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How learning a foreign language can change
the way we see the world
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UNIVERSITAT ROVIRA I VIRGILI
DEPARTAMENT D'ESTUDIS ANGLÉSOS I ALEMANYS
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ABSTRACT

This paper aims to explore how learning a foreign language might change the way we see the world around us. A theoretical background, based on the main connections that language may have, was conducted to investigate if these factors can alter the perception of things. For this study, a total of 73 undergraduate university students from the Universitat Rovira i Virgili were selected as participants for a questionnaire with a set of 20 questions, 7 of them completely related to the content of the first part of the study, that is, the theoretical background. The results suggest that most of the students inherently relate the language with the culture, which is the major factor for a language to stay alive. From this study, we can determine that learning languages makes us more open-minded, helps understand other cultures, and encourages a desire to travel. Therefore, language along with culture can affect our thoughts and interactions, changing our own points of view.

Keywords: Language, Culture, Learning, Perception, Connection.

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1. Introduction

The main aim of this thesis is to investigate the potential effects of learning a foreign language on our perception of the world that surrounds us. By engaging in this exploration, the intention is to reveal the ways in which the acquisition of a foreign language could possibly lead to a change in our perspectives and interpretations of our environment. Through this research, it is hoped to gain a deeper understanding of the connections between language acquisition and the potential transformation of the view of the world.

In the first part of the thesis, some background information will be presented to build a foundation. Important connections that can be formed by language will be discussed. First, the most crucial relationship, which is language and culture, will be explained. Different ideas from various authors about this connection will also be considered. After that, other important connections between language and concepts such as color perception, time comprehension, numerical representation, and the association of language with gender will be discussed. Studies that have been done to demonstrate the connection between language and these important parts of life will be shown in this part.

The second part of the thesis will be based on a research study. This study aimed to see if the ideas exposed in the first part are true in real life. To do this, a set of questions in the form of a questionnaire was created using Microsoft Forms. Then, this questionnaire was sent to many students who are currently studying at the University Rovira i Virgili. By looking at their answers, it is hoped to find out if what participants experience matches with the theories discussed in the first section of the thesis.

1.1 Language and culture

Language is a tool that we humans, no matter the territory or culture, have been using for years and years. And a question that comes to mind is if a link exists between language and culture of the people around the world. Doing some research from different resources, different conclusions from different authors about the relationship between language and culture have been extracted, as there is no certain conclusion about this connection.

Many linguists find the relationship between language and culture fascinating. According to the linguist Nida (2003), language and culture are different systems of

symbols, and language carries meanings that are connected to culture. This means that the same words can have different meanings for people from different cultures. For example, the word "lunch" might mean hamburger or pizza for someone from England, but it could mean steamed bread or rice for someone from China. Similarly, the English word "dog" and the Chinese character "gou" both refer to the same animal, but they have different associations and ideas in different cultures. In English, "dog" is connected to positive qualities like loyalty and companionship, while in China, "gou" is often seen as a guard dog. Because of these cultural connections, translations between English and Chinese words are not always the same and can create different images in people's minds (Jiang, 2000).

The connection between language, thought, and culture was first explored by German philosophers Johann Herder and Wilhelm von Humboldt in the early 1800s. American anthropologists Franz Boas, Edward Sapir, and Benjamin Lee Whorf later expanded on this idea, known as the Sapir-Whorf hypothesis (Kay & Kempton, 1984). It suggests that language can influence how we think and understand the world. Different languages may shape our perceptions and concepts in unique ways. Language is not just a means of communication, but also an integral part of our cultural identity and how we interpret the world (Kramsch, 2004; 2014).

According to Rangriz and Harati, (2017), for what the relationship between language and culture concerns, many different researchers have made a few claims about it, and four main claims are the following. In general terms, the first one is that there is an influence of the social structure into the linguistic structure and behavior. The second one is the opposite of the first claim, that is, social structure is being influenced by linguistic structure. It is also named as the Whorfian hypothesis or "linguistic relativity", the hypothesis that I have mentioned earlier which explains, in simple words, that social behavior can be changed if language is changed in the first place. The third main claim is that the relationship between language and culture may be bi-directional, that is, society influences language as well as language influences society. The last main claim is that there may be no relationship between linguistic structure and social structure as they are independent from each other.

The conclusion taken from the information retrieved is that different perspectives and views for what language and culture concerns exist. There may be more than one

possibility in order to observe how language works in different parts of the world (Rangriz & Harati, 2017).

1.1.1 Language learning in relation to culture

According to Qu (2010), culture is present everywhere and has a strong influence on every aspect of life. Language is the key to understanding the cultural heritage of other people. Learning another language allows individuals to expand their knowledge and culture by connecting with great minds and literature (Lantolf, 2000; Lantolf & Pavlenko 2014). Culture, in a broad sense, links all aspects of shared life in a community. We grow up in a social group where we learn how to see, do, express, and solve problems in certain ways. We also develop preferences and dislikes based on cultural values (Wildavsky, 1987). These cultural aspects are deeply rooted in social conventions, relationships, and assumptions, forming the core of a people's culture. Language is learned and used within this cultural context, incorporating different meanings and functions. Language learners need to embrace these cultural elements to truly master the language as native speakers do (Stern, 1975).

Language learning is a major component when it comes to knowing different cultures, as the language is attached to culture (Qu, 2010). Moreover, while it is not clear exactly how language and culture are connected, it is evident that people's linguistic choices show a relationship between them. Language learners need to understand why people think and speak the way they do and recognize the agreements between a culture and its language. To become skilled language users, it is important for learners to study language and culture together. This integrated approach will help learners obtain the necessary competence to communicate effectively (Elmes, 2013).

From this point, having knowledge about a language can involve acquiring knowledge from other cultures, and three components about this connection exist (Mazari & Derraz, 2015).

1. Language learning gives us the chance to explore the connection between language and various cultural aspects. By studying a new language, we can discover how it reflects the beliefs, customs, traditions, and social norms of the people who speak it.
2. When learning a foreign language, we are able to compare it to our own native language. This comparison allows us to notice the similarities and differences in vocabulary, grammar, pronunciation, and even cultural concepts. Moreover, we can observe how different cultures express similar ideas in their unique ways. This comparison helps appreciate the richness and diversity of languages and cultures.
3. Learning about another culture also involves understanding and appreciating our own culture. By exploring the cultural aspects of our native language, we can better understand the values, biases, and assumptions embedded in our own culture. This self-reflection helps develop a deeper awareness of how our own culture shapes communication and interactions with others.

All and all, language learning not only helps to gain linguistic skills but also provides insights into different cultures. It broadens your horizons, enhances your intercultural communication abilities, and encourages you to embrace diversity and cultural understanding.

1.2 The Sapir-Whorf hypothesis

A section about this hypothesis has to be created because it is one of the main linguistic views that align with my theoretical background. This hypothesis is important in the field of linguistics and relates to how language, thought, and perception are connected. It explores how language can affect the way we think and see the world, including our cultural perspectives. By studying the Sapir-Whorf hypothesis, the intention is to gain a deeper understanding of how language influences different aspects of our lives and its impact on various academic subjects.

According to Kay and Kempton (1984), the Sapir-Whorf hypothesis, also known as “linguistic relativity”, has been a topic of controversy since its formulation. Edward Sapir, an American anthropologist and linguist, is credited with originating the hypothesis, which he expressed in his work "The Status of Linguistics as a Science" (1929). The American linguist Benjamin Lee Whorf later reformulated the hypothesis in his work "Science and Linguistics" (1940).

The explanation of the Sapir-Whorf hypothesis is that language influences thought and perception. It suggests that speakers of different languages think and perceive reality in distinct ways, and each language incorporates its own unique view of the world. This hypothesis has implications not only for linguistics but also for psychology, ethnology, anthropology, sociology, philosophy, and the natural sciences (Lucy, 1992).

The hypothesis has caused discussions among experts, with some accepting it to different extents while others questioning its ideas. People who support it argue that language influences how we think and see the world, impacting how we understand things and our cultural viewpoints. Additionally, they propose that various ways of speaking and different words can result in different ways of understanding reality (Kay & Kempton, 1984).

Critics of the Sapir-Whorf hypothesis contend that language may influence thought to some extent but does not wholly determine it. They argue that while language can shape certain cognitive processes, other factors such as culture, individual experiences, and universal cognitive mechanisms also play significant roles in shaping human cognition (Chandler, 1994).

Despite the controversy, the Sapir-Whorf hypothesis has influenced various academic disciplines, that is, linguists have explored how language structures and vocabulary affect cognition, while psychologists have examined the relationship between language and thought. Therefore, all sciences have considered how language may shape scientific reasoning and conceptualization (Kay & Kempton, 1984).

1.3 Language and Color Perception

When we look at a rainbow, we see different bands or groups of colors, like red, green, and blue. These colors appear separate from each other, even though the rainbow is actually made up of a smooth transition of light from the shortest to the longest wavelengths in the visible spectrum (Özgen, 2004).

Therefore, according to Hallik, et al. (2020), cultural differences have a big influence on how we see colors. The way we perceive colors is shaped by the customs and traditions related to colors in our language and culture. As time has passed, new colors and pigments have allowed for a wider range of colors. For example, in Estonian, there are 11 main color categories, while in Russian, there are 12. In Estonian, they have different words to describe various shades of blue, like light blue and dark blue. But only the word "sinine" is considered a basic color category. In Russian, there isn't a specific word to describe all the different shades of blue. Instead, they have two basic color words for different shades of blue: "goluboy" and "siniy" (see Figure 1), (Winawer, et al., 2007).

Figure 1. Examples of the “goluboy” and “siniy” blue shades.

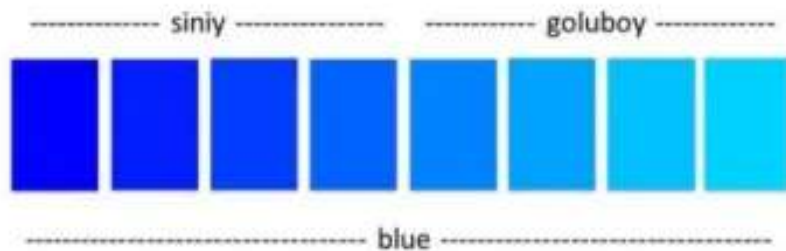


Image retrieved from <https://skirmisheswithreality.net/2017/09/21/colorful-speech/>

Many researchers have wondered if there is a connection between language, culture, and color perception, and the answer is yes. This question is related to the theory known as the Sapir-Whorf hypothesis, which has been explained previously (Özgen, 2004).

Studies have shown that language can influence how we perceive colors. For example, the words and categories we have in our language for colors can shape our understanding of them. Additionally, cultural factors also play a role. The customs and

traditions of a culture can influence how we feel and interpret different colors (Adams & Osgood, 1973).

Most people with normal vision see colors in a similar way. Our ability to perceive a wide range of colors is influenced by language and culture. Different languages have their own systems for categorizing and naming colors. Additionally, our cultural customs and personal experiences shape how we perceive colors. This means that people from different language backgrounds may have different ways of expressing and understanding colors. Overall, color perception is influenced by both biological factors and cultural and linguistic influences (Hallik et al., 2020).

According to Winawer et al. (2007) different languages categorize colors in various ways, which raises the question of whether speakers of different languages perceive colors differently. Recent studies suggest that language can influence color perception and judgments.

In a study conducted by Witthoft et al. (2003), three experiments were conducted to explore the correlation between language and color perception. The experiments involved tasks that assessed color discrimination under different conditions of interference, such as verbal and spatial interference. The results indicated that language-related interference affected color discrimination tasks, particularly in the verbal domain. However, the study did not find evidence suggesting that language significantly alters the fundamental perception of colors.

However, while the study suggests that language can impact the speed of color judgments, it does not necessarily imply that speakers of different languages actually perceive colors differently. Moreover, further research is needed to understand how language influences color perception without linguistic processes interfering with speakers' inherent perception.

1.4 Language and time

Another interesting relationship with language and how it can change our perspective of the world is time and its speakers' perception of it. But, how do we learn, understand, and think about time? According to Boroditsky (2001), our experiences in the world give us some clues. We know that each moment only happens once, we can only be in one place at a time, and we can't go back in time. We also realize that many things in life are not permanent. This shows us that time is something we perceive as continuous and moving forward. We see objects and events appearing and disappearing, which helps us make sense of time. These ideas about time are likely shared across different cultures and languages. Generally, we think of time as a straight line with events happening one after another, even though it varies by culture as only some cultures see it this way.

Moreover, some aspects of time, like events happening within a specific timeframe and the idea of change in one direction, for us, it could seem to be the same in all cultures and languages. However, there are parts of our understanding of time that we can't directly see in the world. For example, we don't know if time moves horizontally or vertically, forward or backward, left or right, up or down. We also don't know if time moves past us or if we move through it. These things are not clear from our experiences, but we know that we use language, often using comparisons to space, to talk about time, that is, we use words and spatial metaphors to describe time (see Figure 2) (Boroditsky, 2001; Boroditsky, et al., 2011).

Figure 2. Examples of spacial metaphor within different languages.

Which Way Is Tomorrow?
Spatial metaphors for past and future vary around the world.




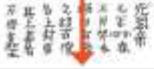



LANGUAGE	SPATIAL METAPHOR		BASIS OF METAPHOR
English (and many others)	Past = behind, future = in front		Walking forward
English (and many others)	Past = leftward, future = rightward		Writing, calendars, and timelines
Hebrew	Past = rightward, future = leftward		Writing direction
Mandarin	Past = above, future = below		Writing direction
Aymara (South America), Vietnamese	Past = in front, future = behind		Past is known and seen; future is unknown and unseen
Yupno (Papua New Guinea), Tzeltal (Mexico)	Past = downhill, future = uphill		Unknown
Pormpuraaw (Australia)	Past = east, future = west		Path of the sun

Image retrieved from <https://www.scientificamerican.com/article/how-we-make-sense-of-time/>

1.4.1 How people think about time?

In this section, I'm summarizing a study done by Boroditsky, Gaby, and Levinson in 2012 about how people think about time. According to the authors, the way time is understood in the Pormpuraaw community, an Australian Aboriginal group on the west coast of Cape York Peninsula, is very different from other cultures.

The study involved giving two tasks about the order of events to people from Pormpuraaw and The United States using tests that measure how people think about time. Normally, Americans think of time from left to right, but other cultures have been shown to think of time in different ways, like from right to left, front to back, or back to front.

However, the Pormpuraaw people's ideas about time were found to be quite different from those of American English speakers and other known cultures. Instead of using left-right or body-related clues, the Pormpuraawans use cardinal directions to think about time. They organize time from east to west. That means time moves from left to right when facing

south, from right to left when facing north, toward the body when facing east, and away from the body when facing west. The authors note that these findings reveal a completely different way of thinking about time, with time organized independently of other ways mentioned before. The results show that time can be understood very differently depending on the culture.

Also, the conclusions taken from this study are that people who speak languages that rely on absolute reference frames, like Kuuk Thaayorre, have a much stronger sense of direction and spatial awareness compared to speakers of languages that use relative reference frames, like English. This means that Kuuk Thaayorre speakers are better at staying oriented and knowing their location, even in unfamiliar places or buildings, than English speakers. In fact, what makes them like this is the language and how they use it (Boroditsky, 2009).

Overall, according to Boroditsky (2001), we can say that the way we talk about time using spatial metaphors can influence how we perceive and understand it. Spatial metaphors give a structure to certain aspects of time that might not be clear based on our experiences in the world.

When we use spatial metaphors to describe time, it creates a connection between space and time, and we start to think about time in relation to space. This process is similar to how we make connections and draw conclusions based on similarities between different things.

Moreover, the connections between space and time that language encourages become part of our understanding of time. Therefore, when different languages have different spatiotemporal metaphors, it can lead to different ideas and perspectives on time. All and all, language is a powerful tool that can shape how we think about abstract concepts. Especially when we have limited or unclear sensory information, like determining the direction of time, language plays a big role in influencing our thoughts and perceptions.

1.5 Language and Numbers

According to Wiese (2003), numbers are highly significant in our daily life. They have been present since early human history and are also found in the early stages of children's development. Also, before the invention of writing, numerical representations were already in use. Evidence from archaeology suggests that our ancestors, as far back as 30,000 years ago, employed simple notches as a way to symbolize collections of objects.

Additionally, another claim from Wiese (2007), explains that humans have a unique way of understanding numbers that sets us apart from animals. There are two key differences: First, our number concept goes beyond just quantities and can also represent order and labels. For example, we can say "five buses" to indicate quantity, "the fifth bus" to show order, or use "#5" as a label. Second, our understanding of numbers allows for recursion, which means we can grasp the idea of infinite numbers. In contrast, animals and young children use finite and simple representations of numbers that focus only on quantity and lack a unified understanding of numbers.

Moreover, we believe that the words we use are closely connected to our thoughts, especially when it comes to numbers. Understanding numbers depends on language, including knowing how to count and understanding sentence structure. This idea is supported by studies in different fields like brain science, imaging, and child development (Gelman & Butterworth, 2005).

Therefore, I have done some research about this, and I have found that psychologists Rochel Gelman and Brian Butterworth have studied this relationship and have retrieved information of value for what the relationship between language and numbers concern (Gelman & Butterworth, 2005).

Firstly, Gelman focuses on how children learn numbers and language, while Butterworth looks at how our minds understand both. They challenge the idea that numbers depend only on language. They believe that although language helps with some aspects, like memorizing words or facts, the main parts of the brain for numbers are separate from language. Moreover, they also criticize the belief that numbers come only from counting

words. They suggest that there are other ways to understand numbers, like using body parts or drawings. Therefore, these methods should not be ignored because they can help us understand numbers beyond a certain level.

For what the Sapir-Whorf hypothesis concerns, this claim suggests that language plays a role in shaping the development of numerical concepts. However, it is not always clear whether those who support this idea think that language influences the general understanding of numbers or just specific concepts related to certain numbers. Both Mix, et al. (2002) and Carey (2004; 2009), argue that language has a causal role in how people learn concepts of natural numbers and their properties.

All and all, the conclusions taken from Gelman and Butterworth explain that numbers have their own origins and are not only connected to language. While language may have some influence on understanding numbers, it is not the only factor.

From this point, we know that language may have an existence relationship with numbers. However, a question that comes to mind is, does every language have the same influence on numbers? For this section, I have retrieved some information from the studies created by the psychologists Spelke and Tsivkin (2001).

In their study, three experiments were conducted to examine how a specific language influences human understanding of numbers. Bilingual college students who spoke both Russian and English took part in the experiments, and they were taught new numerical operations, arithmetic equations, and facts about geography or history involving numerical or non-numerical information.

After learning in both languages, the students were tested on their knowledge of the materials in each language. The results showed that they performed better in the language they were trained in when it came to exact numbers and related problems. However, for approximate numbers and non-numerical facts, their performance was the same in both languages.

The conclusions retrieved from the study suggest that a specific language can influence the understanding of large, precise numbers, but not approximate numbers that are shared with other animals. Language seems to play a role in learning about exact numbers in various contexts, which has implications for bilingual education, and it also raises questions about the impact of language on the development of human cognitive abilities.

1.6 Language and Gender

According to Phillips and Boroditsky (2003), except for the English language, many languages have a system called grammatical gender. This means that every noun is given a gender. Some languages only have two genders, masculine and feminine, while others have additional genders like neuter, vegetative, and others that are not as commonly known. When people speak a language with grammatical gender, they have to use specific words, such as definite articles and pronouns, to show the gender of objects. They may also need to change the form of adjectives or verbs to match the gender of the nouns.

Additionally, the way we perceive objects visually does not usually tell us much about their gender. Instead, we rely on language, specifically in languages that have grammatical gender, to provide us with definitive information about the gender of objects. It's possible that language has a strong impact on our thinking, especially in abstract areas like grammatical gender that don't heavily rely on our senses (Boroditsky, 2000; 2001).

Grammatical gender, as I explained, exists in many languages and has been extensively studied in recent years, as it plays a crucial role in language production and comprehension. Additionally, grammatical gender helps establish coherence within sentences and discourse (Friederici & Jacobsen, 1999).

Moreover, many researchers have dedicated significant efforts to investigating how gender information is processed in language, as understanding the role of grammatical gender allows us to better organize our thoughts and communicate effectively (Friederici & Jacobsen, 1999).

Let's now look at how gender is used in different languages to understand what it means and how it relates to sex. While many people are familiar with gender in languages like English, linguists have a broader definition. According to the linguist Hockett (1958), genders are different classes of nouns that affect the behavior of associated words.

Moreover, according to Boroditsky and Schmidt (2003), and Foundalis, (2002; 2019) languages can have two or more classes of nouns that are considered genders, or they may not have any gender system at all like for instance Chinese, as there is just one third-person pronoun, 'tā,' that doesn't specify gender and can refer to any gender or none at all.

Here I have retrieved some examples of the grammatical gender from different languages of the world. According to Boroditsky and Schmidt (2003), Mandarin Chinese doesn't have a gender system. In Tamil, a language spoken in South India, nouns are divided into "rational" (people, gods) and "nonrational" (animals and everything else), and the rational gender is divided into "masculine" and "feminine".

English, which is a Germanic language, has a natural gender system similar to Tamil, but it only affects pronouns like "he" or "she". Other languages, like Zande spoken in the Democratic Republic of the Congo, have fewer clear rules based on the meaning of words. Zande assigns nouns to four genders: masculine, feminine, animal, and neuter.

Dyirbal, an Australian language, also has four genders called "class I, II, III, and IV". It has been shown that the rules for assigning genders in Dyirbal are based on meaning but are not obvious. However, children learning these languages don't seem to learn the gender of nouns one by one.

As said previously, language and culture have a big impact on how we think and see the world. Thus, Boroditsky and Schmidt studied how grammatical and biological gender affect the minds of people who speak languages like Spanish and German. These languages assign genders to nouns, like masculine or feminine, even for things and ideas (Foundalis, 2002; 2019).

Boroditsky and Schmidt (2003), explain that if our language has grammatical gender, we might unconsciously think of objects as having a biological gender. For example, if something is grammatically feminine in our language, we might associate it with feminine qualities. ("Gender" here means the grammatical category, not biological gender.)

Boroditsky and Schmidt's idea is based on the belief that there is a connection between gender and biological sex in the minds of speakers of these languages. However, they state that language and culture aren't the only things that shape how we think. Our personal experiences, beliefs, and exposure to different perspectives also influence how we understand the world.

All and all, it is important to remember that language and culture change over time. Therefore, the authors reflect the beliefs and experiences of a specific community or society. While language can affect our thinking, it doesn't limit us to one perspective. We can go beyond language and culture to develop our own unique ways of thinking and understanding (Foundalis, 2002; 2019).

1.7. Research questions and hypotheses

In order to establish the objective of this paper, a questionnaire that includes multiple questions has been designed. The main purpose is to examine whether the hypothesis presented in my research holds true. Specifically, it is of interest the investigation on whether people's perspective on the world can be altered by the process of learning foreign languages. By conducting this study, it is hoped to gain a deeper understanding of how language acquisition may potentially influence individuals' views and their understanding of the world. The research questions asked were these:

- Do undergraduate students think in other foreign languages besides their mother tongue?
- Do undergraduate students think that learning foreign languages changes the way they think in general?
- Do undergraduate students think that learning a foreign language has made them more open-minded?

- Has learning a foreign language made undergraduate students more interested in traveling or living abroad?
- Do undergraduate students think that learning a foreign language can expand their understanding of things?

2. Method

Doing research has served to investigate and look for precise information about the different parts this paper has. To see if the theoretical background can be applied in real life, a questionnaire which includes 7 questions related to the topic of language and how it can alter our perception of the world has been prepared. The purpose of this questionnaire is to apply the background theory of the paper to people's thoughts and opinions about questions in relation to this topic.

2.1. Participants

For this study, a total of 73 undergraduate university students from the Universitat Rovira i Virgili were selected as participants. The age range of the participants varied from 17 to over 30 years old. In terms of gender, the decision was made not to include this question in the questionnaire, as it is believed to be not relevant to the primary objective of my research (see Appendix A).

Therefore, the results from the first question reveal the program in which undergraduates are currently studying. Many different participants from different programs answered the questionnaire, such as Biotechnology, Biochemistry, History, English/Spanish Philology, Computer Engineering. From 69 people who answered, the highest percentage was the English degree, with 13%.

The second question asked in which year of the URV program students are currently in. According to the results, 17 participants were in first year (24%), 10 participants were in second year (10%), 17 participants in third year (24%) and 27 participants were in their fourth year (34%) (see Figure 3).

Figure 3. Answers on the year program that participants are currently studying.

2. ¿En qué año de carrera estás?

[Más detalles](#)

[Información](#)

● Primer año	17
● Segundo año	10
● Tercer año	17
● Cuarto año	27



Regarding the age of the participants, according to the results of the third question, it was found that 16 participants were between 17 and 19 years old (22%), 29 participants belonged to the group of 20 to 22 years old (40%), 17 participants belonged to the age range of 23 to 25 years old (24%), 4 participants were between 26 and 30 years old (6%), and 6 participants were over 30 years old (8%) (see Figure 4).

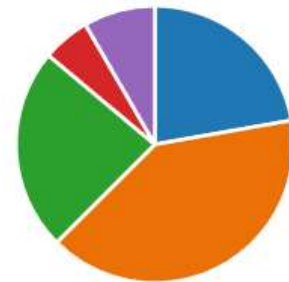
Figure 4. Answers on the year program that participants are currently studying.

3. ¿Qué edad tienes? (0 punto)

[Más detalles](#)

[Información](#)

● 17-19	16
● 20-22	29
● 23-25	17
● 26-30	4
● +30	6



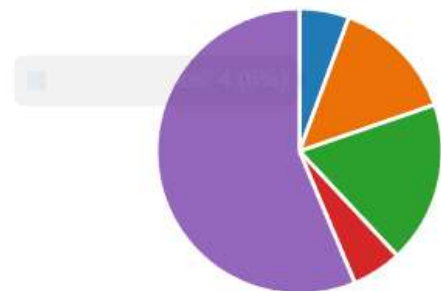
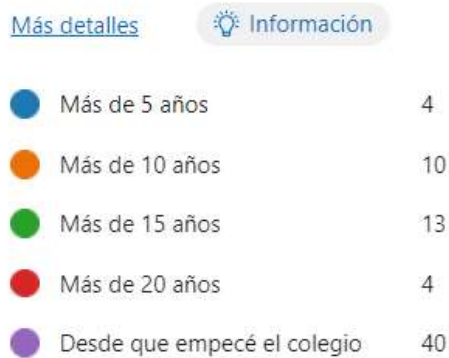
In the fourth question, participants were asked about their mother tongue or native language. The majority of respondents (45%) indicated Catalan and Spanish as their mother tongues, which is common among the Catalan population. However, there were also participants who mentioned various other mother languages such as English, Portuguese, Romanian, Flemish, French, Polish, Arabic, Urdu, and Punjabi.

According to the fifth question, the participants were questioned about the languages they are currently learning, and the most frequent answer was English as the language of choice for their studies. Additionally, there were some participants who were learning multiple languages simultaneously. In most cases, this involved learning English along with another language such as Italian, German, or French, which are among the more popular choices for language study. Furthermore, only two participants indicated that they were not currently studying any language.

In the sixth question, participants were asked for how many years they had been studying foreign languages. According to the results, 4 participants (6%) started more than 5 years ago, 10 participants (14%) more than 10 years ago, 13 participants (18%) more than 15 years ago, 4 participants (6%) more than 20 years ago. And the biggest group, with 40 participants (56%), answered since they started school (see Figure 5).

Figure 5. Answers on how many years participants have been studying foreign languages.

6. ¿Cuántos años llevas estudiando idiomas? (0 punto)



2.2. Materials

To conduct this study effectively, a questionnaire using MS Forms has been elaborated that aligns with the research goals. The purpose of the questions is to gather information about the participants and explore the significance of language in shaping our perception of the world. By examining these aspects, it is hoped to gain insights into how language influences our understanding and interpretation of our surroundings.

The questionnaire was created in Spanish to include not only students from the English degree program but also any undergraduate student from the URV. By using Spanish for the questionnaire, the intention was to involve a wide range of participants with different academic backgrounds. This approach allowed to have a more inclusive study within the URV students.

2.3. Procedure

Before starting this study, an ethical approval was requested from the URV ethics committee (CEIPSA-2023-TFG-0007). To create the questionnaire (see Appendix A) for this thesis, I followed a simple process. The purpose of the questionnaire was to gather information about the expected results related to my research questions using the MS Forms software. I then reached out to undergraduate students from different academic levels at the URV via email, and asked if they could spend some time to complete the questionnaire.

The purpose of the questionnaire was to collect different information from the people who answered it. The questionnaire focused on gathering opinions about how learning a foreign language can change the perspective of the world. It consisted of twenty questions, with the first ten asking for general information about the respondents, such as their URV program, age, and mother tongues. The remaining questions were more related to the hypothesis of the paper.

The questionnaire aimed to obtain both quantitative and qualitative results. For the quantitative questions, graphs and statistical analysis were used to present the data. Additionally, qualitative results were collected (see Appendix A). Some comments were discussed to help analyze the data. Based on the analysis, further discussions and conclusions were made.

3. Results

Some of the questions in the questionnaire were helpful as they provided relevant information about the participants. Therefore, as mentioned in the participants section, the majority of participants were mainly between 17 and 25 years old, currently speaking Spanish and Catalan and learning languages (mostly English) since they started school.

3.1 Quantitative Results

According to the seventh question, participants were asked about the frequency of their travel. The results indicate that 13 participants (18%) reported traveling more than twice a year, 16 participants (23%) traveled once to twice a year, 23 participants (32%) traveled every year, 10 participants (14%) traveled every 2 years, and 9 participants (13%) traveled every 5 years (see Figure 6).

Figure 6. *Answers on the frequency of participant's traveling.*

7. ¿Cada cuánto viajas? (0 punto)

[Más detalles](#)

● Más de 2 veces al año	13
● De 1 a 2 veces al año	16
● Cada año	23
● Cada 2 años	10
● Cada 5 años	9



Traveling to foreign countries where people speak other languages may encourage to start practicing such languages. Thus, based on the results of the eighth question, participants were asked if they had a preference for traveling to countries where people speak other languages. Out of the total respondents, 63 participants (88%) answered yes, indicating their preference for such destinations, while 9 participants (13%) answered no, indicating they did not have a preference for traveling to countries where people speak other languages (see Figure 7).

Figure 7. Answers on the preference of participants for traveling to countries where people speak other languages.

8. ¿Prefieres viajar a países donde la gente hable otros idiomas? (0 punto)

[Más detalles](#)

 Información

	Sí	63
	No	9



According to the results of the ninth question, participants were asked whether they believed that traveling encourages the learning of a foreign language. Out of the total respondents, 67 participants (92%) answered yes, expressing their belief that traveling encourages language learning. On the other hand, 6 participants (8%) responded no, indicating that they did not think traveling had a significant impact on language acquisition (see Figure 8).

Figure 8. Answers on the belief that traveling encourages the learning of a foreign language.

9. ¿Crees que viajar fomenta el aprendizaje de una lengua extranjera? (0 punto)

[Más detalles](#)

 Información

	Sí	67
	No	6



In the eleventh question, participants were asked if they use a language other than their mother tongue when thinking. Out of the total respondents, 29 participants (40%) answered yes, indicating that they do use another language when thinking. Additionally, 19 participants (26%) responded no, stating that they exclusively think in their mother tongue. Moreover, 25 participants (34%) answered "sometimes", indicating that they occasionally use another language when thinking (see Figure 9).

Figure 9. Answers on whether participants use a language other than their mother tongue when thinking.

11. ¿Piensas en otros idiomas a parte de tu lengua materna? (0 punto)

[Más detalles](#)

	Sí	29
	No	19
	A veces	25



In the thirteenth question, participants were asked to rate the frequency on a scale of 1 to 5 with which they used a language other than their mother tongue when thinking. It was found that the average rating was 3.15, indicating a moderate frequency overall, and the results indicated that 6 participants (11%) chose 1 on the scale, indicating a low frequency. Additionally, 8 participants (15%) selected 2, reflecting a slightly higher frequency. Furthermore, 19 participants (35%) chose 3, suggesting a moderate frequency. Moreover, 14 participants (26%) chose 4, signifying a relatively higher frequency. Lastly, 7 participants (13%) chose 5, indicating the highest frequency of using a language other than their mother tongue when thinking (see Figure 10).

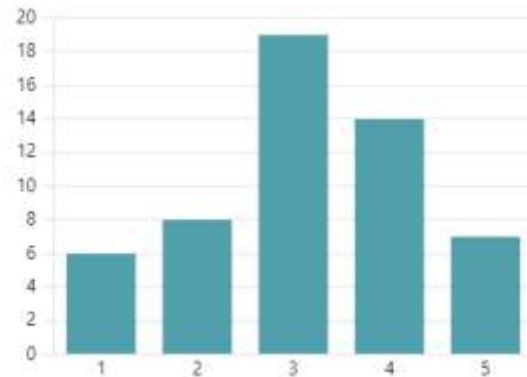
Figure 10. Answers on the frequency of participants for using a language other than their mother tongue when thinking.

13. Si también has respondido a la última pregunta, en una escala del 1 al 5, ¿con qué frecuencia lo haces? (0 punto)

[Más detalles](#)

[Información](#)

3.15
Clasificación promedio



According to the results of the fourteenth question, participants were asked whether they believed that learning languages changes their way of thinking in general. Out of the total respondents, 54 participants (74%) answered yes, indicating that they believed learning languages has an impact on their thinking. On the other hand, 19 participants (26%) responded no, suggesting that they did not think learning languages influenced their way of thinking (see Figure 11).

Figure 11. Answers on whether participants think that learning languages change their way of thinking.

14. ¿Crees que aprender idiomas cambia la forma de pensar en general? (0 punto)

[Más detalles](#)

[Información](#)

● Sí 54
● No 19



Based on the results of the eighteenth question, participants were asked if they believed that learning a foreign language can make a person more open-minded. Out of the total respondents, 60 participants (82%) answered yes, indicating that they believed learning a foreign language has the potential to foster open-mindedness. On the other hand, 13 participants (18%) answered no, suggesting that they did not think learning a foreign language had a significant impact on becoming more open-minded (see Figure 12).

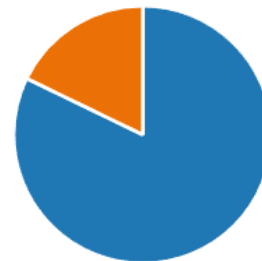
Figure 12. *Answers on whether participants think that learning a foreign language can make a person more open-minded.*

16. ¿Crees que aprender una lengua extranjera te puede hacer más abierto de mente? (0 punto)

[Más detalles](#)

[Información](#)

● Sí	60
● No	13



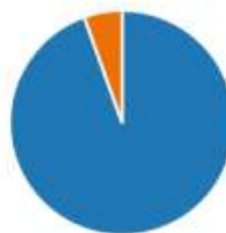
According to the results of the eighteenth question, participants were asked if they believed that learning a foreign language increases their interest in traveling or living abroad. Out of the total respondents, 69 participants (95%) answered yes, indicating that they believed learning a foreign language increases their interest in exploring other countries or living abroad. On the other hand, only 4 participants (5%) answered no, suggesting that they did not think learning a foreign language had a significant impact on their tendency to travel or live abroad (see Figure 13).

Figure 13. *Answers on whether participants think that learning a foreign language increases their interests in traveling or living abroad.*

18. ¿Crees que aprender una lengua extranjera te crea más interés por viajar o vivir en el extranjero? (0 punto)

[Más detalles](#)

● Sí	69
● No	4




According to the results of the nineteenth question, participants were asked whether they believed that learning a foreign language can expand their understanding of things in general. Out of the total respondents, 56 participants (77%) answered yes, indicating that they believed learning a foreign language has the potential to broaden their understanding in general. On the other hand, 17 participants (23%) responded no, suggesting that they did not think learning a foreign language significantly contributes to expanding their understanding of things (see Figure 14).

Figure 14. *Answers on whether participants believe that learning a foreign language can expand their understanding of things in general.*

19. ¿Crees que aprender una lengua extranjera puede ampliar tu comprensión sobre las cosas, en general?

[Más detalles](#)

 Información

	Sí	56
	No	17



Now the qualitative research is being held according to the responses on the following questions:

3.2. Qualitative Results

3.2.1. *Do participants believe that traveling encourages the learning of a foreign language? If yes, why?*

In this part, participants were questioned about their views on how travel contributes to learning a foreign language. They provided various responses (see Table 1), but the key points from their answers were that travel makes language learning easier through direct interaction with native speakers, cultural immersion, and the need to communicate in real-life contexts. This demanding setting encourages the growth of linguistic and adaptability skills, while also extending the comprehension of the local culture through language.

Table 1. A few answers on why participants believe that travelling encourages the learning of a foreign language.

Answers	Translation
1. Perquè desperta la curiositat per conèixer més la cultura i la llengua d'aquell país.	1. Because it arouses curiosity to learn more about the culture and language of that country.
2. Porque al mantener conversaciones con gente que tiene otra lengua materna se aprende más.	2. Because by engaging in conversations with people who have another native language, you learn more.
3. El tener que comunicarte en otro idioma no deja de ser aprender por inmersión; te obligas a tener que adaptarte y usar esa lengua.	3. Having to communicate in another language is essentially immersive learning; you force yourself to adapt and use that language.
4. Porque te ayuda a mejorar tu pronunciación y a aprender palabras coloquiales que no se aprenden en libros ni clases.	4. Because it helps improve your pronunciation and learn colloquial words that are not taught in books or classes.
5. Porque para poder aprovechar al máximo la experiencia de viajar, debes conocer la cultura de los nativos de la región a la que viajes, algo que no podrás hacer si no eres capaz de comunicarte con ellos, lo que llevará a que aprendas inglés o la lengua que se habla en dicha región.	5. Because to fully embrace the travel experience, you must understand the culture of the natives of the region you are visiting, something you cannot do if you cannot communicate with them, which will lead to learning English or the language spoken in that region.
6. Porque te hace interesarte sobre su lenguaje y aprendes cosas simplemente de la cultura	6. Because it piques your interest in their language, and you learn things about their culture just by being curious.

3.2.2. Do participants think in other foreign languages besides their mother tongue? If they do, which language and why?

In this section, participants were asked to indicate whether they think in other foreign languages and the reason why. Most of the participants shared that they think in languages other than their native one (see Table 2). They mainly mentioned French, Catalan, English, and Spanish. They do this for various reasons, like being more comfortable with a language, consuming a lot of content in it, using it daily, or having learned it since they were young. Some participants responded that they think in multiple languages, depending on the situation or topic. The reasons for thinking in different languages extend from exposure to using them in their lives.

Table 2. A few answers on which languages do participants think besides their mother tongue.

Answers	Translation
1. Francès, perquè és la domino més.	1. French, because I am more proficient in it.
2. Inglés porque el 90% de cosas que leo, veo o escucho están en inglés y hay temas de los que solo conozco el vocabulario en inglés	2. English, because 90% of the things I read, watch, or listen to are in English, and there are topics for which I only know the vocabulary in English.
3. Inglés, porque llevo escuchándolo desde que tengo 3 años.	3. English, because I've been listening to it since I was 3 years old.
4. Inglés, depende del contexto en el que esté.	4. English, it depends on the context I am in.
5. Inglés, consumo mucho del contenido en inglés y hay palabras que no tienen traducción en español así que las pienso en inglés.	5. English, because I consume a lot of content in English, and there are words that have no translation in Spanish, so I think of them in English.
6. Inglés, por proximidad e inclusión en clases	6. English, due to its proximity and inclusion in classes.

3.2.3. Do participants think that learning foreign languages changes the way they think in general? If they do, in which way?

In this part, participants were asked whether they think that learning foreign languages can actually change the way one thinks. From all the responses of the participants that answered yes to the previous question, the main ideas suggest that learning languages helps you understand others better, learn about different cultures, and see things from various viewpoints (see Table 3). Many participants think that each language creates a unique mental picture and changes how you see the world. Along with this explanation, learning languages

isn't just about talking, it introduces you to diverse cultures, traditions, and ways of thinking. Being able to think in multiple languages is connected to understanding cultural differences better and looking at things from different angles.

Table 3. *A few answers on why participants think that learning foreign languages change the way they think in general.*

Answers	Translation
1. Perquè fomenta la tolerància i l'empatia amb altres cultures.	1. Because it fosters tolerance and empathy with other cultures.
2. Te hace pensar en que forma viven las personas de otros países	2. It makes you think about how people in other countries live.
3. Nuevos horizontes, conocer gente con pensamientos y maneras de hacer las cosas totalmente diferentes.	3. New horizons, getting to know people with completely different thoughts and ways of doing things.
4. El aprendizaje de una lengua conlleva consigo unas tradiciones culturales (por expresiones o por simpatía con el país de origen).	4. Learning a language often comes with cultural traditions (through expressions or sympathy with the country of origin).
5. Todo lo que sea aprender y juntar culturas ayuda a abrir la mente contra el racismo y la xenofobia.	5. Anything related to learning and bringing cultures together helps open minds against racism and xenophobia.
6. Pues por ejemplo, puedes conocer otros conceptos culturales que no existen en tu cultura.	6. For example, you can learn about cultural concepts that don't exist in your own culture.

3.2.4. Do participants think that learning a foreign language has made them more open-minded? If they do, how?

In this section, participants were asked whether they think that learning a foreign language has made them more open-minded and the reason why. Therefore, the participants' answers show that learning a foreign language can expand your way of thinking in different manners. When you learn new languages, you get to see different points of view and gain understanding about various cultures. This exposure encourages empathy and a greater appreciation for cultural differences, which actually helps you become more open-minded. Learning languages not only improves communication skills, but also broadens your grasp of the world's variety, shaping you into a more empathetic and culturally aware thinker.

3.2.5. Do participants think that learning a foreign language can expand their understanding of things? If they do, in which way?

In this question, participants were questioned about the reason why they think that learning a foreign language can broaden their understanding of things. Therefore, the key points about the answers given are that learning different languages helps you understand more about other cultures and languages, making it easier to travel and see things from different points of view. Even though some participants are unsure as many believe that learning languages sparks curiosity, helping your thinking skills and letting you connect different ideas. Even so, most agree that knowing languages and cultures goes together, improving your understanding of things, reading in the original language, and enjoying various cultures. Overall, learning languages also makes you more empathetic, open-minded, and better at understanding different global aspects, including opinions, sources of information, and how societies work.

4. Discussion

Language and culture are closely connected. Language carries cultural meanings and shows values. The Sapir-Whorf idea says language affects how we see things. This is shown in claims about how society and language influence each other. Learning language and culture together helps us communicate better. For colors, language and culture also matter. Different languages put colors in groups, even if colors are smooth. Language can make us think about colors differently. Time is also affected by language. We use words from space to talk about time and we can see that some languages see time differently. Numbers are important as they are also linked to language. Some say language shapes numbers, but some disagree. Some studies show language affects how we understand numbers. Language also affects how we see things like gender and time. But our own experiences and ideas are important too. Language and culture change, but we can still understand them in our own ways.

From the questionnaire that was sent to the URV students, some answers have been retrieved, which have been presented above. Therefore, here are the interpretations of the data.

The first research question asked whether participants think in other foreign languages besides their mother tongue. Based on the results, the answers from the questionnaire highlight the connection between language and culture. Participants in the questionnaire think in different languages like French, Catalan, English, and Spanish. They do this because they feel comfortable, watch things in that language, or use it every day. This links to the Sapir-Whorf idea as some participants state that they switch languages based on situations or topics, showing how language fits with how society is organized and how it affects language back. This also shows how learning language shows beliefs and helps when talking between cultures. So, language and culture are closely connected.

The second research question asked whether participants think that learning foreign languages changes the way they think in general. Based on the results, the answers match what I explained earlier regarding language and culture, that is, participants that think that learning languages can change thinking support the idea that language carries cultural meanings. Their thoughts on understanding others, different cultures, and seeing things in

new ways show that it goes both ways. They also believe that each language creates a different picture in the mind, like I discussed, for instance, with the Color Perception studies which show how one can actually perceive colors in a different way depending on the culture and language one was raised in. Also, people realizing that learning languages introduces them to cultures and traditions connects to what I illustrated about language learning and culture.

The third research question asked whether participants think that learning a foreign language has made them more open-minded. Based on the results, the participants responses, again, connect to the idea of language carrying cultural meanings. They explained that learning languages helps them see different views and understand cultures, making them more open to others. This is like what I said about how language and culture affect each other. Participants also realized that learning languages is linked to understanding cultures and improving how they communicate. This goes along with understanding oneself better and talking effectively between cultures. So, the questionnaire answers show how language, culture, and learning languages are all connected to being open-minded and aware of different ways of thinking.

The fourth research question asked whether participants think that learning a foreign language has made them more interested in traveling or living abroad. Based on the results, out of 74 respondents, only 4 said “No”, while the rest of participants said “Yes”. This demonstrates how language learning makes one desire to explore other cultures. The majority's positive response reflects how language and culture influence personal interests like wanting to travel abroad. Additionally, the participants' increased interest in going abroad after learning a language supports the idea that language learning and culture impact each other as this connection improves self-awareness for effective communication across cultures.

Finally, the fifth research question asked whether participants think that learning a foreign language can expand their understanding of things. Based on the results, their points about understanding other cultures support the bidirectional impact we talked about, where language and culture influence each other. The belief that learning languages encourages curiosity and improves thinking aligns with our earlier mention of the Sapir-Whorf hypothesis.

To sum up, this study shows that language and culture are clearly related. The participants of the questionnaire think in different languages like French, Catalan, English, and Spanish, based on comfort and daily use. Also, learning languages makes us open-minded, helps understand other cultures, and encourages a desire to travel. Therefore, this study supports how language and culture shape our thoughts and interactions, influencing our own points of view in different ways.

4.1 Limitations of the study

This study presents some limitations which are important to remark on. During the theoretical background of the thesis, the researcher observed an interesting trend among some studies he had reviewed. Specifically, he found that some of these studies had expressed the need for additional research to validate and refine their findings. This call for further investigation was established in the recognition that the results obtained were not entirely precise. This situation expresses that research is always changing and in need for improving. Moreover, during the second part of the thesis, the researcher observed that the participants of the questionnaire were all undergraduate students from the Universitat Rovira i Virgili. Therefore, the results were similar in some way, that is, if the questionnaire had been administered to more people than just the students, it could be that the results would have been a little different and therefore have different perspectives on the results.

5. Conclusion

We humans have a very valuable and powerful tool, which is language. We have spent a long time studying the many languages that exist around the world and all their different characteristics and similarities. With this work, the intention was to gather the most characteristic relationships that language can have, in my opinion, and later put these theoretical points into practice with reality, that is, with the opinions and viewpoints that each person can have regarding language and its characteristics. We have seen that both color perception and time, as well as numbers and gender, have a clear connection to language, and that depending on the language, these points can be perceived very differently. In other words, culture plays a strong role in relation to language and the viewpoints a society can have. In fact, the study I conducted to verify this has resulted in the majority of participants' responses revealing how inherently there is a connection between language and culture. So, as a conclusion, I can say that being able to learn and know a language different from one's mother tongue can lead to different perspectives on the world around us, just as we know it.

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Appendix A

Translation of the answers from the questionnaire

Questionnaire Questions	Translation
1. ¿En qué carrera de la URV estás?	1. Which program are you in at URV?
2. ¿En qué año de carrera estás?	2. Which year are you in of this program?
3. ¿Qué edad tienes?	3. Which age range are you in?
4. ¿Cuál(es) es(son) tu(s) lengua(s) materna(s)?	4. What is/are your first language(s)/mother tongue?
5. ¿Qué otras lenguas estás aprendiendo?	5. Which other languages are you learning?
6. ¿Cuántos años llevas estudiando idiomas?	6. For how many years have you been studying foreign languages?
7. ¿Cada cuánto viajas?	7. How often do you travel?
8. ¿Prefieres viajar a países donde la gente hable otros idiomas?	8. Do you prefer travelling to countries where the people speak other languages?
9. ¿Crees que viajar fomenta el aprendizaje de una lengua extranjera?	9. Do you believe that traveling encourages the learning of a foreign language?
10. Si has respondido que sí a la pregunta anterior, ¿por qué?	10. If you replied yes to the previous question, why?

11. ¿Piensas en otros idiomas a parte de tu lengua materna?	11. Do you think in other foreign languages besides your mother tongue?
12. En caso afirmativo, ¿en qué lengua y por qué?	12. If you do, which language and why?
13. Si también has respondido a la última pregunta, en una escala del 1 al 5, ¿con qué frecuencia lo haces?	13. If you also replied to the last question, on a scale of 1 to 5, how frequent is it?
14. ¿Crees que aprender idiomas cambia la forma de pensar en general?	14. Do you think that learning foreign languages changes the way you think in general?
15. Si ha respondido que sí a la pregunta anterior, ¿de qué manera?	15. If you replied yes to the previous question, in which way?
16. ¿Crees que aprender una lengua extranjera te puede hacer más abierto de mente?	16. Do you think that learning a foreign language has made you more open-minded?
17. Si ha respondido que sí a la pregunta anterior, ¿cómo?	17. If you replied yes to the previous question, how?
18. ¿Crees que aprender una lengua extranjera te crea más interés por viajar o vivir en el extranjero?	18. Has learning a foreign language made you more interested in traveling or living abroad?

19. ¿Crees que aprender una lengua extranjera puede ampliar tu comprensión sobre las cosas, en general?

19. Do you think that learning a foreign language can expand your understanding of things?

20. Si has respondido que sí a la pregunta anterior, ¿de qué manera?

20. If you replied yes to the previous question, in which way?
