Shaping language attitudes: An exploratory look at the impact of discussing bilingualism in the language classroom

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Abstract

This study explores the impact of a classroom intervention on second language (L2) Spanish learners' attitudes towards bilingualism and language learning. Language attitudes are crucial to student success (Cummins, 2000), influence students' decisions to continue language learning (Bartley, 1970) and can start developing as early as childhood (Dekker et al., 2021). While attitudes towards the language learning experience can improve through study abroad (Artamonova, 2023), recent research has also highlighted the potential of metalinguistic lessons to influence language attitudes within the L2 classroom setting (Lanvers et al., 2019). Given that knowledge about a topic will affect one's attitudes (Artamonova, 2020), this study aims to assess whether a lesson about bilingualism can improve students' language attitudes.

Participants were 178 L1 English and L2 Spanish students enrolled in first through fourth level Spanish courses across four Midwestern universities. An experimental group received the lesson about bilingualism before completing a survey that assessed their language attitudes. A control group completed the survey before receiving the lesson. Results from a subset of data show that the experimental group exhibited more positive attitudes towards bilingualism and language learning than the control group in attitudinal questions that were explicitly addressed in the lesson. The class level of participants was another predictor of language attitudes, with lower-level students having fewer positive attitudes overall as compared to higher-level students. This study offers valuable insights into a realistic approach to improving attitudes within the classroom setting and inspires future research on metalinguistic lessons in language classes.

Keywords: bilingualism, L2 learning, Spanish, attitudes

Introduction

Bilingualism is a crucial concept in both second language (L2) and foreign language (FL) classrooms, as well as in everyday life. However, defining bilingualism is not straightforward. Bloomfield (1935) describes bilingualism as "the ability to use two languages or to have native-like control of two languages" (p. 56), while Grosjean (2008) defines a bilingual as someone who actively uses two languages in daily life. Haugen (1953) takes a broader view, suggesting that a bilingual is anyone who speaks one language natively and has basic knowledge of a second one. Many other authors define bilingualism as simply "knowing" two languages and have proposed various terms and definitions to describe different types of bilingual speakers, such as simultaneous, early, and balanced bilinguals, among others (Landsberry, 2019; Montrul, 2008, 2013, 2015; Wei, 2007, 2008). Despite these varying definitions, they all converge on the idea that

bilingualism involves the use of two languages to different extents.

In language classrooms, many students often express a desire to become bilingual, yet they frequently lack a clear understanding of what bilingualism entails. This is largely because L2 instruction tends to prioritize discrete language skills—grammar, vocabulary, reading, writing, listening, and speaking—while infrequently exploring what it means to be bilingual in a practical or social sense. As Richards (2015) mentions in his study about learning beyond the classroom, many language curricula either help to prepare students for exams or serve "to support school-based learning across the curriculum" (p. 6). Hence, this design of curricula likely misses an important opportunity to educate and prepare students on the realities of bilingualism and engage with their attitudes towards language learning.

Language attitudes play a significant role in student success (Cummins, 2000) and, more importantly, can influence students' decisions to continue learning a language (Bartley, 1970). Merisuo-Storm (2007) states that "negative attitudes… can reduce learners' motivation and harm language learning, whereas positive attitudes can do the opposite," (p. 228). These attitudes can start to develop as early as childhood and adolescence (Dekker et al., 2021; Ibarraran et al., 2008; Merisuo-Storm, 2007) and evolve over time with the influence of different experiences, such as study abroad (Artamonova, 2023) or metalinguistic interventions (Bessy & Knouse, 2020; Lanvers et al., 2019). Artamonova (2020) also highlights how the knowledge of a specific topic can shape one's attitudes towards it, emphasizing the importance of discussing bilingualism and language learning with aspiring bilingual students in a language classroom.

The present study features an exploratory approach to shaping language attitudes with a single, 15-minute classroom intervention with 178 L1 English university students in first through fourth semester L2 Spanish classes. By analyzing a subset of survey questions, this study aims to measure the impact of a metalinguistic lesson on bilingualism on the students' language attitudes, as well as measure if language attitudes are different based on proficiency level. This research expands upon the few studies that use metalinguistic instruction as a means to improving language attitudes (Bessy & Knouse, 2020; East, 2009; Lanvers et al., 2019), as well as adds to the research on lower-level learners' attitudes and expectations of language learning as compared to higher-level learners (Bartley, 1970; Brown, 2009; Kondo-Brown, 2013).

The remainder of this paper is organized as follows: a comprehensive literature review on previous research involving language attitudes, bilingualism, and metalinguistic instruction, methodology, results, discussion, implications, future directions, limitations, and concluding remarks.

Literature Review

Language Attitudes

Language attitudes are formed by knowledge, emotions, and experiences that can ultimately manifest into beliefs, feelings, and actions. According to Gardner et al. (1985), language attitudes are also considered to have three significant components: cognitive, affective, and behavioral. These attitudes are both observable and unobservable and have been described as some of the most important variables for predicting learner achievement (Dörnyei, 2009). Artamonova (2020) gives the example that language learners may believe the L2 is important and useful (i.e., cognition), they may enjoy the sounds or speakers of the language (i.e., affect), and they may feel inclined to participate in activities related to the language (i.e., behavior). This also illustrates the importance of language attitudes and their influence on students' feelings and actions related to

language learning.

Language attitudes can form as early as childhood. Dekker et al. (2021) researched children's implicit and explicit language attitudes towards minority and majority languages in a highly diverse primary school in the Netherlands. The students completed questionnaires and an Implicit Association Test to assess their explicit and implicit attitudes towards majority, migrant, and minority languages. Results showed that the children had already formed positive and negative attitudes towards different languages and accents, with a preference towards Dutch, English, and French in comparison to Moroccan Arabic and other minority and migrant languages and accents.

A key attraction to researching language attitudes is that, through positive and negative experiences, language attitudes can be shaped and changed. Artamonova (2023) showed that study abroad experiences positively influenced students' attitudes through increased confidence and improved language skills. She measured the language attitudes of 25 students at Midwestern universities who spent six weeks in Spain with the Language Attitudes Questionnaire for Language Learners (LAQ-LL). This tool was developed specifically for American L2 learners and measured three attitudinal areas: value of multilingualism, sociocultural appeal, and language learning experience (Artamonova, 2020). Results from all three attitudinal areas experienced increases between pre- and post-tests, with language learning experience having the largest increase. Regarding this significant increase, students credited confidence, improved skills, and real-world language practice as the reasons for the positive shift.

Since not all students who study a language end up studying abroad, it is imperative to consider language attitudes in the classroom setting. One notable finding from Bartley (1970) suggested that language attitudes may be a determining factor in whether students continue with or discontinue language learning. In her study, Bartley (1970) used a pre- and post-test of the Foreign Language Attitude Scale to measure the attitudes of eighth-grade students who planned to continue with language study in ninth grade and those who did not. Her findings suggested that students who ultimately continued language learning had more stable attitudes over time, while those who discontinued experienced a decline, indicating that attitudes may influence students' decisions to continue language learning. Other studies, such as Brown (2009) and Kondo-Brown (2013), also support this claim, showing that beginner-level learners tend to have slightly less positive attitudes toward and sometimes unrealistic expectations of language learning than students at intermediate or advanced levels. This recurring pattern could suggest that students who develop or maintain more positive attitudes are more likely to continue language study, while others may discontinue earlier.

Bilingualism: Definitions and Traits

The motivation to explore the effects of metalinguistic instruction on bilingualism in L2 learners arises from the persistent ambiguity in how bilingualism is defined, along with all the myths associated with it. As a disclaimer, the current research also considers the following to be true regarding multilingualism. While bilingualism has the inherent definition of knowing two languages, in this paper, multilingualism is defined as knowing multiple languages (two or more). Therefore, the terms may occasionally be interchanged.

Despite extensive research across fields such as education, psycholinguistics, and applied linguistics, there is still no consensus on what constitutes bilingualism or how to measure it, particularly in terms of L2 proficiency. This definitional uncertainty complicates both instruction

and assessment, making metalinguistic strategies a promising avenue for supporting and understanding emerging bilinguals. Some scholars, such as Bloomfield (1935) and Haugen (1953), emphasized linguistic competence–ranging from native-like fluency to basic proficiency– while others, like Grosjean (2008), argued that bilingualism is better understood through the use of both languages in daily life. Adler (1977) further noted that bilingualism is complex to define, as individuals may be proficient in certain language skills (e.g., speaking and listening) but not in others (e.g., writing and reading). More recently, Marian and Hayakawa (2021) proposed a more unified approach to conceptualizing and measuring bilingualism. Their work highlights key challenges, approaches, and discussion points for developing a tool to calculate an individual's bilingualism quotient.

Sia and Dewaele (2006) aimed to find which people self-identified as bilingual to discover what everyday language users consider the threshold for bilingualism. Forty-five participants (26 women and 19 men) between the ages of 21 and 62 years were part of this study. Their educational level was distributed as follows: fourteen had completed secondary education, fourteen had a bachelor's degree, thirteen had a master's degree, one held a Ph.D., and three participants did not indicate their education level. The researchers created a survey soliciting background information, questions on proficiency level, and one simple, closed question (i.e., "Are you bilingual?"). Results of the survey indicated that participants began considering themselves bilingual when they ranked their overall L2 proficiency at 5 or higher (on a 10-point scale). Another interesting factor emerged in that participants with an L1 of English were significantly less likely to consider themselves bilingual. The authors suggest this could be due to the culture of the language or that L1 English speakers have fewer (or make fewer) opportunities to interact in their L2. Lastly, participants actively studying the L2 were less likely to identify as bilingual as compared to those who were not. The researchers hypothesize that this could be because L2 learners receive constant feedback and test results, reinforcing the perception that their language skills are still developing and that they have not yet reached bilingual status.

In Grosjean's (2010) book, Bilingual: Life and Reality, the author describes the numerous daily decisions that are unique to individuals who are bilingual compared to those who are monolingual. Some of these decisions include choosing which language to use in a given situation and deciding with which interlocutors code-switching is appropriate, among others. Code-switching, according to Grosjean (2010), "is the alternate use of two languages, that is, the speaker makes a complete shift to another language for a word, phrase, or sentence and then reverts back to the base language" (p. 52). These decisions and bilingual behaviors may be unknown to monolinguals or even beginning language learners, which could lead many to have unrealistic expectations of what it means to be bilingual. Also in his book, Grosjean (2010) discusses common myths about bilingualism, including the belief that a person cannot be considered bilingual if they have a "foreign" accent. He explains that, in reality, having an accent is the norm for bilinguals, while not having one is the exception. Additional research supports this view, showing that there is no direct relationship between one's knowledge of a language and whether one has an accent in it (Grosjean, 2011). Also, mastery of an L2 sound system is one of the most challenging tasks for learners who begin after puberty (Flege, 1993; Major, 1996; Scheuer, 2002). Since many university students fall into the category of post-puberty L2 learners, it is important to dispel the myth that a "foreign" accent undermines one's bilingualism.

As mentioned previously, a common trait of bilingual speakers is code-switching, both at the word and phrase level. In fact, Redouane (2005) characterizes code-switching as the most

predominant linguistic feature in bilingual speakers' interactions. However, code-switching is criticized by many monolingual and bilingual speakers and is often thought of as a sign of laziness from the speaker or as making the language impure. Some monolinguals think of code-switching as "gibberish" (Edwards, 2006, p. 19), reflecting monolingual ideologies that languages are best kept separate. In a matched-guise test, Rangel et al. (2015) found that bilingual students in Texas generally regarded code-switching as a negative characteristic of speakers when compared to monolingual speech. The students rated speech with code-switching as having lower status compared to speech that used only English or Spanish.

L2 classrooms also have a delicate relationship with code-switching since most, if not all, communication is expected to occur in the L2. In many circumstances, the use of the L1 would penalize students on assessments or exams. For these reasons, students may not be aware of the common and effective practices of code-switching. Scholars say that bilinguals will code-switch, especially with listeners who know both languages, for many reasons, including that certain concepts are better or more easily expressed in a particular language (Grosjean, 1982). Poplack (1980) adds that code-switching can be viewed through the lens of "a large degree of linguistic competence in more than one language, rather than a defect arising from insufficient knowledge of one or the other" (p. 615). For these reasons, it is important to explicitly teach students that code-switching is a common feature in bilingual speakers' interactions, regardless of the way it is perceived when it is compared to monolingualism and in classroom settings.

Metalinguistic Instruction

Metalinguistic interventions are important to enhance students' awareness and increase their understanding of language learning relevance. Bessy and Knouse (2020) examined the results of multiple pedagogical interventions in L2 French and Spanish intermediate classes at the post-secondary level. Using their own classes, the researchers created and implemented four Language Learning Modules (LLMs) as classroom interventions that included topics surrounding how to study effectively for a language course, the meaning of oral proficiency, the cognitive benefits of being bilingual, and the meaning of global competence and why it is important. Sixty-two students were divided into an experimental and a control group, in which half were given the modules and half did not receive such materials. Although the authors never explicitly mentioned that these participants were L1 English speakers, it is assumed to be the case given the home university location within the U.S. and the motivation to target "English-dominant millennial learners enrolled in a required L2 class" (p. 1).

The modules were distributed to the experimental group students during weeks 3, 6, 10, and 13/15 of the researchers' L2 French and Spanish courses. For each intervention, approximately 15-20 minutes of class time was spent on the LLMs. A pre- and post-test survey with quantitative and qualitative questions aimed to measure how the interventions could have impacted students' opinions of metacognitive strategies and metalinguistic awareness, and their view of the relevance of studying an L2. Results revealed that students in the experimental group displayed a deeper understanding and appreciation for language learning as compared to the control group. The results from the experimental group also revealed that students connected the LLMs to their thinking outside of the language classroom, whereas control group students were mostly focused on their immediate language learning context. For example, one student who received the LLMs instruction said:

I will definitely take away an understanding for how important knowing different language

[sic] can be and what a good skill it is to have. While I never considered taking any other [L2] classes, I am now considering continuing with my language learning. (p. 8)

With these results, Bessy and Knouse (2020) stress the importance of explicitly instructing students on metacognitive and metalinguistic strategies, as well as the relevance of L2 study, as a method to improve L1 English students' overall academic, personal, and professional life experiences.

Lanvers et al. (2019) addressed the lack of enthusiasm for L1 English speakers in the UK to learn another language due to the ever-increasing presence of English as a global lingua franca. They used two lessons as pedagogical interventions that aimed to increase students' awareness of three topics: 1) the spread of English globally, 2) the cognitive benefits of multilingualism, and 3) the ubiquity of multilingualism in both the UK and around the world. Their study included a pre- and post-test questionnaire with quantitative and qualitative questions that measured students' language attitudes and feedback on the pedagogical interventions. The study was conducted with 97 learners of foreign languages in three secondary schools. Results showed that anglophone students' attitudes experienced a significant, positive change on attitudinal questions that focused on valuing multilingualism and cognitive effects. However, no significant change was found in questions regarding the image of languages as a subject. The researchers also noted that the intervention did not explicitly address the perception of languages as a school subject, as it did with the value of multilingualism and the cognitive benefits of multilingualism. With these findings, the researchers encouraged future studies that include metalinguistic pedagogical interventions for L1 English speakers around the world.

Tódor and Dégi's (2016) research on students' language attitudes suggests that teachers could help students learn metalinguistic skills and encourage students to use their existing language abilities to assist their second or additional language learning. Their study surveyed 5th- to 12th-grade students attending Hungarian minority schools in Romania. The survey asked for students' opinions on which language they considered the most beautiful, which was most important to learn, and what they saw as the most effective language learning strategies. The majority of students reported Hungarian as the most beautiful language because it was their mother tongue. They also said that English was the most important language to learn because it is "the most spoken language in the developed countries" and is "necessary for almost all job applications" (p. 131). However, despite valuing English as the most important language to learn, most students reported that neither Hungarian nor Romanian could help them acquire English or other languages, demonstrating a lack of metalinguistic awareness. Only some of the students claimed that Romanian could help them learn English, stating that there were similar words between the languages. This suggests an apparent disconnect between students' current linguistic skills and their approach to learning an additional language. In response, the researchers advocate for educators to increase students' metalinguistic awareness as a language classroom tool, helping them recognize and utilize cross-linguistic connections to facilitate L2 learning.

In summary, learners' attitudes toward language learning and bilingualism have been analyzed in connection to self-perceptions of bilingualism, behaviors, such as continuing or discontinuing language learning, as well as attitudes towards specific languages within particular geographic and linguistic contexts. These attitudes have also been examined over time through natural interventions, such as the influence of study abroad experiences. Many studies point to metalinguistic instruction as a promising strategy to improving language attitudes in L2 curricula,

while some suggest that specific interventions can actually change them. However, most researchers still agree that bilingualism is difficult to define, and language learners may have different perspectives or understandings of what it means to be bilingual. Given the previous research, it is evident that there is potential for improving students' language attitudes via classroom interventions that aim to increase their metalinguistic awareness of what it means to be bilingual.

The current study, methodologically inspired by Lanvers et al. (2019), takes an innovative approach to influencing language learning attitudes through a short metalinguistic lesson on bilingualism in the L2 classroom setting. Drawing on the existing body of literature outlined to this point and recognizing the significant role that language attitudes play in language learning—as well as the power of metalinguistic knowledge—we conduct an empirical analysis of an intervention for university-level L2 Spanish learners.

Specifically, as motivated by the literature outlined to this point, we have two research questions that guide the present study:

1. How do the attitudes towards bilingualism and language learning differ between students who have received explicit instruction about bilingualism and those who have not?
2. Do attitudes towards bilingualism and language learning differ based on students' class level?

Method

Participants

Two hundred and one L2 Spanish students in first through fourth semester Spanish classes from four Midwestern universities participated in the present study. The geographic consistency was intentional, as we aimed to sample students with relatively similar exposure to bilingualism, avoiding areas with especially high concentrations of bilingual communities (as such, none of the universities in question are located in Chicago). The results to follow will focus on the students whose L1 was English, for a total of 178 participants. Similar to previous research on language attitudes (Artamonova, 2020), data from 23 participants were discarded to maintain the group's homogeneity. Participants' data were discarded if they indicated having multiple L1s (n=13) or learned English as an L2 (n=10), as their attitudes towards bilingualism and language learning could be affected by these factors.

These L1 English speakers and L2 Spanish learners were enrolled in first through fourth semester Spanish courses, which typically make up the majority of the language learning courses at many Midwestern universities. Based on the extensive experience of the research team with these levels of courses, it can be stated with confidence that students often take these courses before starting advanced grammar and content-specific literature and linguistics courses. Their average age was 20.42 years old (SD = 3.07), and there were 121 females, 55 males, and two non-binary students.

The participants were divided into an experimental and a control group by last name. The experimental group consisted of students with last names A-M and the control group was comprised of students with last names N-Z. We used last names to divide the students since there are no existing correlations between the first letter of a student's last name and their language attitudes or proficiency. This also facilitated the distribution of materials to students across the Midwest. To confirm the validity of this grouping method, we analyzed the experimental and

control groups' average years of studying Spanish. Both groups had studied Spanish for an average of 3.4 years, showing that this way of dividing students produced comparable groups in terms of Spanish learning experience. We will further reflect on this approach to dividing participants in our concluding remarks. Below in Table 1 is a breakdown of the two groups by semester (or level) of Spanish class.

Table 1
Participant Information by Group

Current Level of Spanish	Experimental Group (n=100)	Control Group (n=78)
Level 1	9	10
Level 2	15	15
Level 3	41	25
Level 4	35	28

Instruments

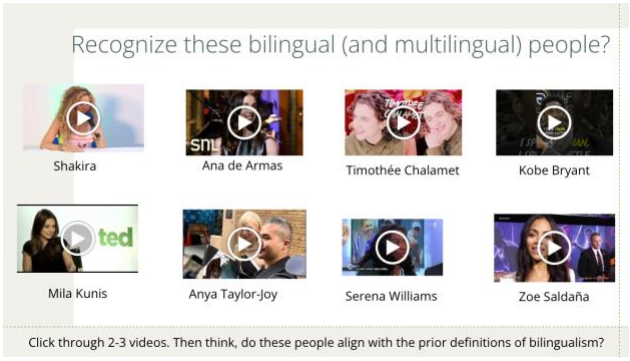
Inspired by the previous work on bilingualism (Grosjean, 2010; Marian & Hayakawa, 2021; Sia & Dewaele, 2006) and language attitudes (Artamonova, 2023; Bessy & Knouse, 2020; Bartley, 1970; Dekker et al., 2021; Lanvers et al., 2019), the instruments used in this study consisted of a metalinguistic lesson on bilingualism and a survey on language attitudes. The lesson on bilingualism was created by the research team and incorporated many aspects of bilingualism. The main themes were definitions of bilingualism, which were mentioned in the previous section, bilingual people, bilingualism by the numbers (both globally and within the U.S.), myths and realities of bilingualism (Grosjean, 2010), foreign language vs. second language, and opportunities for students to self-reflect throughout. Since the students were in lower-level Spanish classes, the lesson was written in English and focused on bilingualism both in Spanish and in general. (See Figure 1 for examples of the lesson.)

The second instrument was the survey on language attitudes, created and distributed via Qualtrics (Qualtrics, 2024). The first page of the survey was used to explain the study information and to verify that students would like to voluntarily consent to participate in the experiment. Students were assured that the survey would not collect their names or any identifiable information.

The survey included 39 questions and was a modified version of the LAQ-LL (Artamonova, 2020). We chose the LAQ-LL because it was created specifically for students in the U.S. and measures attitudes along three subscales: language learning experience, sociocultural appeal, and value of multilingualism. We modified the LAQ-LL by changing many of the questions from a seven-point Likert-scale ranging from 1 'Strongly Disagree' to 7 'Strongly Agree' to a series of questions using a five-point Likert-scale and the response dimensions of *Yes / No / It depends / No opinion.* We also added new questions to the survey to measure attitudes towards bilingual characteristics, such as code-switching and speaking with an accent. The survey included 22 questions with a Likert-scale, nine questions with *Yes / No / It depends / No opinion*, and eight questions on background information. See the survey questions in Appendix A.

Figure 1

Examples of the Lesson on Bilingualism



Procedure

The study team members attained IRB consent in August 2024. In September 2024, through personal and professional networks, the study team emailed language coordinators of

Spanish language programs and instructors of first through fourth semester L2 Spanish classes at multiple, large universities in the Midwest to request participation of their students. In the email, we included directions for the instructors to follow and a recruitment message that they could copy and paste to their online classroom platforms with relevant information about and links to the study. To respect instructors' existing lesson plans and curricular goals, they were allowed to share the materials with their students in a way that best fit their classes. Most teachers used the lesson and survey as an in-class activity, homework assignment, or extra credit opportunity. Beyond instructor-determined homework points or extra credit, students were not compensated for their participation.

We specified to instructors that, if used as an in-class exercise, students should not talk to one another until everyone completed the survey and lesson. Also, if used as an in-class activity, students that did *not* consent to participation did not take the survey but were able to participate in the class activity by reading the lesson. Members of the research team recruited students from their own classes; however, students were allowed to opt-out of participation and all participation was anonymous.

The way teachers incorporated the lesson into their classes could have influenced students' motivation, introducing an additional variable in the procedure. However, the self-guided design of the lesson and survey aimed to maintain consistency as much as possible while reaching students across the Midwest. Since their survey results were anonymous, students earned credit in their classes by showing teachers their answers to the self-reflection questions from the lesson. Data was collected from mid-September to late November 2024.

We created two versions of the lesson on bilingualism, one for the experimental group and another for the control group. Students clicked on a link to a Google Folder with two Google Slides presentations: one was named "Click here for Last Names A-M – Version A" and the other "Click here for Last Names N-Z – Version B." In the Version A presentation (i.e., experimental group's material), students saw the bilingualism lesson, and the last slide included a link to take the survey on language attitudes. In the Version B presentation (i.e., control group's material), students saw a link to the survey as their first task. After finishing the survey, they returned to the lesson. We had the control group view the lesson *after* completing the survey to accommodate teachers who wanted to use the materials for class discussion and instruction. Since the control group only saw the lesson after the survey, it would not have influenced participants' responses, allowing us to preserve the integrity of the control condition while still providing all participants access to the lesson.

The lesson and survey combined took about 15 minutes to complete. The short length of the study was intentional for recruiting a large participant group across multiple classes and universities for quantitative analysis of an experimental and control group. There are advantages of shorter surveys, such as avoiding the decline in completion rates associated with longer surveys (Liu & Wronski, 2017). Similarly, a shorter intervention made it easier for teachers to incorporate the lesson into their classes or assign it as homework.

Data Coding and Statistical Analysis

Likert-scale responses were coded on a 1 to 5 scale, with 1 representing the least positive response and 5 the most positive. Some items were reverse coded to ensure consistent interpretation across the dataset. For example, for the question, "How important is it to not have

an accent when speaking a second language?" the answer of "Extremely Important" was coded as a 1 while "Not at all Important" was coded as a 5. The following analysis focuses specifically on the subset of data from the 22 Likert-scale items. We categorized the 22 Likert-scale items into three groups: directly affected**,** semi-affected, and least affected questions (see Table 2). While all items were designed to assess language attitudes, they were grouped based on their connection to the lesson content: directly affected items were explicitly addressed in the intervention, semi-affected items were somewhat related to the themes discussed, and least affected items were not mentioned in the lesson. To categorize the questions, the research team did an item-by-item analysis of our modified LAQ-LL (Artamonova, 2020) alongside the content of the lesson we created. Given the decision to maintain brevity of the lesson, it did not allow equal depth of coverage of each survey question. However, this categorization allowed us to measure the extent to which the lesson influenced attitudes toward topics that were explicitly addressed in the instruction compared to those that were only indirectly referenced or not mentioned at all (Lanvers et al., 2019)

Table 2

Categories of Likert-scale Questions

Directly Affected Questions (#1-5)
1. How important is Spanish in the United States?
2. How much do you like the idea of being/becoming bilingual?
3. Even if the other person knows both languages, how rude is it to switch between languages in a conversation? *(reverse coded)*
4. How valuable is it to be bilingual?
5. How important is it to not have an accent when speaking a second language? *(reverse code)*
Semi-affected questions (#6-18)
6. How much smarter does knowing two languages make a person?
7. How much do you wish you started learning Spanish at a younger age?
8. How much do you admire people who speak multiple languages?
9. How much do you like learning languages?
10. How much interest do you have in learning a language?
11. How much do you like Spanish?
12. How much do you like hearing Spanish?
13. How much do you like communicating with Spanish speakers?
14. How boring are Spanish classes? *(reverse coded)*
15. How fun is studying languages?
16. How interesting is studying languages?
17. How interesting do you find Spanish-speaking cultures?
18. How beautiful of a language is Spanish?
Least Affected Questions (#19-22)
19. How often are you excited to go to Spanish class?
20. How often do you seek out ways to engage with Spanish outside of Spanish class and homework?
21. How often is Spanish one of your favorite classes?
22. How difficult is it to learn Spanish in a language classroom? *(reverse coded)*

We chose a Bayesian multilevel ordinal logistic regression model to analyze the results of the Likert-scale questions because R (R Core Team, 2023) offers strong packages to support the analysis of ordinal regressions, and this model allows the incorporation of random effects from multiple variables (Barreda & Silbert, 2023; Levshina, 2022). The model also allows the inclusion of fixed effects for statistical control. This was important because there was not the same proportion of students across different class levels in the experimental and control groups. Therefore, the inclusion of a fixed effect held class level constant and allowed for the isolation of the experimental or control groups as a predictor. This suggests that any differences in group when class level is included as a predictor would *not* be due to the differing proportions of class levels in the two samples. Rating was predicted as a function of group (experimental or control) and question category (three levels and current class as a continuous variable), with random intercepts for prompt and participant.

To evaluate the reliability and existence of effects within our Bayesian analysis, we applied decision rules based on the *probability of direction* (pd), a metric that represents the certainty that a parameter lies on one side of the distribution (Makowski et al., 2019a; 2019b). Following established guidelines, we interpreted pd values as follows: pd ≤ 95% indicated the effect was *uncertain*, pd > 95% suggested it *possibly exists*, pd > 97% as *likely exists*, pd > 99% as *probably exists*, and pd > 99.9% as *certainly exists*. These thresholds provided a transparent and consistent framework for interpreting the strength and reliability of our model estimates.

Results

Figure 2 shows the distribution of ratings in each of the three question categories for the experimental and control groups. The bars represent the percentage of each answer choice in order to show comparable proportions rather than absolute numbers (since the group sizes were not equal). The general trends show a right skewed distribution for the directly affected and semi-affected questions, and a normal distribution for the least affected questions.

Figure 2

The Distribution of Ratings by Question Type

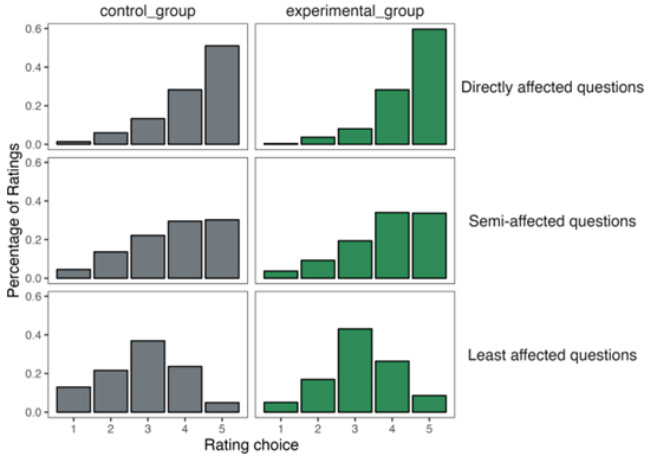


Table 3 describes posterior distributions of the Bayesian ordinal model and corroborates the descriptive observations in Figure 2. The results indicate a modest but consistent difference between the experimental group and the control group, specifically in responses to the directly affected questions. For these questions, students in the experimental group gave slightly more

positive ratings, with a fixed effect estimate of –0.44 (95% HDI [–0.90, 0.03]) and a high probability of direction (0.97). In contrast, there was no strong evidence of group differences in the semi-affected questions (b = 0.13, 95% HDI [–0.19, 0.45], pd = 0.79) or least affected questions (b = –0.09, 95% HDI [–0.48, 0.28], pd = 0.70), suggesting that the observed shift was specific to the content explicitly covered in the intervention. Class level also had a statistically meaningful impact: students enrolled in higher-level Spanish courses gave more positive ratings overall, with a one-level increase associated with a 0.43 change in log-odds (95% HDI [0.23, 0.63], pd = 1.00).

Since class level was included as a fixed effect in the model comparing the experimental and control groups, these comparisons were made while holding class level constant. This is particularly important given that the experimental group included more students from advanced courses (levels 3 and 4) than the control group. The fact that a group difference remained for the directly affected questions after controlling for class level suggests that the lesson itself likely contributed to the shift in attitudes.

Table 3

Summary of the Posterior Distribution

Predictor	Median	95% HDI	pd
Group (Experimental vs. Control)	-0.44	[-0.90, 0.03]	0.97
Group x Semi-affected Questions	0.13	[-0.19, 0.45]	0.79
Group x Least affected Questions	-0.09	[-0.48, 0.28]	0.70
Class Level	0.43	[0.23, 0.63]	1.00

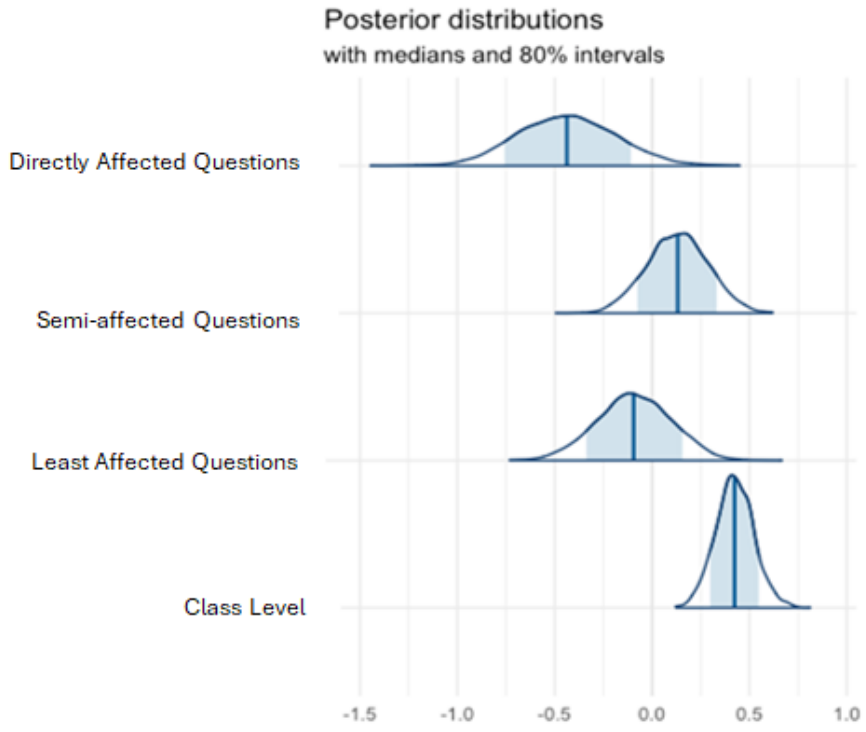
Note. Negative values for the median indicate more positive responses in the experimental group (lower numbers on the Likert scale). HDI = Highest Density Interval; pd = probability of direction.

Figure 3 visualizes the posterior distributions that are directly relevant to the research questions from Table 3. This figure displays the 95% credible intervals for key model effects, with the darkest shaded region representing the central 80% of the most probable values. The estimate for the directly affected questions in the experimental group shows a modest positive shift that does not overlap with zero, indicating a likely effect of the lesson on these specific items. The current class level variable also shows a credible positive effect, with the shaded region consistently above zero, suggesting that students in higher-level classes tended to respond more positively overall. In contrast, the estimates for semi-affected and least affected questions overlap with zero, indicating little to no influence from the lesson on those items.

General Discussion

This study contributes to the growing body of research showing that language attitudes can change in response to educational interventions (Lanvers et al., 2019), even for students who may not have access to transformative experiences like study abroad (Artamonova, 2023). Our results align with those from Lanvers et al. (2019), suggesting that a short, metalinguistic lesson on bilingualism had a modest but meaningful effect on students' attitudes, but only for questions that were directly addressed in the lesson. For this reason, the results support the pedagogical strategy of talking about bilingualism from a metalinguistic point of view and explicitly addressing unique bilingual characteristics to language learners (Grosjean, 2010; Lanvers et al., 2019), such as code-switching and accents. Similar to the results in Lanvers et al. (2019), the semi-affected and least affected items showed no significant differences between groups, reinforcing the idea that immediate shifts in language attitudes are more likely when the attitudinal concept is explicitly addressed during instruction.

Figure 3
The posterior distributions of the Bayesian Ordinal Model



We also perceive the differences in effect from the question category as a potential representation of what types of attitudes can be changed by a single, short-term intervention. Specifically, the directly affected items appear to reflect beliefs that students may be capable of reassessing when given new information. For example, students may consider an L2 accent as a weakness because they are often in classes where pronunciation is corrected and evaluated. This aligns with Sia and Dewaele (2006) who found that people actively studying an L2 were less likely to consider themselves bilingual, potentially due to their frequent experiences of correction and evaluation. However, learning that accents are a normal and expected feature of bilingual speech may prompt a shift in perception, revealing how language attitudes could be shaped by misinformation or narrow classroom experiences. In contrast, no significant differences emerged between groups for the semi-affected and least affected questions, which addressed broader themes such as students' general interest in language learning and their excitement about attending Spanish class. These items may reflect more stable attitudes or current affective states that are less susceptible to immediate change. For instance, a student's excitement about attending Spanish class may not shift immediately upon learning that "foreign" accents are common among L2 speakers. However, this understanding could gradually influence their excitement over time as they become more comfortable with their own bilingual characteristics.

The finding of a significant difference based on class level also aligns with the results of Bartley (1970), Brown (2009), and Kondo-Brown (2013), as well as Grosjean's (2010) argument that beginning learners often hold unrealistic or monolingually oriented expectations about bilingualism. These results point to the importance of addressing myths and realities about bilingualism during the first semesters of language learning, when students may hold less informed

or more negative views of bilingual features compared to more experienced learners.

These findings also support calls from scholars like Marian and Hayakawa (2021) and Sia and Dewaele (2006) to rethink how we define and talk about bilingualism in applied settings. Our results confirm previous research showing that many L2 learners often have different views of and attitudes towards bilingualism. Therefore, if teachers are able to guide learners toward a more accurate and realistic understanding of what it means to be bilingual, it may ease the difficult task of defining bilingualism in both research and practice.

Pedagogical Implications

This study demonstrates that a short, targeted metalinguistic lesson on bilingualism can positively influence students' language attitudes, particularly on topics explicitly addressed through formal instruction. These results highlight an opportunity for improvement in language instruction. Language instructors may consider incorporating explicit, metalinguistic lessons and discussions about bilingualism into their basic language courses as a way to address the value of language learning and bilingual norms, such as code-switching and L2 accents.

Many language programs also emphasize holistic goals, such as promoting intercultural awareness and promoting global citizenship. For example, the university attended by most participants states on its website that students who engage in language learning will expand their worldview and develop intercultural and global competence. One way to support these goals is by integrating instruction about bilingualism into the early courses of the language curriculum. This could be especially important for those students who do not continue language learning beyond their major requirements. Positive shifts in students' language attitudes may lead to increased respect for other bilingual individuals, reduced stigma around bilingual language practices, and greater overall cultural awareness and acceptance.

Additionally, the findings of this study point to the value of incorporating metalinguistic reflection into language classes alongside traditional content like vocabulary and grammar. Our study was intentionally designed to keep the experimental intervention brief, with the goal of making it realistic for integration into a typical L2 classroom. As a result, the outcomes suggest that even a short lesson on these themes can meaningfully shift students' attitudes.

Implications for Future Directions

One of the most valuable parts of this exploratory study is that it raises questions and inspires future research on improving students' language attitudes in the classroom context. The results showed that even a short classroom intervention is associated with significant positive shifts in language attitudes when comparing an experimental and control group. These findings open several directions for research. A key recommendation for future research is to collect pre-test data on students' language attitudes. We initially chose not to do this to minimize response time and maximize participation. Now that we have evidence of an intervention effect, pre-test data would help track individual and group-level changes, while also controlling for pre-existing differences.

Another valuable avenue is measuring the long-term effects of the lesson. In this study, students in the experimental group completed the survey immediately upon finishing the lesson. Future research could analyze students' attitudes after the lesson, in addition to weeks or months later, to determine whether any changes persist or fluctuate over time. This would also address the curiosity of whether the results from the semi-affected and least affected questions could

eventually change.

Further research should also explore the role of classroom discussion. In the present study, students were instructed *not* to discuss the lesson with peers or instructors before completing the survey. We did this to measure the effectiveness of the lesson on its own. However, many students come to a language classroom with diverse linguistic backgrounds, and sharing their personal experiences could reinforce key concepts from the lesson. Therefore, it would be worthwhile to measure whether a deeper discussion on the topic of bilingualism has a different impact on students than a self-guided lesson.

The survey instrument could also be improved by including qualitative survey questions. While the survey items effectively measured some differences between groups, it would be helpful to include simple follow-up open-ended questions to Likert-scale items (e.g., "Why did you select this answer?") to provide deeper insights into students' thought processes surrounding and engagement with attitudinal concepts. The students' responses may reveal additional information in the form of qualitative data about how learners view metalinguistic concepts related to bilingualism.

The lesson on bilingualism could be improved by including examples beyond Romance languages and Western culture. Our lesson intentionally featured bilingual public and famous figures that were likely known to American students (e.g., famous actors, athletes, singers, etc.) to create recognizable connections. However, our results showed that many students had studied non-Romance languages or had family members who were users of non-Romance languages, such as Chinese, Hebrew, Igbo, Japanese, Korean, Russian, Tagalog, and American Sign Language. Therefore, future iterations of this lesson would benefit from having a balanced representation of bilingualism and including languages and public figures from around the globe with different backgrounds. It would also be helpful to solicit feedback from the students about their thoughts on the lesson.

Finally, we plan to conduct further analysis on the lesson's impact while considering students' L1s. In this study, we focused on students whose L1 is English to maintain group homogeneity and because many L1 English speakers often feel less urgency or motivation to learn another language, given the widespread global use of English (Lanvers et al., 2019). Future analysis will explore the impact of the lesson on students whose L1 is not English, which will address how previous language learning experiences might shape attitudinal shifts towards bilingualism.

Limitations

This study had a few limitations. The first is that we did not collect pre-test data for the experimental group; therefore, pre-existing group differences cannot be fully ruled out. Also, one drawback to dividing the students by last name was that the experimental group of students consisted of 100 students, while the control group consisted of only 78 students. A more effective approach to dividing students would have been for instructors to divide each class in half by last name (e.g., assigning the first 12 students on the roster to the experimental group and the last 12 to the control group) to ensure more balanced groupings between the experimental and control groups.

Another limitation comes from the presentation of the bilingualism lesson. In this project,

the lesson was a constant variable, as it was a self-guided intervention presented through Google Slides. In reality, if various teachers were to include information about bilingualism in their curriculum, it is possible that it would be presented differently. For example, some teachers may have different perspectives on topics like code-switching and L2 accents. Therefore, educators who incorporate discussions of bilingualism into their classrooms will need to keep in mind that impact on language attitudes may not be generalizable to the way all teachers would present the specific topics related to bilingualism.

Additionally, the survey questions with the response dimension of *Yes/No/It Depends/No Opinion* were not as informative in terms of variation in language attitudes compared to the Likert-scale questions. Therefore, the results of these questions did not provide the research team with meaningful insight into the attitudinal differences between groups. The survey questions about background information were also limited, as they did not include questions about students' study abroad experiences, heritage language status, or other potentially influential language learning experiences.

Lastly, teachers were allowed to distribute the materials as a homework assignment, an optional assignment (some with and some without extra credit), or a classroom activity. These different methods of distribution could have influenced the effort levels of students, and future research would benefit from maintaining consistent criteria linked to the distribution of the materials.

Conclusions

This study investigated whether a short, metalinguistic lesson on bilingualism could influence students' language attitudes across various first through fourth semester university-level Spanish courses. By comparing responses from students who received the lesson with those who did not, we found that explicit instruction likely had a modest but meaningful impact on shaping more positive and informed attitudes, especially when the topics were directly addressed in the intervention. These findings demonstrate that even brief, focused pedagogical interventions can contribute to positive changes in students' perceptions of language and bilingualism.

To conclude, this exploratory study contributes to existing research on how metalinguistic instruction can positively influence language attitudes. One of the key aspects of this work is to inspire future research that expands upon these results to deepen our understanding of how to best support students and improve language attitudes within the classroom setting, which could then translate to the promotion of global citizenship, a core mission of institutions of higher education.

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Appendix A

Survey on Language Attitudes

Are you a participant from Version A (Last names A-M) or Version B (Last names N-Z)?

- Version A (Last names A-M)
- Version B (Last names N-Z)

Displayed if Version A was selected: If you are Version A, you should have read through a lesson about bilingualism before taking this survey. If you have not done that yet, please STOP and read through the lesson first.

Have you read through the lesson on bilingualism?

- Yes, I've read through the lesson on bilingualism
- No, I haven't read through the lesson on bilingualism

On the following pages, you will answer questions about languages, bilingualism, and language learning. For the results of this survey to be representative of the population, it is important that you are as honest as possible about how you feel. There are no right or wrong answers to these questions, these are your opinions, and your answers will never be connected with any of your identifiable information.

1. How fun is studying languages?
    a. Not at all fun, Somewhat fun, Pretty fun, Very fun, Extremely fun
2. How boring are Spanish classes?
    a. Not at all boring, Somewhat boring, Pretty boring, Very boring, Extremely boring
3. How interesting do you find Spanish-speaking cultures?
    a. Not at all interesting, Somewhat interesting, Pretty interesting, Very interesting, Extremely interesting
4. How interesting is studying languages?
    a. Not at all interesting, Somewhat interesting, Pretty interesting, Very interesting, Extremely interesting
5. How difficult is it to learn Spanish in a language classroom?
    a. Not at all difficult, Somewhat difficult, Pretty difficult, Very difficult, Extremely difficult
6. How valuable is it to be bilingual?
    a. Not at all valuable, Somewhat valuable, Pretty valuable, Very valuable, Extremely valuable
7. *How important is it to *not* have an accent when speaking a second language?
    a. Not at all important, Somewhat important, Pretty important, Very important, Extremely important
8. How important is Spanish in the United States?
    a. Not at all important, Somewhat important, Pretty important, Very important, Extremely important
9. How beautiful of a language is Spanish?
    a. Not at all beautiful, Somewhat beautiful, Pretty beautiful, Very beautiful, Extremely beautiful
10. *Even if the other person knows both languages, how rude is it to switch between languages in a conversation?
    a. Not at all rude, Somewhat rude, Pretty rude, Very rude, Extremely rude
11. How much smarter does knowing two languages make a person?
    a. Not at all, A little, Somewhat, Quite a bit, A lot – **Same response dimensions for #13-21**
12. How much do you wish you started learning Spanish at a younger age?
13. How much do you like the idea of being/becoming bilingual?
14. How much do you admire people who speak multiple languages?
15. How much do you like learning languages?
16. How much interest do you have in learning a language?
17. How much do you like Spanish?

18. How much do you like hearing Spanish?
19. How much do you like communicating with Spanish speakers?
20. How often are you excited to go to Spanish class?
    a. Never, Rarely, Sometimes, Very often, Extremely often – **Same response dimensions for #22-24**
21. How often do you seek out ways to engage with Spanish outside of Spanish class and homework?
22. How often is Spanish one of your favorite classes?
23. Do people who speak more than one language have a wider world view than monolinguals?
    a. Yes / No / It depends / I don't have an opinion – **Same response dimensions for #25-33**
24. *Is it acceptable for people to be monolingual in today's world?
25. Should people learn another language even if they don't plan on traveling abroad?
26. Are multilingual people an asset to the United States?
27. Should all schools in the United States teach children to speak in more than one language?
28. Is speaking or learning another language important to you because it will help you connect with people who speak that language?
29. Is speaking or learning another language important to you because it will help you in your job or future career?
30. Is learning Spanish worth the effort it takes?
31. Do you think you can become bilingual?
32. Does anyone in your immediate family (parents/siblings) speak a language other than English?
    a. Yes – they speak: _____
    b. No
33. Was English your first language?
    a. Yes
    b. Yes, but I also learned another language as my first language. I learned: _____
    c. No. My first language is: _____
34. How old are you? (Answer in years. Example: 23)
35. What gender do you best identify with?
    a. (Select all that apply: Male, Female, Non-binary, Prefer not to say, I identify in another way: _____)
36. Without counting your current Spanish class, how many years have you studied Spanish in a classroom setting?
    a. 0 years, .5-1year, 1.5-2 years, 2.5-3 years, 3.5-4 years, 4.5 or more years
37. What is the name of your current Spanish class? (Example: Spanish 101, HISP-S 105, etc.)
38. What is the name of your current university?
39. Have you ever studied a language other than Spanish?
    a. Yes
        i. If yes, What language(s) have you studied besides Spanish?
    b. No

*Questions that were reverse coded