

Lessons from PIRE*: An International Network for Graduate Research and Training in Cognitive Neuroscience and Linguistics



Center for Language Science
Pennsylvania State University

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NSF PIRE: *Partnerships for International Research and Education:

Bilingualism, mind, and brain:

*An interdisciplinary program in cognitive psychology, linguistics, and cognitive neuroscience
(2010-2016)*



2016 CGS/NSF Workshop: Evaluating International
Research Experiences for Graduate Students



Research and training context

Lessons from PIRE

Challenges that remain

Research and training context: Why bilingualism?

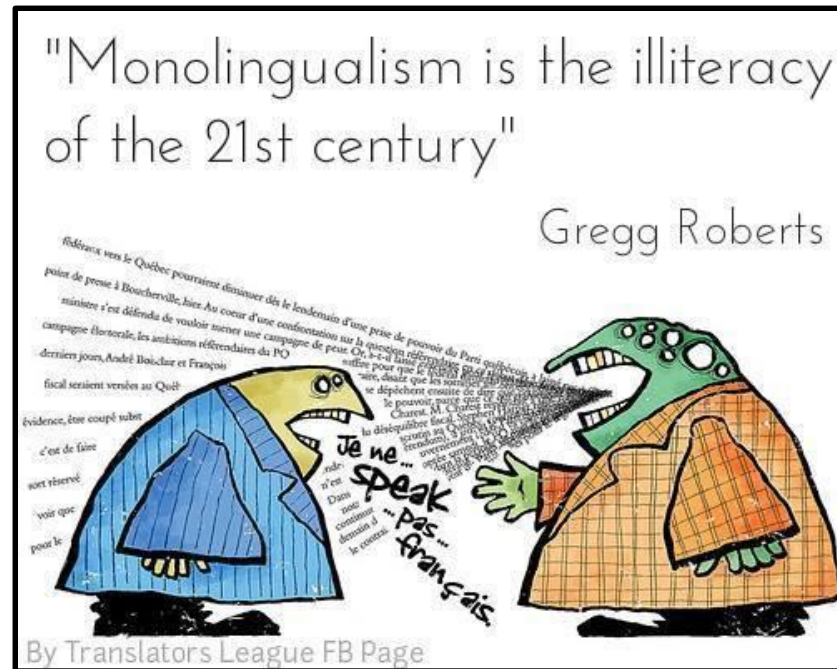
In many locations in the US, English is spoken as the only language.

It comes as a surprise to some people that in most places in the world, and increasingly in the US, the use of two or more languages is common.

More people in the world are bilingual than monolingual.

Here in the US, we think that speaking two languages may create unnecessary confusion.

There is a new attitude about bilingualism:



The language and learning sciences have come to see that bilingualism is a tool for revealing the workings of language, the mind, and the brain

Los Angeles Times

Bilingualism good for the brain, researchers say

The skill helps improve multitasking and prioritizing, and helps ward off early symptoms of Alzheimer's disease, experts say.

Mail & Guardianonline

On the tip of the tongue

ALOK JHA Mar 18 2011 16:37

 0 comments | [Post your comment](#)

"Being bilingual has certain cognitive benefits and boosts the performance of the brain, especially one of the most important areas known as the executive control system," said York University psychology professor Ellen Bialystok at the annual meeting of the American Association for the Advancement of Science being held in Washington, DC.

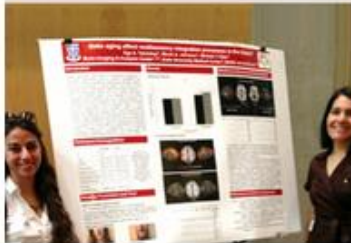
Bilingualism Is Like A Mental Gymnasium For The Brain

Juggling languages can build better brains

Center *for* Language Science

Research

Language and
Aging Lab



Language
Acquisition Lab



Bilingual Sentence
Processing and
Code-switching Lab



Kontaktdeutsch Lab



Brain, Language, and
Computation Lab



Carlson Lab



Cognition and
Language Lab



Language
Development Lab



Research Group in
Formal Syntax and
Semantics



Second Language
Acquisition Lab



Adult
Neuroplasticity Lab



Code Switching
in the Community



But how to do research on bilingualism in Central PA?



Collaborate with others in locations where bilingualism is prevalent and where bilingualism takes different forms

The Center for Language Science 2010 PIRE Project

National Science Foundation:
Partnerships for International Research and Education



Bilingualism, mind, and brain: An interdisciplinary program in cognitive psychology, linguistics, and cognitive neuroscience

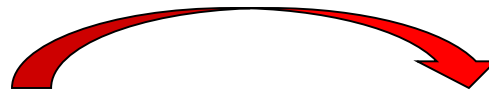
Undergraduates, Graduate Students,
Postdoctoral Fellows, and Early Career
Faculty travel abroad to conduct
research on bilingualism and bring
their research and experience back to
Penn State



Bilingualism takes different forms in different locations and in different learning contexts and that requires collaborations here in the US and abroad:

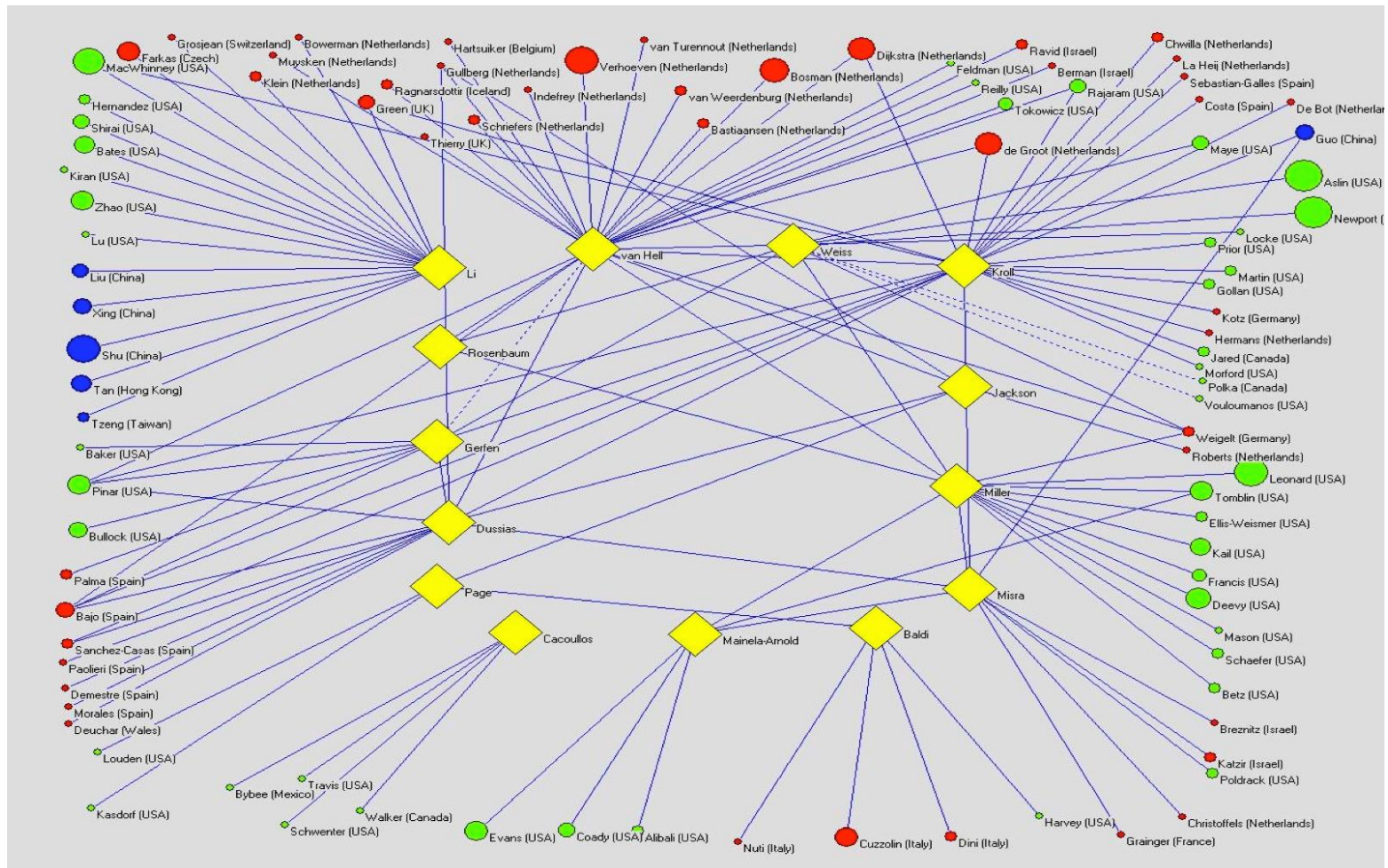


Penn State University
University Park, PA



The Netherlands
Spain
Sweden
Germany
UK
China

Penn State's international network for research on bilingualism



PIRE: <http://www.psu.edu/dept/cls/pire/>

The Center for Language Science PIRE Project:

Bilingualism, mind, and brain: An interdisciplinary program in cognitive psychology, linguistics, and cognitive neuroscience

The PIRE network:

Domestic Partners:

Haskins Laboratories, Yale University

VL2 NSF Science of Learning Center, Gallaudet University

International Partners:

Radboud University, Nijmegen, The Netherlands

Mannheim University, Mannheim, Germany

Lund University, Lund, Sweden

University of Granada, Granada, Spain

Universitat Rovira i Virgili, Tarragona, Spain

ESRC Centre for Research on Bilingualism, Bangor, Wales

Beijing Normal University, Beijing, China

University of Hong Kong, Hong Kong, China

The 2010 PIRE asks how children and adults acquire and use two languages actively and how those processes are affected by the specific languages that are spoken and by the context in which they are used. Focus on the laboratory.

New PIRE: *Translating cognitive and brain science in the laboratory and field to language learning environments*, 2016-2021: A program of translational research and training on bilingualism:

- ❖ Across the lifespan
- ❖ Using a range of converging behavioral and neuroscience methods that take our research to the classroom and the field
- ❖ In contexts where the form of language learning and language contact differ



Penn State PIRE: *Translating cognitive and brain science in the laboratory and field to language learning environments.* This map depicts the PIRE's international research network.

PIRE Programs for training:

- ❖ **Undergraduate** summer research abroad
- ❖ **Graduate research internships abroad***
- ❖ **Postdocs and early career faculty** research abroad

Graduate students spend 8 weeks in a partner's lab, either during the academic term or in the summer.

Earlier in their tenure, they can only travel in the summer because they are taking courses. More senior students can do either.

Recent addition of short-term 2-4 week visits

***Dual Title Doctoral Degree in Language Science**

Lessons from the PIRE

Benefits to the students who travel:

- ❖ Collect data that would otherwise be impossible to collect at the home institution:
 - different population
 - complementary methods
 - unique features of the context

- ❖ Professional development
 - present work to a new lab and new lab culture
 - meet a new cohort of graduate students
 - the “cohort” effect in training: peers may be more important than faculty supervisors!

Accelerate professional development – they are out there before they are looking for a postdoc or faculty position and have a network in place.

Benefits to the PIs:

- ❖ Form new collaborations in which cooperation may be prioritized above competition and may lead to new research, publications, joint grant proposals, and shared students
- ❖ Students traveling abroad often become the catalysts for new lines of collaborative research
- ❖ A steady stream of visitors to our laboratories is something that is very important when the institution is geographically isolated
- ❖ A fantastic graduate recruitment tool!

Challenges to the PIs:

- ❖ Arranging the travel: compliance, IRB issues: anticipating necessary resources – a course release is not sufficient and these regulations are becoming increasingly complex
- ❖ Additional administrative burden associated with logistics and coordination of having the student out of the lab for a period of time with respect to their academic progress
- ❖ Additional burden both administratively and on local resources to have student visitors (e.g., prioritizing access to lab equipment)
- ❖ Ambiguity about mentoring responsibilities with visiting students: need to be negotiated at both ends
- ❖ Crediting collaborative research and connecting with the international partners – there is a lot of variability! Can also easily explode beyond resources available.

“The PIRE grant offered at Penn State was definitely a game changer in my career. It was important not only because it gave me the opportunity to collect important data for my research but also because it opened a whole new world of opportunities, such as collaborations, new colleagues, and new research ideas. I am confident that I would not be where I am right now without this opportunity.” (Ph.D. 2014, Spanish and Language Science)

“I think that having had the experience of conducting international research made me more competitive on the job market and showed my subsequent employers that I can adapt to different data collection systems and environments. This experience also highlighted the cultural differences between the US and Europe and was influential in geographical considerations when applying for jobs.” (Ph.D. 2013, Communication Sciences and Disorders and Language Science)