

# **Co-constructing university Spanish-English bilingual courses:** *The case of the Department of Biological Sciences*

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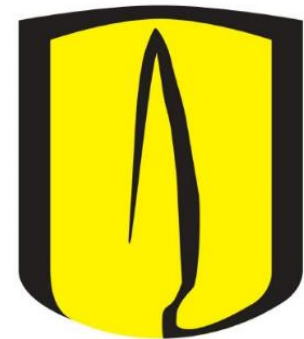
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# Our research context

Internationalization		2005	2010	2017
STUDENTS	$\frac{\text{\# of Uniandino students on exchange programs}}{\text{\# of undergraduate students}}$	2%	2.6%	2.3%



Universidad de los Andes | 70 

Fact Book 2017

Bogotá, February 2018

Country of origin	2013		2014		2015		2016		2017	
	Undergraduate	Masters	Undergraduate	Masters	Undergraduate	Masters	Undergraduate	Masters	Undergraduate	Masters
Total	183	30	199	49	230	64	207	51	279	91

# Our research context

Programa de Desarrollo Integral

# PDI



## 2016-2020

 **Universidad de los Andes**  
Colombia

Acreditación  
institucional  
de alta calidad  
**10 años**  
MinEducación  
9 de enero de 2015

**1.4.4** Fortalecer la presencia del idioma inglés en los programas de la Universidad, de acuerdo con la naturaleza de estos.

14

PDI 2016-2020

**Bilingual Uniandes® – An Initial Proposal**  
*Anne-Marie Truscott de Mejía*

# Bilingual teaching practices (BTPs)...


Scopus®—Q1

INTERNATIONAL JOURNAL OF BILINGUAL EDUCATION AND BILINGUALISM, 2017  
<https://doi.org/10.1080/13670050.2017.1334756>

 **Routledge**  
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## Bilingual university science courses: a questionnaire on professors' practices and espoused beliefs

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### ABSTRACT

Bilingual practices in university science courses are on the rise because of the internationalization of higher education. However, little is known about bilingual science teaching practices (BTP) of professors and their beliefs about this type of practice. In this exploratory study, a questionnaire was designed, adapted and applied to explore the BTPs of professors and their espoused beliefs about bilingual practices in university science courses in a Colombian university. The participants were 20 science professors who were asked to complete a twenty eight-item questionnaire. Findings indicate that a high number of participants

### ARTICLE HISTORY

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### KEYWORDS

Bilingual education; higher education; science education; science teacher; teacher education

# Bilingual teaching practices (BTPs)...

- (1) What are the BTPs of a group of bilingual science professors?
- (2) What are the espoused beliefs of bilingual practices in university science courses of a group of bilingual science professors?

# Bilingual teaching practices (BTPs)...

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# Participants

The participants in this study were bilingual science professors who teach undergraduate courses in the Department of Biological Sciences at Universidad de los Andes. From the 26 eligible professors, 20 participated in this study. Out of these 20 participants, 11 were female and 9 were male. The range of university teaching experience among the participants was from 3 to 40 years, and the average was 16.8 years of experience.

# Bilingual teaching practices (BTPs)...

**Table 1.** Demographic characteristics, and Spanish and English level of participants.

Question	( <i>f</i> )
1. Gender	
Female	11
Male	9
2. Mother tongue	
Spanish	19
English	1
4. Academic degree level	
Master	4
Doctorate	16
5. Academic degree level in education	
Degree	1
Master	1
Doctorate	–
None	16
Other	2



# Bilingual teaching practices (BTPs)...

## 7. Language of preference in science education practice

Spanish	12
English	1
Both	7

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# Bilingual teaching practices (BTPs)...

**Table 2.** Participants' BTP.

Question	Very frequently/ fairly frequently ( <i>f</i> )	Never/ infrequently ( <i>f</i> )
8. How often do you assign readings in English?	18	2 ( <i>infrequently only</i> )
9. In class, how often do you use slides (e.g. PowerPoint®, Prezi®) in English and discuss them in English?	5	15
10. In class, how often do you use slides (e.g. PowerPoint®, Prezi®) in English and discuss them in Spanish?	14	6
11. In class, how often do you use slides (e.g. PowerPoint®, Prezi®) in Spanish and discuss them in English?	1 (fairly frequently <i>only</i> )	19
12. In class, how often do you use slides (e.g. PowerPoint®, Prezi®) that mix text in English and Spanish, and discuss them in Spanish?	10	10

# Bilingual teaching practices (BTPs)...

**Table 2.** Participants' BTP.

Question	Very frequently/ fairly frequently ( <i>f</i> )	Never/ infrequently ( <i>f</i> )
13. How often do you ask your students to complete written tasks (e.g. lab reports) in English?	3	17
14. How often do you ask your students to deliver oral presentations in English?	–	20

# Bilingual teaching practices (BTPs)...

**Table 2.** Participants' BTP.

Question	Very frequently/ fairly frequently ( <i>f</i> )	Never/ infrequently ( <i>f</i> )	No answer ( <i>f</i> )
15. How often do you suggest study methods to facilitate students' understanding of readings in English?	5	15	–
16. How often do you suggest study methods to facilitate students' oral comprehension in English?	2 (fairly frequently <i>only</i> )	18	–
17. How often do you suggest study methods to facilitate students' written English production?	1 (very frequently <i>only</i> )	18	1
18. How often do you suggest study methods to facilitate students' oral production in English?	1 (fairly frequently <i>only</i> )	19	–

# Participants' espoused beliefs

**Table 3.** Participants' espoused beliefs about bilingual practices in university science courses.

Question	Strongly disagree/ Disagree ( <i>f</i> )	Neither agree/ disagree ( <i>f</i> )	Strongly agree/agree ( <i>f</i> )
19. Subjects who are fluent in two languages possess certain cognitive advantages in comparison to subjects who are fluent in one language	2	2	16
20. Bilingual subjects are better at problem solving, demonstrate greater creativity, and have more tolerant attitudes towards members of another culture	4	4	12
21. Bilingual (Spanish-English) students in Biology and/or Microbiology undergraduate programs have some advantages for constructing an international academic view in comparison to monolinguals (Spanish)	2 ( <i>disagree only</i> )	–	18

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Question	Strongly disagree/ Disagree ( <i>f</i> )	Neither agree/ disagree ( <i>f</i> )	Strongly agree/agree ( <i>f</i> )
22. To be bilingual (Spanish-English) is a sufficient requirement for a student to understand an assigned reading in English in an undergraduate course related to Biology and/or Microbiology	3 ( <i>disagree only</i> )	4	13
23. To be bilingual (Spanish-English) is a sufficient requirement for a student to understand a lecture (oral explanation delivered by a professor) in English in an undergraduate course related to Biology and/or Microbiology	2 ( <i>disagree only</i> )	6	12
24. To be bilingual (Spanish-English) is a sufficient requirement for a student to complete written tasks (e.g. lab reports) in English in an undergraduate course related to Biology and/or Microbiology	4 ( <i>disagree only</i> )	8	8

# Participants' espoused beliefs

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Question	Strongly disagree/ Disagree ( <i>f</i> )	Neither agree/ disagree ( <i>f</i> )	Strongly agree/agree ( <i>f</i> )
25. To be bilingual (Spanish-English) is a sufficient requirement for a student to deliver oral presentations in English in an undergraduate course related to Biology and/or Microbiology	4 ( <i>disagree only</i> )	6	10
26. A high level of English proficiency in an undergraduate student of Biology and/or Microbiology would favor, in the future, the success in his/her postgraduate education	1 ( <i>strongly disagree only</i> )	–	19
27. Offering some undergraduate courses in Biology and/or Microbiology in English would contribute to the internationalization of the Department of Biological Sciences	1 ( <i>disagree only</i> )	1	18

# Participants' espoused beliefs

**Table 3.** Participants' espoused beliefs about bilingual practices in university science courses.

Question	Strongly disagree/ Disagree ( <i>f</i> )	Neither agree/ disagree ( <i>f</i> )	Strongly agree/agree ( <i>f</i> )	No answer ( <i>f</i> )
28. Offering some undergraduate courses in Biology and/or Microbiology in English would require professors to spend more time (than usual) on the planning of each class	2	3	14	1



# Participants' voice

[...] I worry about presenting the classes in English because I think the English level of many students would not allow them to understand [...] (P1)

Although bilingualism is desirable and we must work to improve it, we must be sure that the clarity and quality of the classes will not be affected [...] (P11)

[...] It is essential to take into account that many students do not know how to read, write or speak well in their mother tongue, so it is necessary to foster excellent communication in any language used in the course (P11)

[University science courses] in English should be encouraged, but work should be done on the content, structure, and dynamics of these courses. It is not only because we hold a doctoral degree from an English speaking country that we can teach in English (P16)

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