

Bilingual Higher Education in Puerto Rico: Receptive Bilingualism, Power, and Science

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Bilingual Higher Education

- Use of two languages in the pursuit of a post-secondary degree
- “Language policy at universities is under-explored” (Philipson, 2009)
- Jiazhen (2007): Pay scale for English use at Shanghai University
- Khan (2004): English and Urdu at University of Karachi in Pakistan
- Cristensen (2009): English in Danish universities policy debate

UPRM: A bilingual university

“co-educational, **bilingual**, and non-sectarian school comprising the Colleges of Agricultural Sciences, Arts and Sciences, Business Administration, Engineering, and the Division of Continuing Education and Professional Studies”
(Undergraduate Academic Catalogue)



UPRM: Language of Instruction

“Spanish is the language of instruction in most courses, but students are required to have a working knowledge of the English language as well. **The professor decides the language used in his or her lectures and student evaluation activities.**”

(Undergraduate Academic Catalogue)



Research problem



- Large-scale needs analysis at UPRM: What are the uses of English in agriculture majors' general education and major coursework?
- This study: What are the inter-relationships between professors' ideologies about English and science and their multilingual classroom practices?

English and Science

- Tonkin (2011):
 - Consequences of English emphasis in academia “may well be to erode the capability of scientists to use their own language in scholarly discourse” (p. 107)
 - The dominance of English in science is not “natural” or “inevitable,” but rather “it results from conscious choices made by the linguistically advantaged and by the lack of any coherent countervailing policy” (Tonkin, 2011, p. 113).

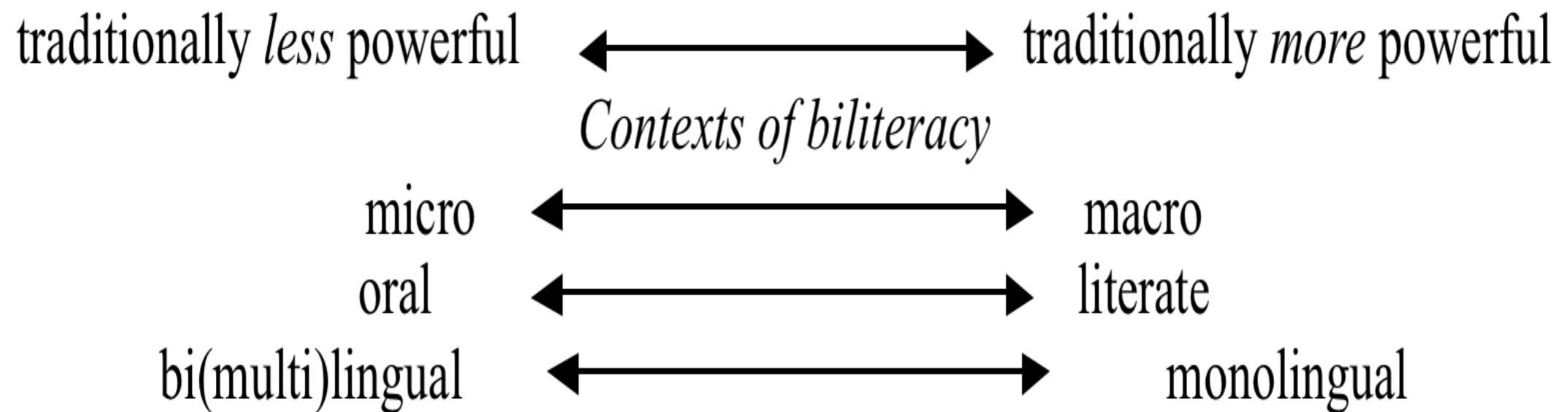


Ecology of Language

- "...is proactive in pulling apart perceived natural language orders: that is, where a particular language and its structure and use becomes so naturalised that it is no longer seen as construing a particular ideological line"(Creese & Martin, 2003)



Continua of Biliteracy: Context



(Hornberger and Skilton-Sylvester, 2000)

Methods

- **Focal participants:** 12 agriculture majors
- **Observations:** 19 classes observed
- **Interviews** with observed professors
- **Analysis:** Observation and interview data coded and entered into Excel spreadsheet; Interview data analyzed using discourse analysis (Gee, 2011)



Results

- All classroom interaction, student note-taking, and assessment took place in Spanish
- Key vocabulary was sometimes code-switched into English
- Texts and materials were often in English, but all talk-around-text was in Spanish
- Some professor-created power points were **translanguaged** ("code meshed," Canagarajah, 2011)



Defining Translanguaging

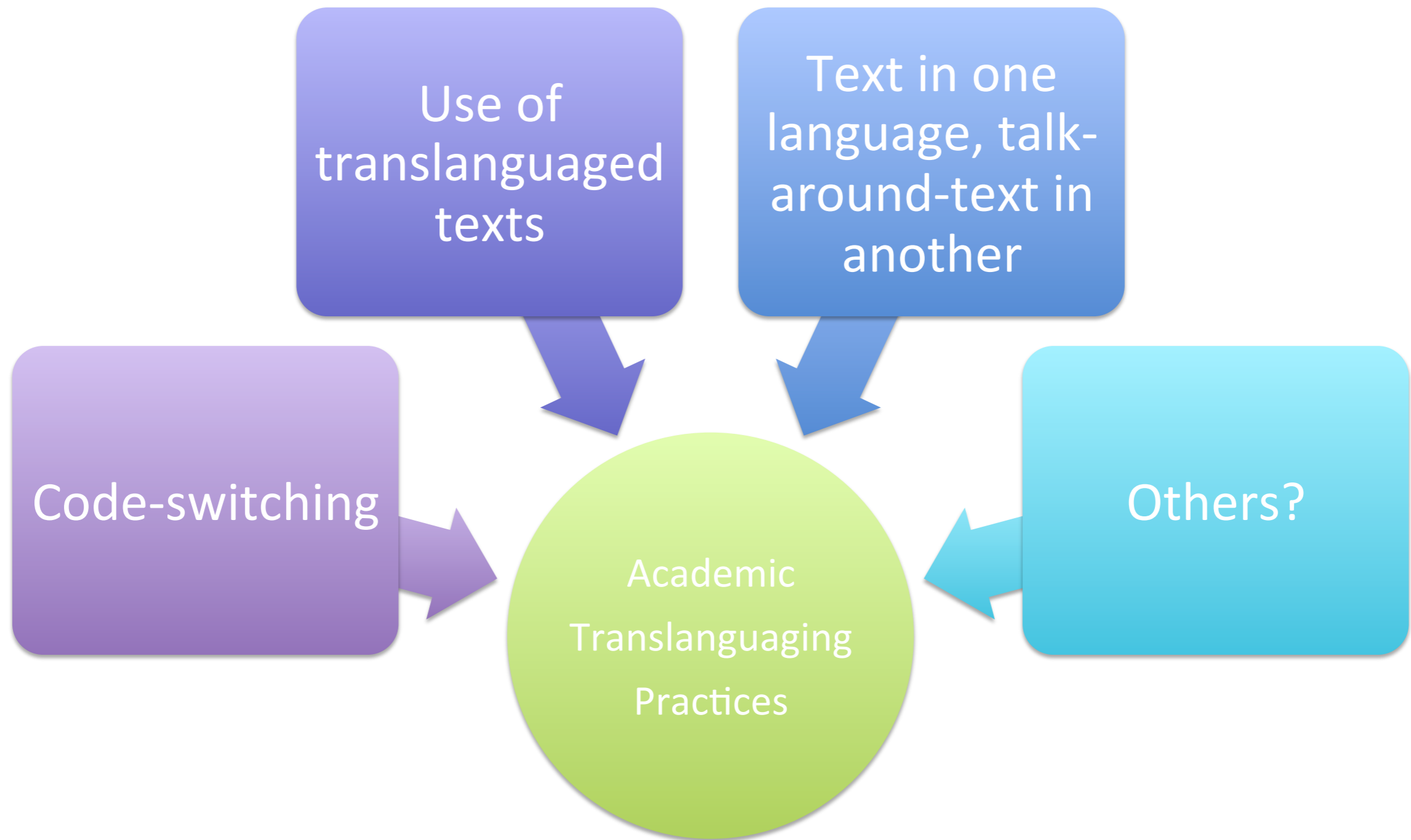
- Williams (2000): pedagogical practice which switches the language mode in bilingual classrooms
- Baker (2006): transliteracy
- García (2009): multiple discursive practices in which bilinguals engage in order to make sense of their bilingual worlds
- See also Canagarajah (2011); Creese & Blackledge (2010); Hornberger (2012)



Academic Translanguaging

- **Academic translanguaging** (Mazak 2012)—using two or more languages in the process of learning academic material
- **Academic translanguaging practices** include:
 - Code-switching
 - Use of translanguaged texts
 - Text in one language, talk-around-text in another language (transliteracy)
 - More to be discovered...





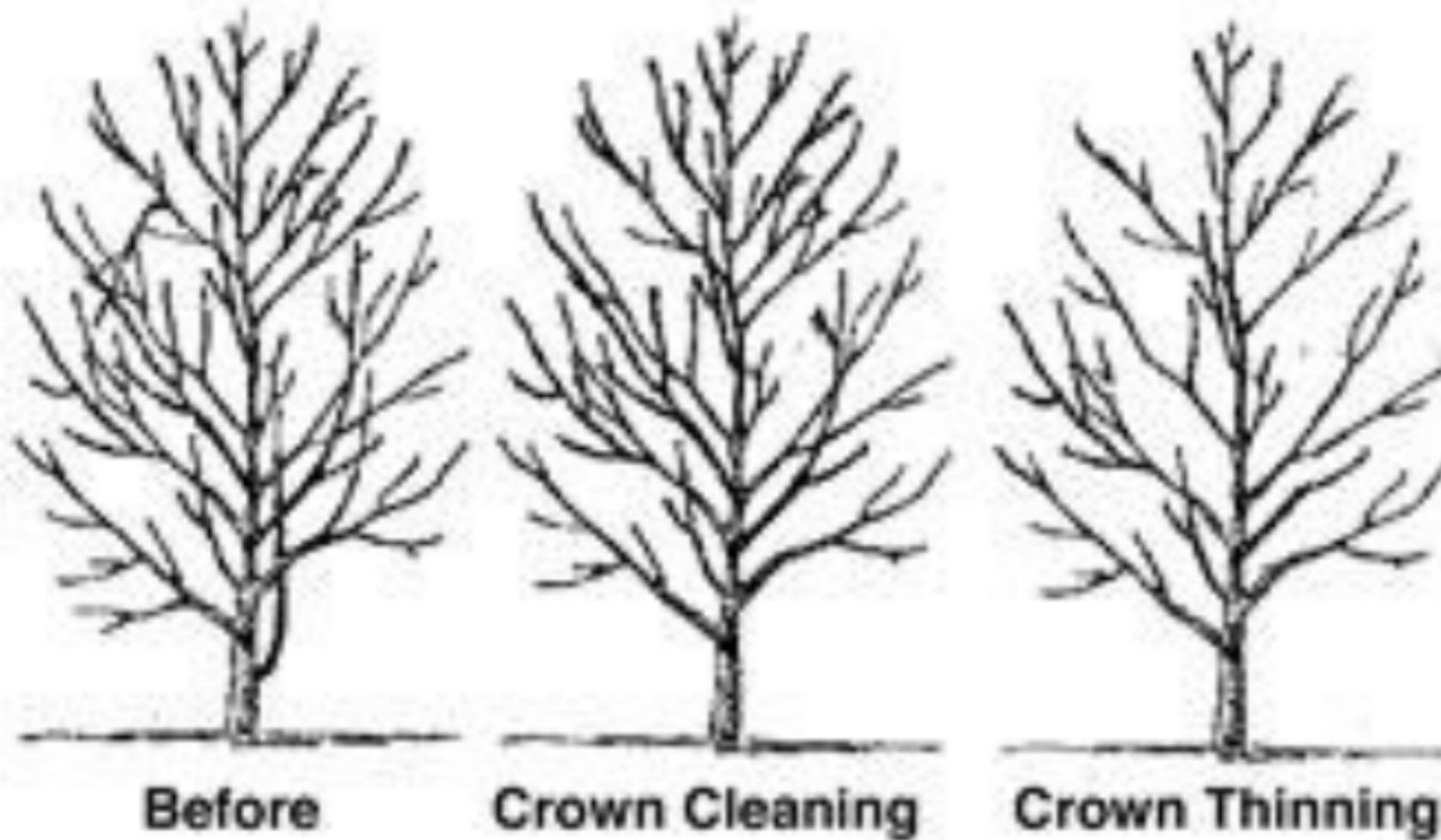
(Mazak 2012)

Translanguaged texts

- Professors created their own texts which replaced a textbook, often in PowerPoint
 - “This class doesn't have a textbook. All my power point presentations are available for them. They study from the slides. That's all they have to know to pass this class. Spanish is their language. **My PowerPoint presentations are translations from books that are in English.**” –Agronomy



¿Por qué podar?



Text in English/Talk-around-text in Spanish

- Many professors (12) used written materials in English or English textbooks, but all talk-around-text was in Spanish
 - “The textbook is in English: *Principles & Chemistry, A molecular approach*. Before, the department was using a textbook in Spanish, many professors didn't agree, so we took a decision at the department level, we vote, and we decided to have the textbook in English. It's a very good book, mostly I liked how different themes are explained and how calculations are done, **when you use a textbook in Spanish, something is lost in the translation.**” –Chemistry



Code-switching key terms

- Professors code-switched key terms in English:
 - “[The medium of instruction is] Spanish. It is what students understand and are familiar with. Some **technical names are given in English to facilitate students their search on the Internet or in a catalog**. Tables are obtained from a reference that is in English. I use **exercise variables in English** because I’m used to doing so (it was the way I learned). Sometimes, the variable is shorter in English than in Spanish.”—Agricultural Engineering
 - “This class is almost everything in Spanish, but we use **English for certain terms**, or when it's necessary.”--Math
 - “I use some terminology in English but **I always explain [to] them the meaning**.”— Crop protection
 - “When I teach, if there are some terms that students will find in the textbook, I tell them, **I use a translation**.”--Chemistry



Discourse Analysis

- All professors had studied in the United States
- Questions:
 - What was the role of English in your academic preparation?
 - What do you think should be the role of English in your student' academic preparation?
- Absolute language
- “The” determiner
- Emphatic language



All the scientific literature is in English, **everything** is in English. There's **no** choice, students **don't have any** choice. *English is the language of science and technology.* (Chemistry)

English is **crucial**, is **totally instrumental, scientific, social, and commercial**. Two hundred years ago, was French, maybe next century we will have to learn Mandarin. But now, for workplace environment you **need** English. It is also the language of science, articles, publications, **everything** is in English. (Agricultural Sciences)

They **should know** English, all the literature is in English. (Agricultural Sciences)

It was **very important**. In my bachelor and masters degree, all the texts were in English, since it's science, **the** texts in biology, microbiology, were in English. I wasn't very proficient in English, but I studied with my dictionary by me. **It's important** if they want to have access to **the** scientific field. (Crops and Agro-environmental Sciences)



All the technical books were in English and I had several professors who gave the class in that language too. (Agricultural Engineering)

Important, I did my Masters degree here in Mayagüez, at the UPRM. All the literature was in English, I even had professors that didn't know any Spanish... This class is an introduction, English is not so important, but later it will become **more and more important**, for example for a masters degree. (Engineering Science and Materials)

*English is **the** language of science*, if they want to be informed, well informed, **everything** they might read will be in English. Journals, textbooks, everything is in English. (Animal Science)

I think it's **important**. A lot of them go to USA to study or work. If they want to expand their knowledge, **many references (almost all of them)** are in English. (Math)



It's very **important**. In my field (entomology), literature vary quite a bit. **The only way** to keep track of those changes and stay well informed is if you know English. (Crop Protection)

All the literature is in English, they have to read a lot, articles, journals are in English. Also when we bring people (speakers) from USA to give **conferences, interviews, everything** is conducted in English. **They can't participate** and fully take advantage of this, if they don't know English...My class is in Spanish, but some articles, journals, **most of the** information is in English. (Crop Protection)

It was **very important**. All the literature was in English. In a Masters program, I will say that **90% of the references** are in English.(Crop Protection)



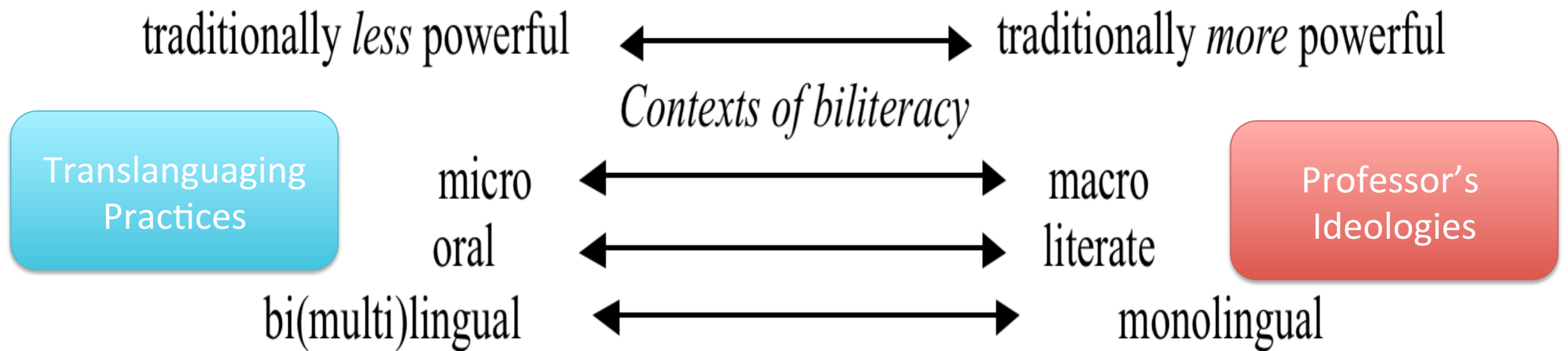
Conclusions

Professors' ideologies about language and science operate on the macro/monolingual/literate (the traditionally more powerful) ends of the context continua...

but their classroom practices operate on the micro/bilingual/oral (the traditionally less powerful) ends of the context continua



Continua of Biliteracy: Context



(Hornberger and Skilton-Sylvester, 2000)

Discussion

- Apprenticeship of observation (you teach the way you were taught)
 - Apprenticing students into translanguaging practices
- You do what you have to do
 - Adapting course materials for their particular student population
 - Still getting the job done



Discussion

- Not Spanish or English but translanguaging
 - the “normal” way that bilinguals language
- Push/pull of English and Spanish in Puerto Rico
 - Spanish medium but "English as the language of science" still needs to be negotiated



Discussion

- Even if students don't move, they are affected by the physical and ideological movement of their professors



References

Download the reference list from:

<http://uprmceiba.wordpress.com>



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