3 by 3 subsection includes digits 1 to 9

4	9	3		7				
	3		5					
		4	1		5	2		
3	4	6	7			9		
	1			5				
6		8	3	2		7		
9	4	1	2					
	4		9					
6		9	4	8				

Now entering his fourth year, Jondou sighs, "Halfway through last year, I realized that I had almost completely forgotten about being a doctoral student who should – no, needs to focus and finish his degree." Once finished, Jondou says, "Then I can go back to being a curious and corny nerd who loves reading and learning about way too many things while still working directly with people. I enjoy problem solving and lively debates. I can see myself teaching and would love to be a professor or a student dean. I suppose what I'm most curious and excited about in life is watching people achieve their potential."

"But for now, my goal is to focus and write. I think it was Voltaire who said in Candide that thinkers are always trying to solve the problems of the world, but what is best is to 'cultivate your garden.' That's what I'm going to try to do. Tend to my garden so that what I grow might somehow affect the world."



## One Center Street Show

Artist Maya Sharpe, a former professor at Brooklyn College was asked to participate with Art Students League in an experiment. Fifteen artists were invited to the dance rehearsals of SYREN and there were 15 interpretations. This composition was done with a feather and an ink well.



# grounding ADAPTABILITY



When the United States military entered Afghanistan in October of 2001 and Iraq in February of 2003, the forbiddingly remote terrain and guerilla tactics used by Taliban and insurgent fighters soon presented many unforeseen problems.

United States and coalition soldiers were finding themselves ill equipped and ill trained for many of the combat situations they were encountering. They followed procedure. It wasn't working. They needed to adapt.

In April of this year, Dr. John Black was in Los Angeles just a few days before the 2009 AERA conference in San Diego. He was meeting with US Army commanders, military academy representatives, civil contractors, and education experts on the topic of adaptability.

"The solution," according to Dr. Black, "is to train soldiers by providing them with contextually relevant, grounded examples. Our soldiers were being trained using the wrong simulations."

"Let's take an archetypal example," Dr. Black suggested.

"Soldiers are arriving in Afghanistan to rid areas of insurgents. When they get there, roads and layouts of areas are different than their maps, local government and police are ineffective, and locals residents are leery to cooperate." "At that point, all of the resources they've been trained to incorporate are negligible. They must gather new information and derive a new solution. If we teach them to develop mental models, they can create new representations of the problem space and adapt accordingly."

"They have to understand a system by the functional relationships between its entities." He mentions TC doctoral student Insook Han's research on gear rotation and embodied mental



models. "If you use a parity rule, that's like having a plan; and most of the time, that plan will provide a quick solution. But when you encounter a problem to which the parity rule doesn't apply, you must find another way to solve the problem."

When it comes to creating adaptive thinkers, according to Dr. Black, "There is debate on the best ways to integrate the latest technology and educational theory. I think the best approach would be a kind of Chinese dialecticalism that forces traditionalist and constructivists towards a 'middle way' solution," Dr. Black commented.

Carnegie Mellon professors David Khar and Ken Koedinger research instructional methods for teaching 'controlled variable strategies.' Simply, *controlled variable strategies* means knowing how to effectively control your variables in an experiment. This becomes a valuable skill set when the experiment is a life or death situation on the battlefield. Khar and Koedinger are also finding that 'middle way'. It is a combination of direct instruction (traditional scaffolding) and discovery (constructivist) learning which generates accurate practice and generates intrinsic interest on quests of deeper learning.

The more you delve into the literature surrounding adaptability, the wider the range of topics you'll find on how learners process information. There's the famous 1973 article by Chase and Simon on chunking information. In that study, chess players demonstrated greater memory for placements of chess pieces because they used their expertise to create larger chunks of information, allowing them to remember more. Other related research includes the work of mother daughter team Michlene Chi and Catherine Chase on emergent (non-fixed, unpredictable) versus direct (fixed, predictable) systems and colleague Kurt VanLehn's work on how procedural misconceptions lead learners to develop problem solving errors.

Believe it or not, the US Military is the biggest user of educational research and technology in the world; and they have been for a long time. It was the military's ARPA-NET, developed in the late 60's that served as a precursor for today's Internet. The US Army has three design studios in all. Professor Richard E. Clark heads the Institute for Creative Technologies at the University of Southern California and organized this year's summit. His team was a chief developer for the popular online game, *America's Army*, a scaled down online recruitment tool designed to give players a glimpse into the work of an infantry soldier operating in a squad (minus actually running, being shot at, carrying equipment, the deafening crack of gunfire and a host of autonomic fight or flight responses). Other projects include additional computer assisted instruction systems as well as advanced robotics research.

## Learning, The Brain, & The Arts

When Dr. Black wasn't meeting with the **military** to discuss better ways for **fighting**, he was **consorting** with another group of **educational researchers** at a second **summit** in Los Angeles on **Learning, the Brain & the Arts**.

"The **arts** are a great way to explore **adaptability** and **mental models**," Dr. Black said. "The **arts** create ways to **embody** concepts and adapt them into **perceptually grounded experience**. The **arts** have a unique way of **synthesizing** space and time, combinatorics of visual, auditory, and spatial information," Dr. Black continued. "Take the music-math connection in the parietal lobe for example. Researchers are seeing near transfer in some cases."

Evelyn Weiner advocates that **overlapping** disciplines is another **key** to getting **transfer** from things like **music** and **art** to subjects like **mathematics**. "It's a version of identical elements based on **Thorndike's Model**," Dr. Black qualified.

Educators can **overlap** strategies for learning and problem solving to see **transfer** across domains. **Novices** tend to be reminded by surface elements of a problem whereas **experts** are reminded by **deeper** principles. The nature of **expertise** is the subject of much research by Dr. Robert Siegler and Dr. John Anderson of Carnegie Mellon University. They suggest that developing complimentary **overlapping** activities in both domains produces positive **transfer**.

"If the **arts** are **representational**, then they open the possibilities for educators and learners to create more **representational models**, more ways to create **grounded experiences** with subjects," Dr. Black surmised. "Overlapping the **arts** with **academic** activities stimulates **creativity** which promotes **adaptability**." Nicely done. If you are interested in getting **grounded**, contact Professor Black via email: [black@tc.edu](mailto:black@tc.edu).

**Thorndike**  
essentially its  
connectionism, modeling  
mental or behavioral  
phenomena as emergent  
processes of interconnected  
networks as simple  
units of learning  
http://en.wikipedia.org/wiki/  
Edward\_Thorndike



# ICELW



The landscapes of learning are like pages turning. Computers, the Internet, mobile devices and gaming systems are giving us new ways to present, absorb, and interact with information.

This past June, Teachers College hosted its second International Conference on E-Learning in the Workplace (ICELW.org).

For three days, nearly 200 attendees from over 25 different countries came to campus to discuss the roles of technology in learning and instruction. Conference session chair Dr. Nabeel Ahmad is IBM's mobile learning expert and he provided us with some keen insight into the field, Columbia's role, and what's happening around the globe.

In the United States, there are quite a few big names. One of them is Dr. David Guralnick, an adjunct professor in TC's human development department who sat on Dr. Ahmad's dissertation committee. He heads Kaleidoscope Learning, a firm headquartered here in New York and helped organize the 2009 ICELW.

Tracing his academic genealogy, we find that Dr. Guralnick worked with Dr. Roger Schank, a leading researcher in artificial intelligence,

cognitive science and learning theory. A distinguished professor at Northwestern University and president and CEO of Chicago-based Socratic Arts, Dr. Schank worked with our own Dr. John Black while the two were at Yale together.

Now, Dr. Black is the director of the Institute for Learning Technologies (ILT) and was Dr. Ahmad's advisor here at TC. Dr. Ahmad is, along with fellow TC doctoral student Dominic Mentor, teaching his first course "Mobile Phone Learning" which ran this past Summer B session. The course attracted students from many disciplines and emphasizes the importance and breadth that mobile phones have in our lives and how we can use it for learning.

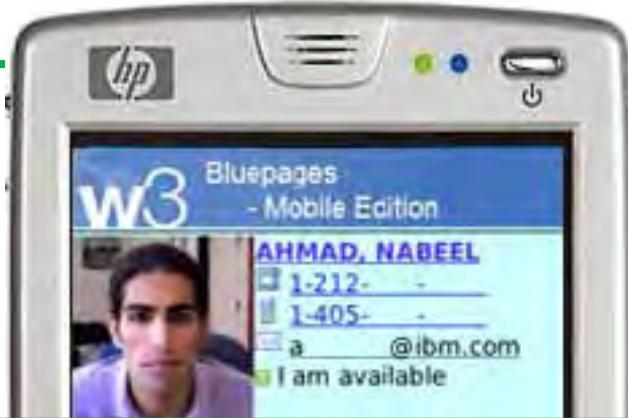
The course covered a few broad areas: mobile learning in the workplace and mobile learning as social connectivity. Topics include sociologist Everett Roger's work on the Diffusion of Innovations, Gloria Gery's work on performance support, and Clark, Sweller, and Mayer's work on cognitive load theory and multimedia learning.

In our interview, Dr. Ahmad explained the sociological concept, *The Strength of Weak Ties*, first explored by University of Michigan sociologist Mark Granovetter. "In social interactions, you learn more principle information from a newer, weaker tie than you do from the strong ones that are already familiar to you."

## Abstract MadLibs!!

This paper presents a \_\_\_\_\_ method for \_\_\_\_\_  
 (synonym for new) (sciencey verb)  
 the \_\_\_\_\_. Using \_\_\_\_\_, the  
 (noun few people have heard of) (something you didn't invent)  
 \_\_\_\_\_ was measured to be \_\_\_\_\_ +/- \_\_\_\_\_  
 (property) (number) (number)  
 \_\_\_\_\_. Results show \_\_\_\_\_ agreement with  
 (units) (sexy adjective)  
 theoretical predictions and significant improvement over  
 previous efforts by \_\_\_\_\_, et al. The work presented  
 (Loser)  
 here has profound implications for future studies of  
 \_\_\_\_\_ and may one day help solve the problem of  
 (buzzword)  
 \_\_\_\_\_.  
 (supreme sociological concern)

Keywords: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
 (buzzword) (buzzword) (buzzword)



In his work at IBM, Dr. Ahmad studies how IBM employees use the application Mobile BluePages, a mobile version of the company's personnel directory. Employees have access to any colleague's professional profile, including a picture, contact information, and other essential information like their position, who they work with, who they work for and who's working for them. "When you work at a large company with 400,000+ employees, you frequently find yourself in meetings with people you may not have met before. The idea for this system is to deliver what we call 'just in time' information—essential elements that you will need before you go into that next meeting. An easy-to-use, reliable system that streamlines the flow and connectivity of business to bolster productivity."

For classroom education, "We can develop course supplements that provide students with essential checklists just-in-time for class."

"As a developer, the chief consideration is design usability," Dr. Ahmad explains, "you have to de-

termine what information is important when you are mobile" "Does it display well on a 2.5 inch screen? What information is necessary and what isn't? Is it better placed on the left or the right, top or bottom, in red or blue? These are our research questions."

Speed is another critical consideration. "Most users will abandon a site or service on the Internet if it doesn't load in 20 seconds or less—so, literally less is more." "The weight [kilobytes] of information, the speed of the network, the speed of the mobile devices are all considerations, and you have to design for the lowest common denominator. It would be much easier if we only had to design for the latest advancements in mobile computing."

Back at the conference, guest speakers covered an array of topics. In the business world, sellers, consultants, managers and producers want performance support, access to ready-to-know information. In one session, leaders from the Columbia Business School presented a mobile inventory management system developed for Google's Android mo-

bile device. In another session, representatives from UNICEF and the UN discuss their rapid Health Information System. The system uses SMS text messaging to provide health care workers with key information on patients along with recommendations for treatment. It also has intelligent architecture that fact and error checks its own work.

"It is not necessarily that mobile computing will replace desktop computing. It is about getting the two to work together by deciphering which information is best suited to the schema of particular platform," Dr. Ahmad surveyed. "Interfaces that are transparent to the task produce the most effective learning."

Computer literacy is another frontier in education and there is a growing need for experts emerging from Teachers College. If you are interested in the conference, information is available at the website ICELW.org. If you are interested in mobile learning, contact Dr. Nabeel Ahmad at [na2189@columbia.edu](mailto:na2189@columbia.edu) or Dominic Mentor at [djm2123@columbia.edu](mailto:djm2123@columbia.edu).

# electroencephalogram

**SHOUTOUT** & Karen Froud & the EEGrads!

Net is soaked in electrolyte solution; 128 nodes of carbon fiber electrodes detects micro-volt galvanic voltage potentials corresponding to underlying cortical activity within milliseconds.

Chin strap is necessary for safety AND good data!



**ROI** (regions of interest- areas of the brain) must be pre-determined for analyzing the data. The collection of nodes is called a **montage**. Reading the entire scalp would be too much data. When you need usable results, you need a **montage**.

Saccadic eye movements-can cause 'artifacts' that must be **filtered** out using complex software that reads the data.

Data is **filtered**, **corrected**, **segmented**, **montaged**, **averaged**, and **referenced** in order to detect specific **potentials** that may represent cognitive events in the brain. P300 and P600 are two types of signals you can get in your data. P300 indicates when a person recognizes a semantic disparity while P600 is response to a **syntactical** anomaly.



# SCRATCH



by Michael Swart

On Saturday, May 16th, 2009, over 150 children, parents, educators, and researchers participated in a day full of learning and discovery as Teachers College hosted its first ever Scratch™ Day event. Last year MIT hosted the Scratch@MIT Conference up in Cambridge, Massachusetts, but this year the Scratch team at MIT decided to re-conceptualize the conference by sponsoring satellite locations across the globe to create their own custom-tailored event. That's when TC student Lance Vikaros approached Cognitive Studies PhD student Cameron Fadjo

with the idea of hosting a Scratch™ Day event here at Teachers College for the greater tri-state area.

If you are unfamiliar, Scratch™ is a graphically-based programming language originally developed by Mitch Resnick and his team at the Lifelong Kindergarten Group at the MIT Media Lab. Segments of code are categorically color-coded into interlocking shapes that make it easy for novice programmers to learn the fundamental data structures and procedures for developing programs, presentations and games. Users learn how to create

and manipulate variables, inputs and assets, illustrating their own backgrounds and interactive elements called "sprites." The MIT team also created an external interface device called a PICO board that allows users to create programs that can respond to external inputs of light, sound, and motion.

Scratch™ is available online for free and is supported by a website and community where enthusiasts consistently upload their projects to share with other Scratch programmers around the world. Although originally developed to teach computer programming, the platform now represents numerous possibilities for educators to teach many subjects including mathematics, language arts, history, science, logic, graphic art and design. For researchers, it has become a tool for developing interactive technologies to advance the forefront of educational theory. In fact, an elementary school student from Massachusetts who was in attendance at Scratch Day at TC created a program that models wave interference using Scratch™ that won an award at the

## Ken-Ken

In each thick-line "block", the target number in the top left-hand corner is calculated from the digits in all the cells in the "block", using addition (+), subtraction (-), or multiplication (x) as indicated by the symbol by the target number. All the digits 1 to 4 must appear in every row and column.

6+	2-	3-	10+	
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8+			2-	

## 2009 IEEE Aerospace Junior Engineering Conference.

And so, smiling with joyful exuberance, the keynote speaker, Tamara Stern of Google™ and an MIT alumni who was a part of the original Lifelong Kindergarten development team for Scratch™, opened the day's events with a great presentation introducing the platform and sharing some of her favorite creations that have been made using Scratch™. Attendees then divided up for a host of presentations, panel discussions and workshops on topics ranging from creating interactive art by TC's Ronah Harris to developing games using Scratch™ and a Nintendo Wii™ remote by Dr. Sheila Tejada of Brooklyn College. In education, Kim Tresohlav (TC Alumna), Cameron Fadjo, and Andrew Gardner (The School at Columbia) presented on ways to integrate Scratch™ into school curriculum.

"The great thing was that we brought so many people together to explore the possibilities of Scratch. Marvin Robinson of A. Phillip Randolph High School [a partner school through TC's Office Community and School Partnerships] brought over forty-five 10th and 11th grade students here for the day. Jared Jax [EdD student in MST and full-time physics instructor] brought fifteen of his students from the Bronx Engineering and Technology Academy," Fadjo, Scratch Day at TC Committee Chair, said. "We were able to put together a unique event where students of all ages were able to come spend their Saturday learning about Scratch while engaging in unique activities, interactive presentations and workshops. Ultimately, Scratch Day at TC

was a success -- an event that exceeded our own expectations."

The day's events ended with presentations of games developed during the day-long Game Jam (led by Lance Vikaros and Cognitive Studies PhD student Jonathan Vitale) and projects created by attendees and a short documentary music video of Scratch™ Day at TC put together by the Stephanie Hunt and the EdLab.

"We could not have gotten it done without the help of some very key people. Kenny Nienhusser was pivotal in helping us with the logistics for coordinating the conference and the event was sponsored by a number of parties," Fadjo noted. The sponsors include Professor John B. Black (HUD) on behalf of the Institute for Learning Technologies (ILT), Professor Charles Kinzer (MST) on behalf of CCTE, Nancy Streim and the Office of School and Community Partnerships (OSCP), the Office of Student Activities and Programs (OSAP) and Online Educators at TC, a student-run organization also headed by Mr. Fadjo, that was awarded a \$1,000 grant from the President and Provost Student Event Fund with help from TC student Michael Swart. "With the success of this year's conference, we not only look forward to Scratch Day at TC 2010 but even anticipate trying to do something else this fall."

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9	4	7	1	2	8	6	3	5
5	8	2	4	3	6	9	7	1
1	3	6	5	7	9	4	2	8

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#### ST NICK'S PUB

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### MEXICAN SPOT

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(212) 531-0383

If you are interested in getting involved, contact Cameron Fadjo at [clf2110@columbia.edu](mailto:cjf2110@columbia.edu) for more information.



**photograph**  
taken 8/27 on 125th street  
empty lot west of the Apollo

