

your source for VL2 news, projects, and research findings



Christian Rathmann

VISUAL LANGUAGE & VISUAL LEARNING

Four renowned researchers join VL2

With continued funding from NSF, VL2 has invited four renowned scientists to become affiliated researchers with the center. We welcome Drs. Paul Miller, Christian Rathmann, Matt Dye, and David Quintos-Pozos to the team.

Dr. Miller is from the University of Haifa, in Israel and his research focuses on the systematic understanding of poor and proficient deaf readers in order to understand why a majority of individuals born deaf or who become deaf at a very young age often have difficulty achieving reading levels beyond the fourth grade level. The main goal of this three-year research project is to understand this problem



Paul Miller

through a systematic, skill-oriented investigation of poor and proficient deaf readers at different levels of education, on a wide range of skills involved in the processing of text at the word level, the sentence level, and the paragraph level.

This project will investigate and compare reading proficiencies of deaf children and adults in four languages: Arabic, Hebrew, English and German and will be executed simultaneously in three countries, the US, Israel and Germany. Each of those languages carry different orthographies (writing systems), so one of the questions Paul Miller asks in this project, is whether writing systems influence reading comprehension. This project will test deaf students in Elementary, Middle, and High Schools. Miller and his team will study their changes in reading skills to identify similarities and differences between their reading acquisition and those found for hearing children. An important factor Miller and his team will consider is the different language and communication backgrounds among his deaf readers. Are they from families with deaf signing parents, or hearing parents who can sign, or hearing parents who do not know sign language? This project is a three-way collaboration, with Paul Miller working

with Israeli and Arabic deaf readers, Christian Rathmann testing German deaf readers, and Peter Hauser, focusing on American deaf readers.

New insights from this project – in conjunction with relevant findings from other research – will be integrated into a theory of how deaf readers acquire their skills. This theory, in turn, will serve as the foundation for the development of effective reading curriculums for deaf children and will provide insights that will also benefit hearing children.

Our second new team member is Christian Rathmann, from the University of Hamburg in Germany who is working on a project titled, "Bimodal lexical access from a cross-linguistic perspective."

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VL2 OFFICIAL
NEWSLETTER
2008

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FAQ:

Visual Language Acquisition

1. What does visual language acquisition mean?

A considerable amount is known about how hearing children acquire spoken languages and how they subsequently develop the ability to read based on their knowledge of spoken language. On the other hand, little is known about how deaf children acquire visual language and how THEY translate that linguistic knowledge to reading ability. VL2's Visual Language Initiative is studying these developmental processes for visual language acquisition in deaf children.

2. What's the goal of this initiative?

This initiative has two primary goals: first, to describe the normal language development of deaf children who learn ASL as a first language; second, to demonstrate how English text is presented to deaf children within social environments that are primarily visually-oriented.

3. What kind of projects are being undertaken within this initiative?

Jenny Singleton is the initiative leader, and working with her is Peter Crume and Gabrielle Jones, her PhD Students. Some of the projects in this initiative include: 1) a study by Lon Kuntze and Jill Morford of children's ASL vocabulary, as it develops in early education programs; 2) a study by David Corina regarding the age at which specific vocabulary in ASL first appears; 3) a study by Jenny Singleton of how caregivers establish and maintain visual engagement with young deaf children.

4. Where can I find additional information?

Brenda Jo Brueggemann has edited a volume of intriguing articles called "Literacy and Deaf People" (Gallaudet University Press, 2004, ISBN 1-56368-271-0) in which she couches literacy development for deaf children in a cultural context that requires a firmer understanding of the role of visual languages in the development of reading abilities of deaf children. Ignoring the visual and cultural underpinnings of deaf children's literacy development can result in approaches to education that derive from a pathological view of deafness.

Tom Allen checks out Chinese research centers

Thomas Allen, VL2's principal investigator, had a two-week tour of research centers in China, through three major cities: Beijing, Shanghai and Hong Kong. Considerable research in China is being carried out on the processes of learning and reading development for Chinese children. Given the iconic and logographic nature of Chinese characters, collaborative research between VL2 and Chinese researchers holds promise for increasing understanding of visual linguistic processing and the nature of reading development in visually-oriented languages.



VL2 sends students to International Forum in Morocco

The 2nd International Forum of the Deaf in Fez, Morocco extended an invitation to five VL2 members, Diane Clark and her interns Jason Begue, Gizelle Gilbert, and Brianne Weber, as well as Erin Wilkinson to present at and attend their conference held this October. The conference included presentations on deaf education, mental health for the deaf, signed language linguistics, and global human rights through signed languages. Clark, Begue, Gilbert, and Weber presented their research on the development of reading in deaf college students. Erin Wilkinson, a VL2 Pre-doctoral Fellow at the University of New Mexico, presented her research on the importance of language documentation in signed languages. The forum brought together researchers, educators, and professionals from all parts of the world including Bahrain, Belgium, France, Finland, Mauritania, the Netherlands, Saudi Arabia, and Sweden.

They had the opportunity to interact with many deaf Moroccans who were open and willing to share the ideas and culture. The Association Forum Marocain des Sourds or AFMS has laid the groundwork for the spread of deaf awareness and networking in the community to overcome the limited opportunities for their deaf community. The goal of this organization is to promote, empower, support, and educate deaf people, researchers, and the government in Morocco. There is a desire to change the social conditions for the Moroccan deaf community as they advocate for both social justice and equal rights. Now deaf people are being encouraged to use signed language to communicate and to exercise their educational and vocational training rights. The VL2 team is confident that the conference provided a solid platform for this generation of deaf Moroccans will gain more rights and press forward for equal access from their government as well as research for both education and the cultural life of the country. *Contributed by Diane Clark and Erin Wilkinson.*



Nover gives Keynote Presentation at International Conference in Mexico City

Dr. Stephen Nover, Director of the Language Planning Institute and VL2's Research-Practice Integration Project Director, was invited to present a keynote presentation at a conference hosted by the International Network of Researchers and Participants in Mexico City November 13-15, 2008. Mainly designed for educators and researchers, this year's conference theme focused on inclusion and integration; and attracted over 350 attendees. Along with other invited keynote presenters from as far as Argentina, Brazil, and Italy, Dr. Nover presented an overview of ASL/English bilingualism in Deaf Education in the United States. Dr. Nover also gave a three-hour workshop entitled, "What a Bilingual Teacher Needs to Know in Order to Meet the Needs of Deaf and Hard-of-Hearing Children." The conference featured prominent researchers from around the globe, and Dr. Nover brought a new perspective to the table by sharing his work with bilingualism in deaf education.



Continued from front page...

Here the aim is to investigate the nature of cross-language lexical representation in individuals who are fluent bilinguals in German Sign Language (DGS) and the written form of German. In short, Rathmann wants to find out whether deaf people when reading German will also think of the equivalent DGS word. Therefore the study is designed to investigate the hypothesis that German word forms are co-activated with their DGS translation equivalents. He argues that when deaf German individuals become more skilled readers, they would think more in that word format than in sign language. A comparable investigation is also being conducted by Dr. Jill Morford at the University of New Mexico, for deaf bilinguals using ASL and written English.

Dr. Matt Dye is our third new affiliated researcher and he is from the University of Rochester. Currently Dye is investigating the "Effect of age of deafness on visual attention." The hypothesis is that differences in the default spatial distribution of visual attention in deaf children may have important consequences for the development of a range of skills, including reading and joint attention, and may also play a key role in the appropriate diagnosis of attention deficits and other learning disabilities in deaf populations. This work compares deaf children of deaf parents and hearing children of deaf parents, to see how visual attention develops. An understanding of these processes in adults can then inform developmental work that examines when these changes occur in the lifespan and how deaf individuals' visual cognition develops. Dr. Dye will also investigate a range of possible factors that may influence the degree and type of plasticity observed in deaf individuals, such as age of onset of deafness, degree of hearing loss and how long an individual has been deaf.

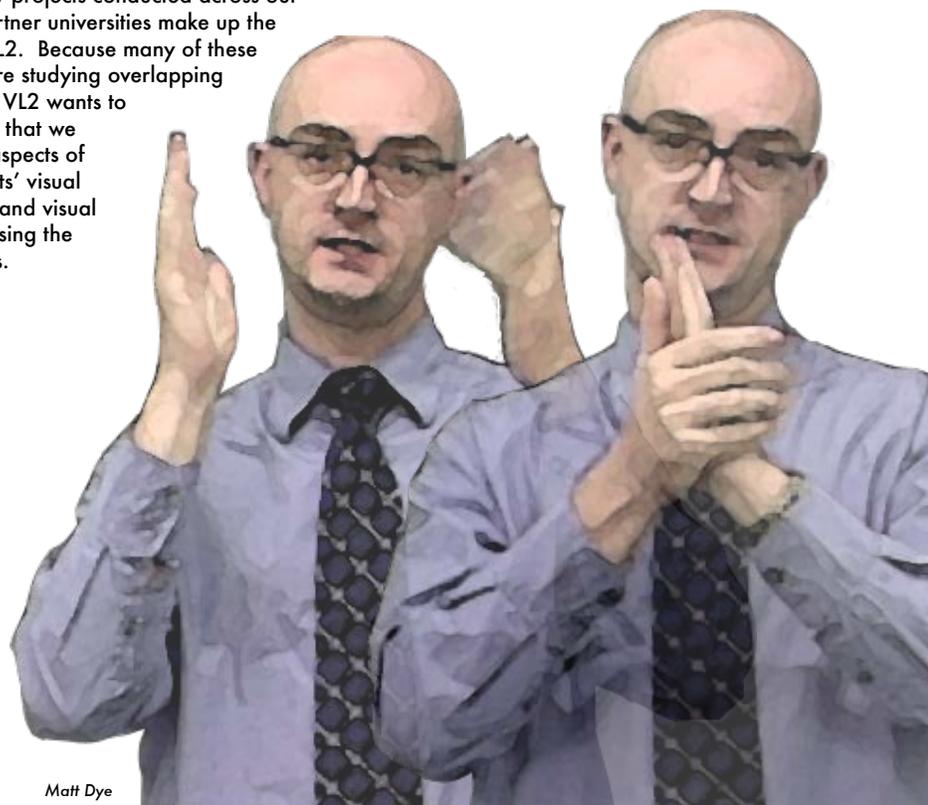
Dr. David Quintos-Pozos from the University of Illinois, Urbana-Champaign, is studying deaf children with sign language disorders. Research on spoken language disorders in children such as stuttering,

difficulties with pronunciation of sounds, and problems with grammar has been conducted for decades, and there exist many strategies for intervention with these children when they are experiencing problems. By some estimates, between 5-10% of hearing children learning spoken languages experience language disorders of one type or another during their developmental years. However, there is little research in the area of potential signed language disorders that may affect deaf children acquiring a signed language from their signing caregivers. We are currently focusing on deaf children who have Deaf parents because this population does not experience language delays based on lack of exposure to signed language from birth.

We have created a VL2 "toolkit" that contains strategies for measuring a variety of constructs ranging from reading, to ASL skill, hearing levels, lip reading, English language knowledge [working memory and other cognitive functions]. Peter Hauser and Tom Allen are heading up this project to establish the validity of these tools through administering the entire set of instruments to a single sample of deaf participants. Once they understand how the tools function psychometrically with deaf test-takers, Hauser and Allen will delve further into the toolkit data base and begin to understand how different cognitive and linguistic abilities correlate in this population. These statistical analyses will give rise to interesting hypotheses about how literacy emerges for visual learners.

Toolkit Psychometric Analyses

Many projects conducted across our eleven partner universities make up the work of VL2. Because many of these projects are studying overlapping questions, VL2 wants to make sure that we measure aspects of participants' visual language and visual learning using the same tools.

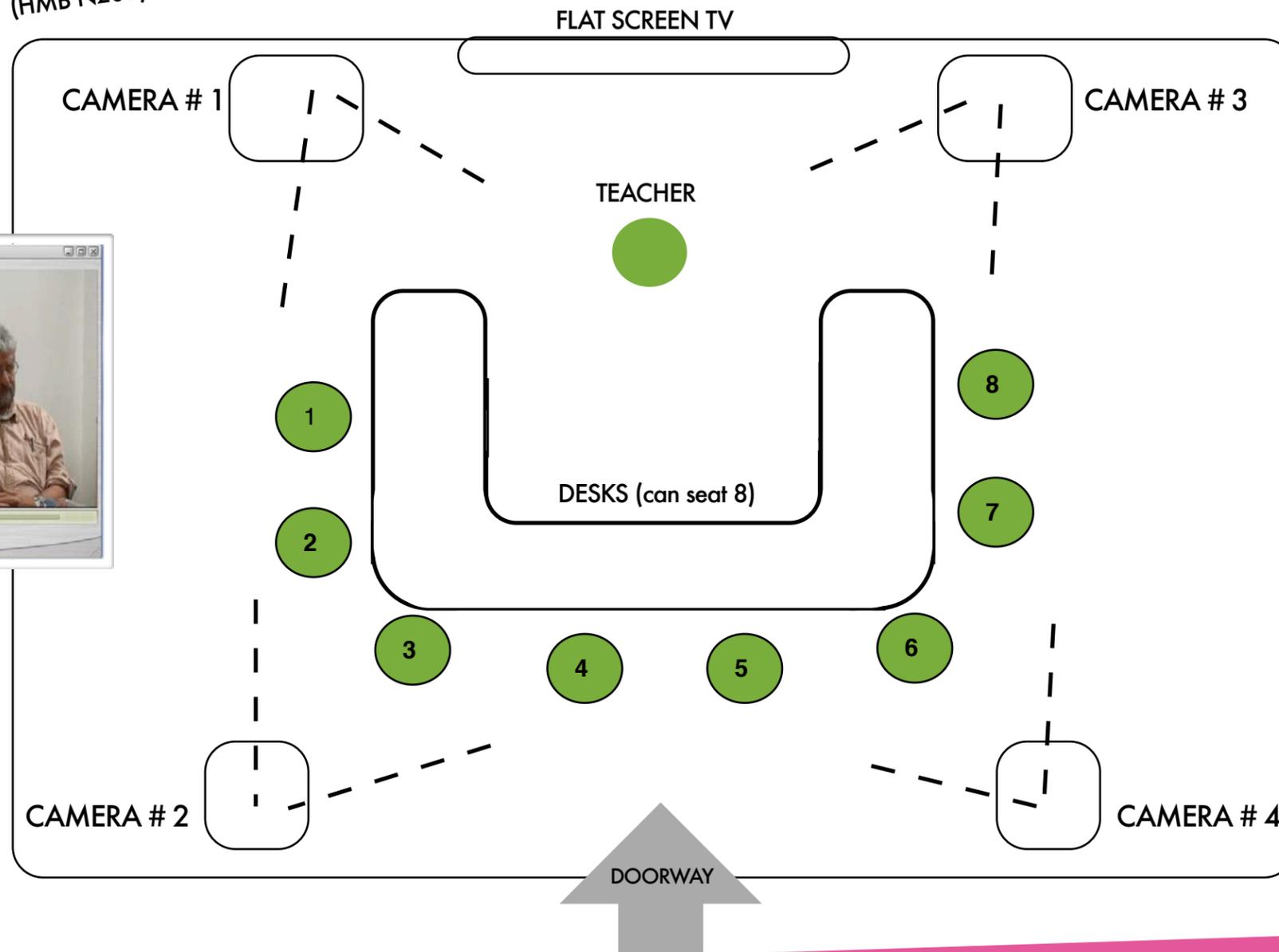


Matt Dye

CLASSROOM RESEARCH PROJECT

Seeing Instruction From All Perspectives

ACTUAL CLASSROOM
(HMB N205)



VARIATIONS IN VIDEO FILES FOR DATA



(sample videos from actual testing)

Equipment Checklist

1. High Definition Digital HandyCam with 60GB memory
2. Dollypod Tripod (can stretch up to 7 feet)
3. Editing: Final Cut Pro or Adobe Premier Software
4. Video program: DIVER
5. High Definition TV Monitor



(sample video in DIVER)

Effective instruction of deaf students almost always occurs "in the round" so that, at any given moment, all students have visual access to the ongoing instructional conversation. Researchers who are hoping to learn more about visual instruction need, virtually, to be a part of the circle, too, and to have access to an entire classroom event from all perspectives. To have this access, VL2 is creating an experimental classroom that can capture video-taped events from all perspectives. Four video cameras on tall tripods positioned at the corners of the room allow the simultaneous recording of a class from different vantage points. After the class, the four video recordings are synchronized and stitched together into a single film that contains all of the communication that has occurred throughout the class. This composite video can be studied and shared with the teacher so that we can learn what constitutes effective visual instruction. VL2 will use software developed at Stanford University called DIVER to help in the analysis. DIVER allows researchers to "dive" into a panoramic video stream and extract social and instructional events that are of interest. DIVER also includes the ability to enter textual annotations for the dives to facilitate both a scientific understanding of the social and linguistic interactions that give rise to learning, and a pathway towards improvements in instruction.

STUDENT LEADERSHIP TEAM

Retreat in New Mexico!

VL2's Student Leadership Team (SLT) focuses on our students' needs. The goal for the SLT is to maintain transparency, an efficient flow of information, and ease of accessibility regarding VL2 information to students as they gain experience and skills in the fields of scientific research. Affiliated with eleven universities, VL2 has a challenge connecting all of our students to research opportunities, network exchanges, and facilitating their research discussions. Leading the first VL2 SLT team for 2007-2008 are students Connie Pucci and Clifton Langdon of Gallaudet University, Erin Wilkinson of the University of New Mexico, and Jason Listman of RIT.

During the weekend of Sept 26-28, the SLT convened their first retreat where they brainstormed how to optimize support for VL2 students in various avenues. The SLT made recommendations on student research and travel funding, suggestions for establishing a student review committee for students' mini grant applications, as well as proposed that VL2 host a grant writing workshop focusing on developing students' grant writing skills. In addition, the SLT developed a list of resources for students to be added to the VL2 website, gave feedback on the Student Evaluation forms, and worked on issues related to the iSLC 2009 committee's questions.

"The goal is to maintain transparency, efficient flow of information, and ease of accessibility to information for VL2 students to foster their experience and skills in the field of scientific research."



CAEBER

Center for ASL/English Bilingual Education and Research

In collaboration with VL2, CAEBER (one of the units in the Language Planning Institute within Gallaudet's College of Professional Studies and Outreach) continues its collaborative relationship with 23 schools for the deaf around the nation including 280 participants who are receiving intensive training provided by 68 mentors. CAEBER focuses on scaling up ASL/English Bilingual Professional Development (AEBPD) programs. Specifically, the primary goal of the two-year AEBPD in-service is to build the capacity of local teaching staff (including teachers, educational leaders, and support staff) to apply a research-based bilingual approach to facilitating deaf and hard-of-hearing students' academic achievement in both American Sign Language and English.

Photos from CAEBER



The AEBPD Mentor Meetings and workshops were held on two weekends in November, with 24 AEBPD school on-site mentors taking the Level 1 training one weekend followed the next weekend by 17 AEBPD school on-site mentors taking the Level 3 training. Mentors participated in a dynamic presentation on effective mentoring by Ms. Nancy Kelly-Jones who has been an AEBPD Mentor for 10 years at the Illinois School for the Deaf. In addition, Dr. Deborah Chen Pichler, a faculty member in Gallaudet University's Linguistics Department, provided a half-day workshop on critical periods of language acquisition and language processing in late or delayed ASL learners. As part of the ongoing training, Dr. Petra Horn-Marsh and Ms. Heidi Holmes – both of whom are involved with bilingual assessment at their schools – presented a half-day workshop on culturally competent evaluation of deaf students' ASL development that highlighted the importance of distinguishing between language disorders that have a neurological or genetic basis from language delays which are due to the pervasive effects of language deprivation. This presentation was videotaped and will be made available to teachers as part of VL2's Research-Practice Integration project directed by Dr. Stephen M. Nover. Mentors returned home with many new tools and a renewed sense of excitement to share with the teachers at their schools.



By the numbers!

22 schools
280 participants
68 mentors

(in 2008 only)

CORNER

Meet the Post-Docs!



Heather Knapp

Dr. Heather Knapp became a Post Doctoral Fellow in January of 2007 and is working with Dr. Corina at the University of California, Davis. Currently she is working on two projects. The first is a collaborative fMRI study between the labs of Drs. David Corina (University of California, Davis), Guinevere Eden (Georgetown University), and Peter Hauser (Rochester Institute of Technology). The project compares brain regions that are active while deaf adults and children read English words and watch ASL signs. The study has two components—the Implicit Reading task, developed in Eden's lab, and the Implicit Sign Perception task, which was adapted from the Implicit Reading task by the Corina lab. This kind of work is important because in addition to making a unique and much-needed contribution to the basic science of visual language learning, it also has implications for educational policies and practice for deaf children. Understanding how the brain processes English and ASL can lead to policies requiring support for deaf children who want to learn a natural sign language early in life.

The second project Knapp is working on is a collaboration including Sarah Hafer, of the Corina lab, and Dr. Jenny Singleton and her student, Jeffrey Goetz (University of Illinois at Urbana-Champaign) about whether Deaf individuals believe that certain types of neuroscience research programs (such as those using fMRI or Electroencephalography, or EEG for short) investigating either the neural correlates of sign language or visual systems, are of value to the Deaf community. To put this project in context, we know that there is a long history of Deaf people feeling exploited or ignored by some hearing researchers who are unfamiliar or unconcerned about the Deaf community. This issue is not just a matter of Alexander Graham Bell's policies or the eugenics movement, but in fact is still relevant to current research. For example, genetic testing has enabled hearing couples undergoing in-vitro fertilization to select hearing embryos (while exclude deaf embryos), but when and if a Deaf couple tries to chose a deaf embryo (excluding hearing embryos) there has been public outcry. It is important to discuss these issues openly and honestly, and to figure out the steps needed to make everyone feel that their concerns are valid and are being taken seriously by researchers.

Heather Knapp brings her expertise in the fields of neurobiology, physiology, linguistics, and psycholinguistics to VL2. She carries degrees from Purdue University and the University of Washington. Ultimately, she sees herself having a career that allows her to combine both her interests in science and society.

Shilpa Hanumantha

Dr. Shilpa Hanumantha, who hails from Bangalore, India moved to the United States in 1982 at the young age of six. A year later, she was introduced to Cued English through the connections made in her home area of Northern Virginia. After learning the language of English through cues, Hanumantha later picked up ASL from deaf friends. Upon graduation from high school, she attended George Mason University (GMU) and received a Bachelor's degree in Biology. She went on to gain two Masters, one in Linguistics and one in Administration and Supervision, from Gallaudet University. In October, she defended her doctoral dissertation in the Clinical Psychology Department at Gallaudet University. Her study examined whether or not the results from deaf participants who were administered the WAIS Faces I and II subtests using instructions translated into ASL (instead of Signed English, which follows English word order) would be equivalent to the results of matched hearing participants who received instructions in spoken English. In contrast to an earlier study, the results indicated that the deaf participants performed equally well under either Signed English or ASL conditions. Hanumantha co-presented *Advocacy Skills for Psychologists in Deafness: Enhancing Opportunities for Psychologists and Trainees* at a conference as well as a related piece at a second conference. Additionally, for six months in 2005, she worked as a research assistant for the National Institutes of Health, National Institute on Drug Abuse, collecting information and preparing research drafts. In August 2007, she completed her clinical psychology internship at the Deaf Wellness Center, a program of the University of Rochester Medical Center, based in its Department of Psychiatry in Rochester, N.Y.

Currently as a post-doctoral fellow for Visual Language and Visual Learning (VL2), Dr. Hanumantha is involved with two different projects; a study assessing both poor and proficient readers in the US, Germany, and Israel as well as the VL2 toolkit psychometric study. These studies will help researchers, worldwide, to learn how to conduct assessments effectively with deaf and hard of hearing individuals. Based on her experience with her own dissertation process, Hanumantha has not only developed an interest in psychometric test administration of deaf and hard of hearing adults, but she has also developed an interest in cross-cultural comparison studies. Shilpa is looking forward to all that VL2 has to offer, not only for herself, but also for her colleagues and the academic community at large.



Spring 2009 presentations

Quick overview on the upcoming presentations that will take place at Gallaudet University by prominent researchers from all over the U.S.

Interpreters are provided.

February 11

"Gesture's Role in Creating and Learning Language" by Susan Goldin-Meadow, Ph.D., University of Chicago.

March 26

"Crossdisciplinary Corpus-Based ASL Research" by Carol Neidle, Ph.D., Boston University.

February 26

"How We Make Sense of Signs: Sign Perception and Recognition by Native and Non-native Signers" by Jill Morford, Ph.D., University of New Mexico.

April 9

"How Do We Recognize Signs? Psycholinguistic Investigations of Signed Languages" by David Corina, Ph.D., University of California, Davis.

March 11

"Brain Plasticity and Learning: Lessons from Deafness" by Daphne Bavelier, Ph.D., University of Rochester.

Can't make it?

Don't fret - all the presentations listed here are videotaped and will be made available on <http://vl2.gallaudet.edu>.

Tidbits from VL2 Center

VL2 moves into SLCC

Beginning in the Fall of 2008, VL2 relocated to the newest building on campus, the James Lee Sorenson Language and Communications Center (SLCC for short). We settled on the first floor along with our new neighbors, the ASL and Deaf Studies Department as well as the Communication Studies Department. The SLCC is regarded as one of the first buildings designed with visual and deaf space in mind; with its open layout plans and video capabilities in the lobby, as well as its glass elevators. Visitors have remarked that SLCC brings a sense of the modern to campus.

Over 100 freshmen sign up for research

VL2's Freshmen Seminar Series has become an important part of the first semester General Studies Curriculum. Our new Community Engagement Coordinator has designed a slide presentation that describes VL2's work and demonstrates how these students can become involved in research. Initially, all students are invited to sign up for the VL2 Database that can provide researchers with lists of participants

that match their criteria for specific research projects. This semester, students were invited to participate not only in this Database but also in VL2's Psychometric Study as well as the Guessing Game project. The Psychometric project investigates which measures are psychometrically sound when used with deaf populations while the Guessing Game is looking at morphological versus phonological indicators as predictors of deaf individuals' reading skills. More than 100 first year students have signed up this semester to begin their research journey and VL2 greatly appreciates their contributions for the greater good.

Center continues to expand; hires new people

VL2 continues to expand by hiring more people to join the center. We are glad to welcome Wei Wang, a native of Beijing, who brings her digital media expertise as Digital Media Technician, and Norman Williams, Senior Research Engineer, who will work for VL2 as well as the Technology Access Program (TAP). In addition to that, Melissa Malzkuhn accepted a full-time position upon graduating with an MA in

Deaf Studies, becoming VL2's Community Engagement Coordinator, where she will be doing outreach work. Lastly, we are proud to have Selina Agyen and Elsie Ritchie, both recent Gallaudet graduates, join us as Database Assistants.

VL2 sets up exhibitions at NAD and at CSD

During the 49th Annual Meeting of the National Association of the Deaf in New Orleans, Melissa Malzkuhn and Angela McCaskill greeted conference goers and passed out information regarding VL2. In November, Melissa Malzkuhn set up a VL2 exhibit at the California School for the Deaf's Open House in Fremont. (BTW, this school is her alma mater.) David Corina of the University of California at Davis and his researchers also joined Melissa in order to promote VL2's research.



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VISUAL LANGUAGE & VISUAL LEARNING

Partner Institutes: Boston University, Georgetown University, Rochester Institute of Technology, San Diego State University, University of California - Davis, University of California - San Diego, University of Haifa, University of Hamburg, University of Illinois - Urbana-Champaign, University of New Mexico, and University of Rochester.