Lyon, France Project Center
Closing the Student Language Gap

by

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An Interactive Qualifying Project (IQP)
submitted to the Faculty of
WORCESTER POLYTECHNIC INSTITUTE
in partial fulfillment of the requirements for the
degree of Bachelor of Arts

by
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Date:
06 July 2021

Report submitted to:

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This report represents work of WPI undergraduate students submitted to the faculty as evidence of a degree requirement. WPI routinely publishes these reports on its web site without editorial or peer review. For more information about the projects program at WPI, see
http://www.wpi.edu/Academics/Projects.

Abstract:

The Lyon, France, project center is facing difficulties with narrowing the language gap between French residents and majority English-speaking Worcester Polytechnic Institute (WPI) students. The purpose of this report is to suggest appealing options for WPI students to learn French by analyzing four categories of options, namely university courses, informational online video sources, mobile apps, and short-term classes. Data was gathered from surveying WPI students, interviewing project center directors, and analyzing apps and live and online course options. Recommendations include: WPI students cross-registering for a French course at any of three universities in Central Massachusetts, using YouTube and/or some of the ten analyzed apps, and/or one of the four short-term classes available.

Acknowledgements:

Authorship Page:

All drafts written by Stanley Cliche with feedback and comments provided by advisor Professor Robert Krueger, sponsor Professor Fabienne Miller, and peer advisor Caroline Jaeger.

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Executive Summary:

Since the founding of the Lyon, France, project center, language has been one of its most pressing issues because of two main factors: French language and culture being intertwined and WPI's lack of a French language program. In France, there is an expectation for visitors to make a significant effort to converse in French and observe culture-based language norms. WPI students in Lyon need to work with French partners, perform data collection, and are expected to speak French around the residents. However, the majority WPI students do not speak French and WPI does not offer French courses.

All WPI students are required to complete the Interactive Qualifying Project (IQP) as part of WPI's project-based curriculum (*Interactive Qualifying Project*, n.d.). According to the director of the Lyon project center, WPI students in France need to know some conversational French. Therefore, WPI students must seek alternative options to understand the language and its significance to the culture.

This report, through independent research, student surveys, and global project center director interviews, explores secondary-language acquisition methods for young adults, WPI project center approaches to language, and available, appealing, relevant, and convenient options for students to learn conversational French independent of WPI.

Background Research:

France has a culture of pride in their language accompanied by rules for social conduct. When speaking, the French do not just communicate, they converse, and conversation is about demonstrating how much the speaker interests them (Barlow & Nadeau, 2016, p. 2). Saying "bonjour" is a sign of respect and must be said when interacting with others, regardless of the task or status of the person with a whom a speaker is interacting. Not saying "bonjour" will be seen as rude ("EXPLAINED," 2020). WPI sees the benefit of student work in Lyon, and students who do that work need to learn how to converse and understand cultural expectations to conduct themselves appropriately. When addressing how young adults learn French, the best approach for acquiring a second language is essential.

Second-language acquisition for adults

To assess learning method effectiveness, one needs to understand how young adults acquire a second language at a conversational level. According to the University of North California, the three basics of learning a language are: exposing a new language through hearing and reading, producing something in a new language through speaking and writing, and identifying errors to make changes in response ("Learning Languages," n.d.). This establishes the significance of interactive feedback and the pacing of learning another language as part of any proposed solution. This suggests that interactive feedback and language taught in a social context is the most effective for second-language learners.

When acquiring a second language through cognitive, linguistic, socio-cultural, and neuro-linguistic language learning approaches, the learner faces many psychological factors. The cognitive approach is based on the necessity of the language's formal aspects such as grammar rules, which is typical for short-term online classes where students absorb and

express the information through activities and evaluations (Delbio & Ilankumaran, 2019). The linguistic approach focuses on how language is interpreted and the motivation behind learning it (Delbio & Ilankumaran, 2019). Informational online video sources accomplish this by having an individual make their own interpretation of a language. Russian therapist Lev Semenovich Vygotsky hypothesized cultural development regarding attention, logical memory, and concept formation, has two complementary and interwoven parts as the social and individual components. Higher functions are all tied to social connections (Delbio & Ilankumaran, 2019). Any group-based learning environment, such as an in-person classroom accomplishes this hypothetical approach. Neurolinguistic programming develops a learner's implicit and explicit knowledge, working on a representational system of sensory organs, such as visual cues and flash cards (Delbio & Ilankumaran, 2019). A variety of available mobile apps can accomplish this programming approach. The most prevalent methods identified are classes outside of a student's university, informational online sources, mobile apps, and other short-term classes.

Second-language learning methods

A group taught through audio-visual technology demonstrates better listening comprehension skills than the audio-only group, which implies audiovisual materials like videos can emphasize the listening comprehension ability (Chien et al., 2020). Since adults benefit the most from computer-assisted learning and commitment is needed to learn conversational French, online, computer-assisted forums like YouTube and mobile apps must be examined per their appeal to higher-education students (Ozfidan & Burlbaw, 2019). Research on the "Online Learning of English has found social media to facilitate language learning since the use of YouTube in an English as a foreign language classroom improved the listening comprehension and retention of college students (Chien et al., 2020). Although this is essential for acquiring another language, the research does not suggest computer-assisted learning as a substitute for the capabilities of higher-educational facilities like WPI. Therefore, multiple methods, including the traditional classroom, must be examined.

The examined methods vary in terms of their unique delivery methods. The Higher Educational Consortium of Central Massachusetts (HECCMA) offers college students a plethora of tuition-based courses at member institutions (heccmaadmin, n.d.). Although classrooms follow their own structures and teaching styles there is room for improvement and accommodation. Some options are Alliance Française, Berlitz, Lingoda, and Live Lingua. YouTube provides videos online and is an accessible way to learn from native speakers (review, 2012). With the invention of the smartphone, mobile apps have been propagating their capabilities. For example, Babbel was a pioneer of online language learning (*The Babbel Method | Babbel*, n.d.). However, an app may not be enough. Many WPI project center directors have tackled similar hurtles to the Lyon, France project center. Before departing to a project center, students are required to take a preparatory course which can involve varying degrees of learning about the culture of the center's local area.

Methodology:

Understanding a conversational level of French is crucial for WPI students going to the Lyon, France, project center. However, access to language learning resources varies, making some sources unreliable, ineffective, expensive, and/or time-consuming. Insight into second-

language acquisition, evaluation of diverse sources, and guidance from other students and instructors, can help narrow the possibilities to a shorter list of suggestions for WPI students.

The research questions focus on available, convenient, and appealing options to WPI students seeking to learn a second language, as well as ways project center directors manage the language gap in their areas when WPI provides no dedicated class to teach their language.

Additional information was acquired by surveying students planning to attend the Lyon, France project center in 2021, and interviewing project center directors with their centers located in areas where they had to overcome language and culture gaps between WPI students and residents of their local areas.

A rubric with three criteria was made based on 1) research of what is most effective for adults learning a new language, 2) the advisor's desired type of language acquisition, and 3) the practical consideration of cost for students. Therefore, the criteria focused on 1) immersion, 2) defining conversational vs formal language training, and 3) fiscal cost of the service to students.

Findings:

While WPI project centers all have varying needs for local language proficiency, findings from the research indicate France is an outlier due to its pressing need for students to have conversational fluency in French to demonstrate respect and avoid offending residents and sponsors. This is in comparison to the Albania, Armenia, Romania and India project centers where there are no expectation students speak anything other than English, as well as the Czech Republic, Ghana, Russia, and Thailand project centers where knowledge of a few greetings and phrases are sufficient.

A significant finding was the that in their efforts to narrow the language gap between the local community and the majority English-speaking WPI students, all project centers, apart from France, were able to do so using professional and student translators and/or relying on collaborators fluent and willing to communicate in English.

Table 1 below summarizes the methods of how eight project centers overcome the language gap between their local areas and majority English-speaking WPI students.

Table 1: Project center methods comparison.

Project center	Rely on English collaborators	Learn some of the local language	Rely on translators	Rely on local university students
Bangkok, Thailand		X	X	X
Bucharest, Romania	X			
Ghana		X	X	
Mandi, India	X		X	X
Moscow, Russia		X	X	X
Prague, Czech Republic		X	X	
Tirana, Albania	X	X	X	
Yerevan, Armenia	X		X	X

France, however, is unable to put the onus on locals as it does not have willing translators. The Lyon, France project center director mentioned finding only one graduate school level translator in 2019 out of the three years of the center's operation, as there is more hesitancy for the French university students to use their English capabilities in comparison to translators working with other project centers. In addition, sponsors are generally not willing to speak in English unless students demonstrate their (poorer) French skills which seems to promote more confidence in revealing their English capabilities and communicating in English.

Because WPI students need to acquire conversational language skills, understanding the most effective learning method for students and being able to incorporate the preferred approaches was another important finding.

From the student surveys it was clear that visual learning is the most preferred learning style and the best ways for them to learn a conversational level of French is through regular practice with other peers and/or native speakers.

Apps were categorized based on whether they focus and/or start with conversational language or formal language training, learning style, whether they provide immediate feedback to the user to indicate a correct way the language is spoken and/or written, and cost. The survey analyzed some of the most popular options and are displayed on Table 2 below.

Table 2: Mobile apps features comparison.

Name	Conversational Language	Formal Language	Visual	Auditory	Reading	Feedback	Free
Babbel		X	X	X	X	X	
Busuu		X			X		X[1]
Drops		X[2]	X	X		X	X
Duolingo	X		X	X	X		X
Memrise	X		X	X		X	
Mondly	X			X	X	X	
Pimsleur	X			X			
Rosetta Stone	X		X	X	X	X	
Speakly	X		X				
Transparent		X		X	X		X[3]

Student survey results show Duolingo is the most popular app according to ten of twelve students, followed by Transparent (seven) and then Rosetta Stone (four).

Researching short-term classes such as Alliance Française, Berlitz, Lingoda, and Live Lingua which provide more of an opportunity for individual and group-based classes, revealed

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1 Users must pay Busuu's most expensive plan to access its community of native speakers.

2 Drops focuses on vocabulary but no grammar.

3 Transparent is free to WPI students.

these services are more flexible since there are options for instructors who can teach based on the needs of the user. However, all of them are expensive and can cost hundreds of dollars.

Data from researching online video sources lead to finding on FrenchPod101's YouTube channel offering free videos, TV5Monde, a French-speaking public service offering a "discovering" French option through videos, articles, quizzes, and games and Le Monde which focuses on individualized lessons and sends daily feedback but requires a paid subscription.

Research also revealed three HECCMA members who offer French within a 41-minute walk of WPI. These included Assumption College, Clark University and Worcester State.

Recommendations:

This research makes apparent that the Lyon, France project center faces a unique challenge among its peers. Many other WPI project centers can put the onus of narrowing the language barrier on the local communities, but this is not the case in France due to cultural demands contributing to a lack of resources.

The Lyon project center is also disadvantaged by the lack of academic French language opportunities at WPI. Therefore, recommendations for the institution of WPI are:

- WPI offers a conversational French class incorporating practicing French on a regular basis prior to the IQP.
- WPI models a French language and culture course based on the structure of the Ghana development lab.
- WPI provides access to Live Lingua without additional costs to students and/or as integrated into academic offerings.

For WPI students

- Using Duolingo, the most recommended app with its focus on phrases and appeal to visual learners.
- Using Lingoda as it provides access to a class of peer as assessed per their comprehension level but focuses on formal teaching with a seven-day free trial.
- Using Mondly as it offers speech recognition and a chat bot providing immediate feedback to users but has a 95-minute wait time between lessons.
- Developing a routine of using the free courses and/or watching TV5Monde and FrenchPod101's YouTube channel.
- Consider HECCMA opportunities: Worcester State University for French courses, Assumption College for a Minor in French, and Clark University for a Major or Minor in France and Francophone Studies.
- Read *The Bonjour Effect*

Conclusions:

This research set out to assist the Lyon, France project center by narrowing the language gap between French residents and English-speaking WPI students. In addition to identifying options to assist students in improving their conversational French, the hope was to be able to use the language-gap closing practices of other project centers. However, background research

into what is effective for other centers revealed their methods relying on translators and/or project collaborators to speak English, is not effective in France. Therefore, improving conversational French capacities of WPI students working at the Lyon project center is desired.

Students need to be guided to find resources that will assist them in building their language capabilities and this research only scratches the surface. It is deserving of additional research to allow for comparison of the effectiveness of each method based on the level of student competency achieved. With increased proficiency in conversational French, WPI students may have a better experience at the Lyon, France project center.

Chapter 1: Introduction

Since the founding of the Lyon, France, project center, language has been one of its most pressing issues because of two main factors: intertwining French language with French culture and WPI's lack of a French language program.

In France, there is an expectation visitors will converse, or make a significant effort to converse, in the local language and to observe culture-based language norms. In addition to interacting with residents, WPI students in Lyon need to work with French partners and perform data collection with individuals who are reluctant to speak English and expect the WPI students to speak French. While WPI offers language courses in Arabic, Chinese, German, and Spanish, it does not offer French. In addition, WPI does not have an admission or graduation language requirement, therefore there is no expectation students will speak or learn French while attending WPI. All WPI students are required to complete the Interactive Qualifying Project (IQP) as part of WPI's project-based curriculum, providing students with the experience of working in interdisciplinary teams[4] to solve a problem at the intersection of science and society (*Interactive Qualifying Project*, n.d.). In tandem with WPI's Global Projects Program, science, technology, engineering, and mathematics (STEM) and business students are immersed in a culture new to them, which challenges them to tackle unstructured problems in meaningful ways for local IQP sponsors in their communities. (*Global Projects Program*, n.d.).

According to the director of the project center, having some prior knowledge of French may help WPI students with interactions among residents and other French-speakers they may encounter. For most students, unless they are fluent in French, they will need to learn some conversational French. Addressing someone in France without knowledge of French can be an insult and can negatively impact any potential relations. If WPI students seek to improve relations between sponsors and appeal to French residents for data acquisition, then the students should learn some French to achieve the goals of their projects. Since French is not a language taught at WPI, students must seek alternative options to understand the language and how it is integral to the culture.

This report explores some of the existing methods for second-language acquisition used at the various WPI project centers through independent research, student surveys, and interviews. Some of the most appealing, relevant, and convenient options for WPI students are courses offered by other universities who are members of the Higher Education Consortium of Central Massachusetts (HECCMA), informational online video sources that are easily accessible, mobile apps accessible to students who have smartphones, and other short-term classes with more flexible teaching styles than a typical university class. However, pulling more information from the target demographic of WPI students attending the Lyon, France project center, and other project center directors will lead to more unexplored options and methodologies which may be applicable to accessible services.

By exploring and analyzing language learning options which include: three HECCMA member schools based on their proximity to WPI, ten apps based on their learning methods and accessibility, four short-term classes based on their class size flexibility and appraoch, as well as YouTube videos and a couple of informational online websites in France. The report

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4 Exceptions to a group experience involve assignments to solo IQPs for a variety of extenuating circumstances, which is the case for several neurodiverse students.

researches secondary-language acquisition, for adults as the target demographic, elaborates on the methods and findings used to further the goals of the report, recommends the best options for WPI and its students, and concludes with how the research can be developed. The services recommended to WPI students are also subject to change as students continue to explore other language learning methods.

Chapter 2: Background

France is a country with a deep culture of pride and language with rules for social conduct, including what is appropriate to share and in what sequence one should share personal information. When speaking, the French do not just communicate, they converse. Conversation in France is not about connecting with others, nor expressing interest in them, it is about demonstrating how much the speaker interests them. One of the greatest blind spots among journalists, diplomats, and businesspeople is the importance of starting a conversation with "bonjour," thus meeting a societal norm in France. Failing to meet this expectation often results in a rude response (Barlow & Nadeau, 2016, p. 2). Saying Bonjour is a sign of respect and said when interacting with others, regardless of the task or status of, or familiarity with, the person with whom a speaker is interacting. If a person is not saying bonjour enough, or not at all, then the person would be perceived as rude ("EXPLAINED," 2020).

There are many cultural expectations for language norms, some of which are the opposite of American norms. For example, a contrasting set of norms involves the discussion of money. Once taboo, speaking about the economy and money has become marginally more acceptable in recent years. This contrasts with American norms, where money is a frequently discussed topic. In France money is more impersonal when applied to business and the economy and personal in relation to an individual and to oneself. There is an expectation an individual will not speak about their own money unless it is about how to save money, get a deal, or if they lack having any. Bragging about personal wealth or discussing earnings is impolite (Barlow & Nadeau, 2016, pp. 195 - 196). Another cultural norm in France is using sexual innuendo, which is as acceptable in France as it is unacceptable in America. Jokes poking fun at the different genders and the interaction between them is also acceptable in France (Barlow & Nadeau, 2016, pp. 218 - 219). Additionally, the French are comfortable correcting one another and disagreeing in public, especially couples, since suspicion may arise if a couple seems too harmonious, which is the opposite in North America as couples strive to present a harmonious front (Barlow & Nadeau, 2016, pp. 30 - 31).

WPI sees the benefit of student work in Lyon because of the themes of innovation, entrepreneurship, and economic development within the region. Knowledge of a conversational level of French is a critical part of the culture and will help WPI students when speaking to partners, collecting data, and living in Lyon for an extended period. Learning French is important because it helps students learn how to converse, understand cultural expectations, and conduct themselves accordingly. When addressing how young adults learn French, context is essential for acquiring any second language.

Second-Language Acquisition for Adults:

To assess learning method effectiveness, one needs to understand how young adults acquire a second language at a conversational level. This involves the understanding of processing and correcting information, pacing, pronunciation support, and overcoming psychological factors which a variety of different methods address.

Three elements of language learning

According to the University of North Carolina, there are three basics to learning a new language ("Learning Languages," n.d.). The first one is comprehensible input, which exposes a

new language to someone through hearing and reading. The second element is comprehensible output, where someone is learning to produce something in a new language through speaking and writing. The final element is review and feedback, where errors are identified and changes are made in response ("Learning Languages," n.d.). This establishes that interactive feedback should be part of any proposed solution, and that the pacing of learning another language involves these three elements.

Pace of second-language acquisition

Acquiring a second language is like acquiring the first, but instead of the process occurring within the learner's mind (as it does with a first language), it comes from the mind's interaction with social context, which means the acquisition is based on how the mind interprets external stimuli and psychological comprehension (Delbio & Ilankumaran, 2019). Another difference between primary and secondary language learners is transferring phonological, syntactic, and morphological rules from the primary language to the second (Szczegielniak, n.d.). This suggests language taught in a social context might be most effective for second language learners, and some rules remain consistent regardless of age.

The cognitive maturity of adults involves second-language acquisition stemming from intellectual practice and a more rule-based concept in comparison to younger learners. Adults, in comparison to children and adolescents, benefit more from computer-assisted language learning methods, especially with pronunciation (Ozfidan & Burlbaw, 2019). However, computer-assisted learning would encompass a couple of approaches to learning another language.

Acquiring second-language learning technique(s)

When acquiring a second language through the cognitive, linguistic, socio-cultural, and neuro-linguistic language learning approaches, the learner faces many psychological factors. The cognitive approach uses general learning mechanisms to extract structure and patterns from the language input. It is based on the necessity of formal aspects of the language such as grammar rules (Delbio & Ilankumaran, 2019). This approach is typical for short-term online classes where students absorb and express the information through activities and evaluations.

The linguistic approach provides a new insight into language and a description of a particular language's theoretical components. It focuses on the ideas of pedagogical and universal grammar, where one is an interpretation and choice of language for educated purposes while the other is a structure expressing how language depends on similar standards and the way they are associated with each other (Delbio & Ilankumaran, 2019). Informational online video sources where an individual can make their own interpretation of a language accomplishes this approach.

Russian therapist Lev Semenovich Vygotsky hypothesized in his Sociocultural Theory of Cognitive Development, that cultural development regarding attention, logical memory, and concept formation, has two complementary and interwoven parts: the external (or social) component and the internal (or individual) component. The higher functions are all tied to social connections. This concept is the precursor of constructivism (Delbio & Ilankumaran, 2019). Constructivism is based on the idea that people construct their own knowledge, and that reality is determined by the learner's experiences (*What Is Constructivism?*, n.d.). Any group-

based learning environment, such as an in-person classroom accomplishes this hypothetical approach.

Neurolinguistic programming is a new technique for developing a learner's implicit and explicit knowledge, involving work on a representational system of sensory organs, such as visual cues and flash cards (Delbio & Ilankumaran, 2019). Using the variety of available mobile apps which an individual can choose at their own discretion can accomplish this programming approach. However, conversational French alone is insufficient for meeting the social norms of France as there are some subtle expectations about which students need to be aware.

Second-Language Learning Methods:

Within the seven weeks of research dedicated to this project, the most prevalent methods identified were: additional classes outside of a student's host university, informational online sources, mobile apps, and other short-term classes.

One method for teaching is through computer-assisted instruction, which has resulted in enhanced rote memory skills and improved higher-order critical thinking skills. Computer-assisted instruction is the basis of a supplementary tool capable of meeting individualized requirements and helping teachers build courses. A group taught through audio-visual technology demonstrated better listening comprehension skills than the audio-only group, implying audiovisual materials like videos can emphasize the listening comprehension ability (Chien et al., 2020).

Since adults benefit the most from computer-assisted learning while requiring the commitment needed to learn French at a conversational level, forums such as YouTube and mobile apps should be examined closely per their appeal to higher-education students (Ozfidan & Burlbaw, 2019). YouTube's convenience and flexibility can offer accessible and affordable content for anyone with an internet connection, providing an opportunity to view different and broadening perspectives. Research on the Online Learning of English has found social media to facilitate language learning, especially in the vocabulary domain (Chien et al., 2020). The use of YouTube in an English as a foreign language classroom improved the listening comprehension and retention of the college students, as their test scores suggest (Chien et al., 2020). Social media, and other informational online sources such as YouTube appear to demonstrate the ability to retain the attention of college students, which is essential in acquiring another language. Although this research does not suggest that they can substitute for the capabilities of a higher-education facility like WPI.

Classes outside of WPI for French

Outside of WPI, the HECCMA offers college students of the Central Massachusetts area a plethora of tuition-based course offerings at some of its member institutions through cross-registration. Unfortunately, transportation is not provided by the HECCMA, which leaves WPI students to look for the available transportation options within Worcester and the surrounding area (heccmaadmin, n.d.). However, thanks to Google Maps, three institutions are within an approximately 30 to 41-minute walk: Assumption College, Clark University, and Worcester State University (*Google Maps*, n.d.). Assumption College has a French minor program (*French | Assumption University*, n.d.). Worcester State University offer French courses (*French | Worcester State University*, n.d.). Clark University has a French and Francophone Studies

program for undergraduate majors and minors ("Major in French and Francophone Studies (B.A.)," n.d.). However, for the convenience of busy WPI students, one of the most convenient options with a stable internet connection is still available.

Informational online video sources

YouTube is one of the world's second-largest search engines, following Google, and provides a way to store and share videos online. YouTube's content covers any topic about which someone cares to upload. The search engine encourages viewers to express their opinions on videos they watch, and share them (review, 2012). YouTube is one of the most accessible ways, assuming access to a stable internet connection, where people can learn about a variety of subjects depending on the YouTube channel's credibility. Since users can access videos across the world, YouTube creates an interesting opportunity to learn a language from its native speakers, but it is not the only option to come from the 21st Century.

Accessibility of mobile apps

The invention of the smartphone in 2007 was one of the most miraculous innovations of the 21st Century, spurring an entire generation to depend on it due to the convenient access to cellular communication and the internet. Mobile apps, made specifically for these devices, propagate the extent of their innovation. For example, Babbel was one of the pioneers of online language learning by creating a powerful app combining communicative didactics, cognitivism, behaviorism, and constructivism. Babbel immerses learners in a new language through real-life dialogues, builds each course on the learner's native language and personal interests, employs proven cognitive techniques moving through new vocabulary to the learner's long-term memory, and uses human voices and speech recognition to help the learner gain more confidence speaking (*The Babbel Method | Babbel*, n.d.). Duolingo uses games to create personalized learning, provide immediate grading to the learner, and motivate them with rewards. Duolingo claims to equate 34 hours of app usage to one university semester language course (*Learn a Language for Free*, n.d.). Transparent Language complements classroom time by providing a supplemental solution to the class's language lab, or an independent self-study option as a mobile app (*Education - Language Learning & Instructional Tools for Teachers*, n.d.). However, an app may not be enough, and students may want easily accessible classes.

Depth of short-term classes

One advantage that classrooms have over mobile apps is flexibility. Although classrooms follow their own structures and teaching styles, if there is a human educator, there is always room for improvement and accommodation. Some of these options include Alliance Française, Berlitz, Lingoda, and Live Lingua. Alliance Française is an international organization promoting French language and francophone cultures to foster exchange between French speakers and local communities. The organization currently has more than 800 chapters in 130 countries worldwide. Most chapters offer French classes for adults and children while focusing on understanding the language in a relaxed environment. The organization also has special events to immerse students in French culture (afus, n.d.). Berlitz offers a variety of options such as private in-person and online language classes, group in-person and online classes, and online self-paced classes. However, the prices vary in hundreds of dollars (*Learn a New Language | Language Classes and Training*, n.d.). Lingoda is an online language school, pairing teachers with live small group and private classes available at any time to provide consumers with a

significant amount of time to study at their convenience (*About Us | Lingoda | Online Language School*, n.d.). Live Lingua started as a physical school, teaching and immersing students in Spanish, and has become an online language school with hand-picked native-speaking tutors offering personalized curriculum. The website provides auditory and visual resources, as well as the opportunity to learn vocabulary specific to the students' goals (School, n.d.).

Among the several options presented, some of WPI's faculty have already tackled similar hurdles of helping their students communicate with the residents of areas where WPI does not provide a dedicated language class.

WPI Project Center Case Studies:

Project center directors work with sponsors of their center's local community to provide WPI students with the opportunity to be involved in community-based projects. The sponsors themselves can be members of a public or private industry. According to eProjects.wpi.edu, many of the IQPs in mostly Spanish-speaking countries require the most proficiency in Spanish in comparison to the other IQPs, expecting differing proficiency for their respective language. WPI has 43 project centers located outside of the United States (*Project Center Directory*, n.d.). Several are in areas where English is not the predominant language.

All project centers have their own ways of preparing students before they attend the center. Students are expected to complete a language and culture course, as well as other preparatory courses before departure to the Bangkok, Thailand project center (*Bangkok, Thailand Project Center - IQP | WPI EProjects*, n.d.). The Ghana development design lab has students complete preparatory courses discussing Ghanaian history, culture, law, policy, and the Twi language before departing (*Ghana Project Center: Development Design Lab - IQP | WPI EProjects*, n.d.). Before going to the Israel project center (Eilat), students are required to attend a 1.5 hour language session twice a week for six weeks which must be completed on campus (*Israel Project Center (Eilat) - IQP | WPI EProjects*, n.d.). The Moscow, Russia project has students take a course introducing students to the fundamentals of the Russian language, current events, and culture before attending the center (*Humanities & Arts Courses | WPI - WPI*, n.d.). Before departing to the Prague, Czech Republic project center students must complete a couple of preparatory courses (*Prague, Czech Republic Project Center - IQP | WPI EProjects*, n.d.). Students are expected to complete preparatory courses which may have been conducted months in advance before departing to the Tirana, Albania project center (*Tirana, Albania Project Center - IQP | WPI EProjects*, n.d.). Additional information about the project centers is in Appendix A. Interviewing these directors and those described in Appendix J will provide insight into what works for their centers, but the Lyon, France project center faces some unique hurdles specific to French culture, so more options need to be investigated.

Chapter 3: Methodology

Understanding a conversational level of French is crucial for WPI students going to the Lyon, France, project center so as to understand France's societal norms. However, access to this information varies, making some sources unreliable, ineffective, expensive, and/or time-consuming. Insight into second-language acquisition, evaluation of diverse sources, and guidance from other students and instructors can help narrow the possibilities to a shorter list of suggestions for future WPI students and other young adult learners.

Research Questions:

In addition to the question *How do young adults acquire a second language at a conversational level?* answered in the background section, research questions include:

1) What options are available, convenient, and appealing to higher education students seeking to learn a second language?
    a. For WPI students, which institutions through the cross-registration program may be the most efficient and appealing to them?
    b. What informational online sources, mobile apps, and short-term classes would be the most appealing to WPI students seeking to learn French?
2) How and what have other project center directors done to manage the language barrier in the cases where WPI does not offer a class dedicated to the primary language of their center's local area?

Language Services Evaluation Criteria:

As a young adult and WPI student, there seem to be almost unlimited options for learning a second language, including other universities, informal websites, mobile apps, and other programs offering short-term classes. Insight from WPI students and others working with the Lyon, France project center was sought to better understand the use of these resources. This research provides some insight into how many and what learning methods students used as well as their reactions to them.

Rubric criteria

To evaluate existing French-learning options for WPI students, a rubric with three criteria was created based on: 1) background research into what is most effective for adults attempting to learn a new language, 2) the desired type and level of language acquisition and 3) the practical consideration of cost for students. The criteria therefore are:

1) Immersion: availability and inclusion of immersive components (e.g.: access to an actual person, community and/or recordings of native speakers of another language). Based on the background research, immersion is one of the best ways to acquire a language. Weighted on a scale of one to three:

    1 = No immersive components
    2 = Some immersive components including recordings of native speakers
    3 = Optimally immersive where there is an option for communicating with another person.

2) Defining conversational language training as focusing on phrases versus formal language training which focuses more on vocabulary, grammar, and verb conjugation. The director of the Lyon, France project center shared the goal of WPI students attending the center being to gain familiarity with conversational aspects of French in the context of greetings, ordering food, getting directions, and conversing with partners. Weighted on a scale of one to three:

> 1 = Formal language training
> 2 = Starting with more formal language, then moving on to conversational language training
> 3 = Starts with or is entirely conversational language training

3) Cost to WPI students. From a practical perspective, it is likely that the fiscal cost of a service for most WPI students, determines what students will choose. Weighted on a scale of one to three:

> 1 = Starts with a payment plan
> 2 = Starts with a free trial
> 3 = Provides free options

Other considerations for evaluation

Some other considered examination elements, based on the background research, were difficult to quantify and therefore excluded from the rubric but not from overall assessment. These include:

- Engagement for young adults through feedback.
- Accommodation of learning styles.
- Efficiency.
- Accessibility.

The learning options categories

Upon searching for language learning options aimed at students, most of them seemed to fit within the following four categories, based on suggestions inferred from other WPI students, project advisors, and Google engine search results:

- Cross-registration at other universities.
- Informational online sources.
- Mobile apps.
- Short-term classes offered by other programs.

Criteria for WPI students to survey

Some WPI students already have some familiarity with French. A survey was sent to the students who were planning to attend the Lyon, France project center in 2021, which surveyed their experience learning French through Transparent and other services, if any. Refer to results from the Student Questionnaire (within a table in Appendix I) distributed anonymously through Google Forms.

Learning from Project Center Case Studies:

WPI's Global Projects Program has been conducting undergraduate project experiences for 46 years (*Global Projects Program*, n.d.) and has 43 project centers located outside of the United States (*Project Center Directory*, n.d.). The directors of several of these project centers have spent years addressing and overcoming language and culture gaps between WPI students and the local area of their centers.

Interview project center directors

The choice of directors for this project was based on research as to whether their center's area had a predominant language which WPI did not teach as one of their four language class options. Eleven directors were contacted through email requesting a one-to-one interview of which eight responded. Of those who responded, four agreed to an interview and four sent information by email. (Refer to Appendix J for the list of directors chosen and a legend indicating the directors who replied through email.) Four directors were interviewed within one week through Zoom and within two weeks twelve students responded to the student survey. The results from the collected analysis and data are presented in the chapter below.

Chapter 4: Findings

The directors and students who responded to the interview questions and survey, respectively, presented some insightful information.

Varying Needs for Local Language Proficiency in Most Project Centers– France is an Outlier:

France is one of the project centers with a pressing need for students to be proficient in the local language. Professor Miller, the director of the Lyon, France project center, has explained the significance of the culture's language expectations for all visitors in France. It is important students have conversational fluency in French to demonstrate respect and sufficient effort to avoid offending residents and sponsors.

Many project centers do not require students to acquire a second language since some are in areas where English is widely spoken. The directors of the Albania, Armenia, and Romania project centers (Professors Hersh, Aghajanian, and Neamtu respectively) do not require students to learn additional language skills since many residents and project sponsors speak English. Similarly, the director of the Mandi, India project center (Professor Shockey) does not expect students to speak anything other than English, as the official language for universities in India is English. This is due to the hundreds of languages spoken in India.

A couple of the project center directors advise that some areas surrounding their center are more proficient in English than others. Professor Krueger, the director of the Ghana development lab, said while English is the official language, the area's "unofficial" language is Twi and it may be the only language some of residents in rural areas know. Professor Krueger and the director of the Bangkok, Thailand project center, Professor Boucher, also mentioned students may be able to better handle more urbanized parts of their areas, where residents are more likely to have some proficiency in English in comparison to more rural areas where residents do not have as many resources to learn English.

A few of the interviewed directors have some expectations of WPI students to learn enough of another language to get by in the center's local area. Professor Krueger and the directors of the Czech Republic and Russia project centers expect students to know enough of the language for students to introduce themselves and use some other phrases for farewell and gratitude. The directors of the Czech Republic and Russia project centers said that it would be helpful if the WPI students could read the local language of their area, specifically street signs.

One director said the divide between their residents knowing English is a result of a generational divide. In Prague, Czech Republic, the director of the area's project center, Professor Keller mentioned English has become more like a second language after the Velvet Revolution in 1989 and the rise of tourism in the area. However, some of the older residents, born before the revolution, are not as proficient in English as compared to the Millennial generation. She and Professor Boucher, recognize second-language acquisition takes more time than WPI provides within its seven-week term curriculum.

Language Onus on Locals Instead of WPI Students:

All the WPI project centers interviewed reported working with the local communities in some capacity to narrow the language gap between the majority English-speaking WPI students

and residents of their center's local area. This includes using professional and student translators and/or working with collaborators who are fluent and willing to communicate in English. For all but the Lyon, France project center, this has been a successful approach. While all center directors desire that students be conversational and/or have knowledge of necessary phrases to communicate with local populations, all but the France project center director, reported on successfully finding and utilizing resources who speak English in their respective countries. In France, student translators are extremely difficult to recruit.

Table 1 below summarizes the methods of how eight project centers overcome the language gap between their local areas and majority English-speaking WPI students.

Table 3: Project center methods comparison.

Project center	Rely on English collaborators	Learn some of the local language	Rely on translators	Rely on local university students
Bangkok, Thailand		X	X	X
Bucharest, Romania	X			
Ghana		X	X	
Mandi, India	X		X	X
Moscow, Russia		X	X	X
Prague, Czech Republic		X	X	
Tirana, Albania	X	X	X	
Yerevan, Armenia	X		X	X

Working with student translators

According to the directors of the Ghana development lab, Russia, Thailand, and Czech Republic project centers, the residents of their areas have some competency in English and the directors often try to work with translators if they deem it necessary for the students.

Both the Russia and Thailand project centers work with local university students as translators when conducting interviews with the residents. When students are attending the Moscow, Russia project center, WPI students live on a local university campus where the local volunteer students often act as translators for the WPI students. According to the center's director, Professor Nikitina, English is a language taught in Russia, but not always spoken on the street or in restaurants. WPI students at the Bangkok, Thailand project center work with Chulalongkorn University students as their partners. Although they often help with translation when interviewing Thai speakers, since according to the center's director, Professor Boucher, English is a language taught in more cosmopolitan areas.

The directors of the Armenia and India project centers also have WPI students work with the local university students of the area to assist in translation and mitigate language and cultural issues. Some of the directors mention less of a need for students to learn another language since they work with English collaborators or are located in English-speaking areas.

Table 1 below categorizes four project center directors who provided information about their centers' methods through email, and an additional four directors who agreed to an interview about their project centers.

## Scarcity of willing translators in France

France does not have as many willing translators as compared to the Albania, Armenia, Czech Republic, Ghana, India, Romania, Russia, and Thailand project centers. The Lyon, France project center director mentioned she only found one translator in 2019 by reaching out to the local universities in Lyon. In 2020, there were no voluntary university translators. There is more hesitancy for the French university students conveying their English capabilities in comparison to translators working with other project centers.

Professor Miller also mentioned how when other IQP teams converse with their French sponsors, if the WPI students are not very proficient in French but nevertheless attempt to converse, the sponsors seem more confident in their English capabilities and then become willing to communicate in English. Unlike other project center areas, WPI students need to demonstrate their capabilities by reaching out and trying to speak French regardless of their faults, to narrow the language barrier. Doing so allows English language competent French residents to be more willing to exercise their English language capabilities. However, most WPI students are not able to demonstrate much French.

Lack of Competency in French:

The most recent group of students to attend the Lyon, France project center in 2021 display varied knowledge of French before taking the required preparatory courses. Twelve students who were planning to attend the Lyon, France project center in 2021, replied to a survey question inquiring about their level of education in the French language[5]. As seen in Figure 1, of the twelve students, three had no prior French language experience, another three had 1 year or less of prior experience, an additional three had 2 to 3 years, and a final three had 4 or more years.

Figure 1: Students who had prior experience in French.
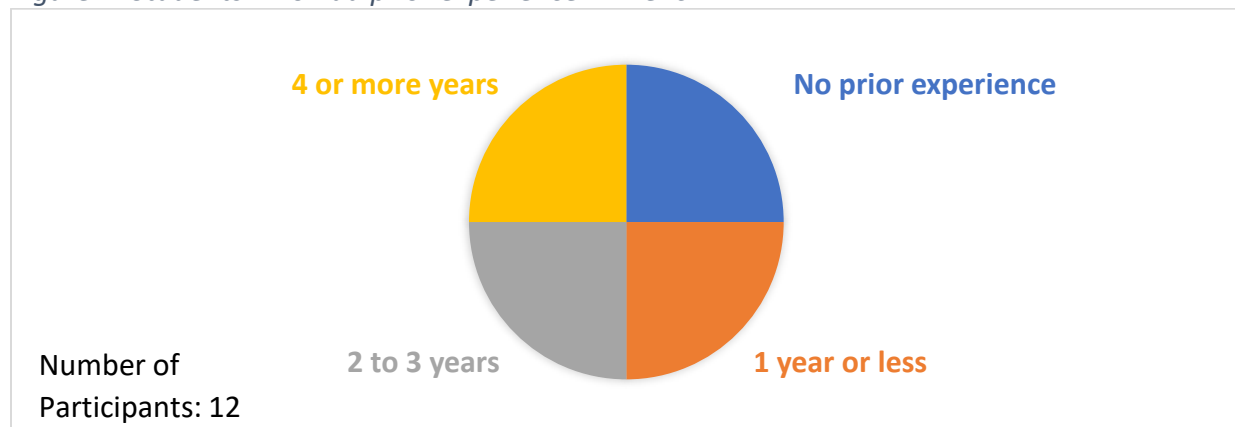
According to the France project center director, although some WPI students have prior high school language experience, the vast majority are not able to converse in the local language of the country to which they are traveling. Therefore, since students will need to

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5 Since the project center director stated that the current group is representative of the past three cohorts, the data collected should be representative of future students.

acquire conversational French language skills, it is important to understand the most effective learning method for students and incorporate the preferred approaches.

Preferred Learning Methods Among Students:

For determining some of the best options for WPI students to learn conversational French, options such as courses through the HECCMA, informational online sources, mobile apps, and other short-term classes were analyzed.

Visual learning preferred

Visual learning is the most preferred learning style for WPI students. Among the twelve students, most were visual learners who had the reading/writing, kinesthetic, and auditory learning approaches be supplementary as seen in Figure 2. Auditory learning, in contrast to visual learning, is the least preferred since it is the only learning style which depends on one of the other three.

Figure 2: Ways students prefer to learn.

Number of Participants: 12
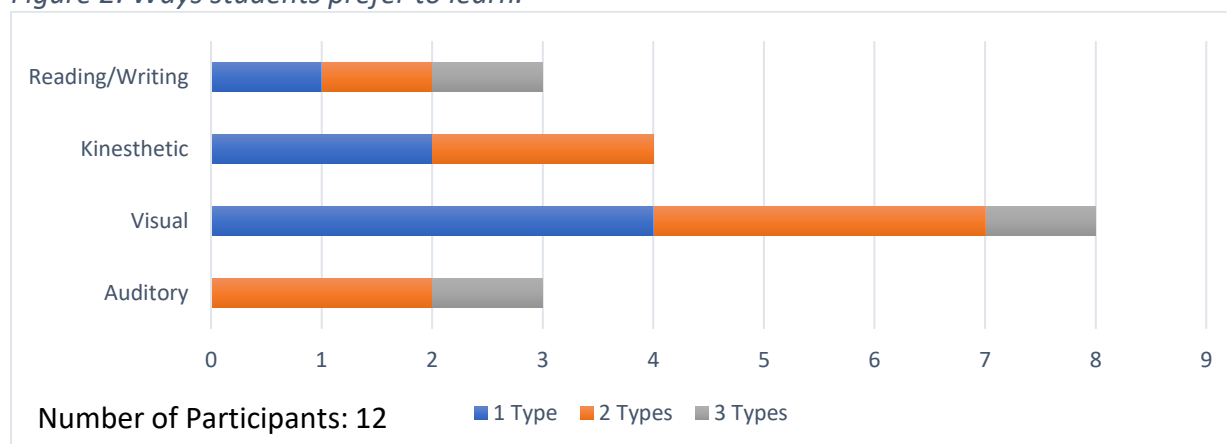
French language learning preference

Many of the students already know that one of the best ways for them to learn a conversational level of French is through regular practice with other peers and/or native speakers. When asked via survey: Do you have any suggestions about how to effectively learn a language at a conversational level? Five students responded that regular practice, speaking French with other peers and/or French speakers would be the best approach, instead of relying on more individualized approaches found in mobile apps. Two of the students said respectively, "taking classes for a couple years would be best. Learning [a] language takes time, and people can't get up to a conversational level using just an online service for a semester. A full set of French classes at WPI would be great for learning conversational French" and "start talking to people in that language."

Categorization of Mobile Apps:

Very few of the analyzed mobile apps are flexible, hindering the use of students' preferred learning styles. The apps were categorized based on whether they focus and/or start with conversational language or formal language training. Conversational training involves phrases while formal training involves more vocabulary and grammar. Various apps have different degrees of conversational and formal language learning, with some focused on

fundamental vocabulary and grammar. The survey analyzed some of the most popular options (as shown in Figure 3) which were investigated and displayed on Table 2 below.

Evaluated apps

Table 2 below shows mobile apps categorized based on language type (conversational or formal), learning style (visual, auditory, reading), whether they provide immediate feedback to the user in a way to indicate a correct way the language is spoken and/or written and cost. Services are considered "free" if the app does not require money for the user to continue using it. These apps are accessible through iOS and Android smartphones, some specifications may depend on the type of software the smartphone has. A full analysis of the apps can be found in Appendix E.

Table 4: Mobile apps features comparison.

Name	Conversational Language	Formal Language	Visual	Auditory	Reading	Feedback	Free
Babbel		X	X	X	X	X	
Busuu		X			X		X[6]
Drops		X[7]	X	X		X	X
Duolingo	X		X	X	X		X
Memrise	X		X	X		X	
Mondly	X			X	X	X	
Pimsleur	X			X			
Rosetta Stone	X		X	X	X	X	
Speakly	X		X				
Transparent		X		X	X		X[8]

Most used resources by students

Student survey results report Duolingo was the most popular app according to ten of twelve students, followed by Transparent (seven students) and then Rosetta Stone (four students). Most of the students used multiple approaches to learning French as seen in Figure 3 of Appendix H. The Lyon, France project center required students to use Transparent (a language learning service free to WPI students) to gain a conversational level of French. Interestingly, of the seven students who used Transparent, six of them used Duolingo, with the seventh not supplementing with any other service. Although WPI required students to use Transparent, most of them used Duolingo.

Flexibility of Short-Term Classes:

Dissimilar to apps, short-term classes such as Alliance Française, Berlitz, Lingoda, and Live Lingua provide more of an opportunity for individual and group-based classes. These

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6 Users must pay Busuu's most expensive plan to access its community of native speakers.

7 Drops focuses on vocabulary but no grammar.

8 Transparent is free to WPI students.

services are more flexible since there are options for instructors who can teach based on the needs of the user. However, all of them are more expensive and can potentially cost hundreds of dollars. Alliance Française classes scheduled for ten or eleven weeks, can cost $515 for members and $555 for non-members. Berlitz offers private remote, private in-person, group remote, or group in-person classes. The cost of the classes can range to hundreds to thousands of dollars and can be more expensive with group-based classes. Lingoda offers a seven-day free trial and then each class costs $9.50 for each month for the monthly subscription, or $6.75 per class for three-, six-, or twelve-months. Each Lingoda class lasts for an hour and can have up to five students with a native-speaking instructor. Live Lingua offers its first one-hour lesson free and then costs $29.00 per hour, with the price decreasing by $1.00 every ten hours of lessons. The price changes if another Live Lingua user recommends the service to a colleague, granting both a reduced price. Also, Live Lingua offers custom pricing for corporate clients.

Table 3 below lists the short-term classes found for this project based on if they provide in-person, remote, individual, and/or group-based learning options. The table also focuses on conversational language and formal language training, like in Table 2.

Table 5: Learning options for short-term classes.

Name	Conversational Language	Formal Language	In-Person	Remote	Individual	Group	Flexibility
Alliance Française		X	X	X	X	X	X
Berlitz		X	X	X	X	X	X
Lingoda	X			X		X	X
Live Lingua	X			X	X	X	X

Informal Online Sources:

A few informational online video sources have resources for learning French. Data was collected from sources such as YouTube, TV5Monde, and Le Monde. On YouTube, a language learning service called FrenchPod101 has a channel with free videos offering a way to become a conversationalist and learn about the grammar of another language. The service FrenchPod101 itself has subscription plans. TV5Monde is a French-speaking public service of audiovisual services plus ten channels, which offers a "discovering" French option through videos, articles, quizzes, and games. Its curriculum is based on videos and news reports which is great for visual, auditory, and reading oriented learners but provides no feedback. Le Monde is like TV5Monde but focuses on more individualized lessons and costs range from €9.99 to €29.99 per month. Le Monde sends a personalized lesson daily with linguistic, written, audio, and video content while incorporating a story element to its teaching style. There is also feedback sent back daily.

Three Discerned HECCMA Members:

Three members of the HECCMA are within a 41-minute walking proximity of WPI and offer French courses and programs inaccessible at WPI. Assumption College has a French Minor program including several classes dedicated to and including French language and culture (*French | Assumption University*, n.d.). Worcester State has a Department of World Languages which includes French courses (*French | Worcester State University*, n.d.). Clark University has a

French and Francophone Studies program with paths for undergraduate majors and minors ("Major in French and Francophone Studies (B.A.)," n.d.).

Services Recommended by Rubric:

Upon analyzing nineteen different services (using the methodology described in the Rubric criteria subsection in Chapter 3) the most recommended services are: Duolingo, Lingoda, Memrise, Mondly, Pimsluer, TV5Monde, and YouTube – FrenchPod101 channel (refer to Appendix E for further analysis). Lingoda and Mondly are the most immersive but semi-free services, with Mondly's speech-recognition chat bot providing immediate feedback to users and Lingoda offering individualized lessons focusing on formal language training while incorporating speaking mannerisms. Both have a seven-day free trial. Duolingo has no immersive components but appeals to visual learners with its game-based teaching style, conversational language training focusing on phrases and free options. Memrise offers many video and audio clips of native speakers that focus on conversational components, but payment is needed to finish its courses. Pimsleur has recorded lessons of speakers breaking down conversations and has a seven-day free trial. TV5Monde has no immersion, focuses on conversational aspects, and is free. YouTube has no immersive components but has a channel for the service FrenchPod101 with videos on conversational and formal French language training.

The second-most recommended are: Berlitz, Babbel, Busuu, Drops, Live Lingua, Rosetta Stone, Speakly, and HECCMA cross-registration. Drops, Rosetta Stone, and Speakly have no immersive components and offer some free material. Rosetta Stone and Speakly focus more on conversational language training. Drops is designed for visual learners. For an additional fee Berlitz, Live Lingua, and Busuu offer immersive components for speaking with an instructor. Babbel's subscription plan starts with conversational language training through recording of native speakers. Based on the guidelines of the HECCMA cross-registration process, the price for their available courses depends on tuition of the host university's classes.

The third-most recommended are: Alliance Française, FrenchPod101 (the service), and Transparent. Both Alliance Française and FrenchPod101 require payment plans, but while Alliance Française provides immersive formal training, FrenchPod101 has no immersion and the option to learn either more conversational or formal language training components. Additionally, Transparent is free to WPI students but has no immersive components and a focus on formal language training.

Finally, the least recommended is Le Monde, which has no immersion, focuses on formal French but has a seven-day free trial. However, everyone learns in different ways, and everyone is encouraged to use the service deemed best suited for them.

Chapter 5: Recommendations

This research makes apparent that the Lyon, France project center faces a challenge unique among its peers. Many WPI project centers are able to put the onus of narrowing the language barrier on the local communities through English-speaking collaborators, professional translators and local university students who have more proficiency in English than WPI students have in the respective local languages. This is not the case for the Lyon project center due to cultural demands that contribute to a lack of resources.

The Lyon project center is also disadvantaged by the lack of any academic French language and culture learning opportunities provided by WPI. Whereas WPI offers language courses in Arabic, Chinese, German, and Spanish, and has a humanities course introducing Russian language and culture as well as an instructor for Ghanaian language and culture designed to educate students before attending the Ghana development design lab, there is no comparable offering available for students heading to France.

Therefore, the first recommendation, based on student feedback, principles from the language center at University of North Carolina (which suggest group-based learning and feedback through immersion), and the lack of academic offerings at WPI pertaining to France, is **for WPI to invest in and to offer a conversational French class that incorporates speaking in French on a regular basis prior to the IQP**. Alternatively, **WPI could model a French language and culture course based on the structure of the Ghana development lab**.

Another recommendation, dependent upon support from WPI, and based on the same data in the previous paragraph, also supported by findings per the use of the established rubric and other considered elements (explained in the methodology and findings chapters) is to **provide access to Live Lingua without additional costs to students and/or as integrated into the academic offerings**. This online language school offers short-term classes at negotiated rates for business clients. The courses are taught by native-speaking teachers. Students can take individualized lessons, or small classes with their friends or colleagues.

Regarding independent learning at no cost to WPI students, and based upon the app analysis plus considering student use, **Duolingo is the most recommended app**. Although there is no immersion, it has a strong conversational language focus and appeals to visual learners with its game-based approach and graphics. It is free and allows for easy access as a WPI student with internet connectivity on campus.

Lingoda and Mondly both allow for independent learning and have strong positive features, but unfortunately, each has drawbacks. **Lingoda provides access to a class of peers as assessed per their comprehension level**. While it focuses on formal teaching, it also includes colloquial French. It offers a seven-day free trial, followed by a monthly subscription fee of approximately $9.50 (or €8.00) per month. **Mondly offers speech recognition and a chat bot providing immediate feedback to users**. However, while Mondly has a free option, unsubscribed users have limited access as they must wait 95 minutes between lessons.

It is also recommended that students preparing to go to the Lyon, France project center develop **a routine of using the courses on TV5Monde via their website**. This allows students access to learning French from France itself through videos, articles, quizzes, and games, with no costs. Since there is no feedback component, it would be best as a supplement to a language

service, app, or class. **Le Monde has a similar option to TV5Monde, but sends daily feedback, incorporates a story element into its learning style, and requires a monthly payment**.

Similarly, while there is no feedback component, **a strong YouTube recommendation is the channel FrenchPod101** to learn about conversational and grammatical French.

One of the three main criteria for the evaluative rubric was cost as it assumes students are not able or willing to incur more expenses. However, for some students, cost may not be a factor and/or they might choose to substitute WPI electives for one or more courses in French. Therefore, it is recommended that courses through HECCMA be considered. **Worcester State University is one of the three chosen members of the HECCMA – based on proximity** – should a student like to learn French, which is not available at WPI. If the student would like to **minor in French, then either Assumption College or Clark University** has that path, but if the student would like to **major in French, then Clark University** provides that option.

Ways to Immerse People in the Language's Culture:

To be a French conversationalist, one must learn about the interdependence of the French language and culture, as one informs the other. There are several resources available providing insightful information about France and French culture through various media such as *The Bonjour Effect*, **which provides insight from two authors who spent many years in France observing the culture**. Up-to-date information from local news and TV programs in and surrounding France like France24, RFI, Euronews, Francetvinfo.fr, BFMTV, TV5Monde, and Arte, and journalistic resources such as Le Progres, Le Monde, Le Figaro, Liberation, Cafebabel, and VoxEurop. These recommendations serve to guide WPI students before attending the Lyon, France project center.

Chapter 6: Conclusion

This research set out to assist the Lyon, France project center by narrowing the language gap between French residents and majority English-speaking WPI students. In addition to identifying options to assist WPI students in improving their conversational French, the hope was to be able to use the language gap closing practices of other project centers. However, background research into what is effective for the project centers in Albania, Armenia, Czech Republic, Ghana, India, Romania, Russia, and Thailand revealed that using their methods, which rely on translators and/or project collaborators to speak English, is not effective in France. Research indicated that due to cultural expectations and norms which include deep pride in the language and an expectation of needing to be extremely proficient in English, the French are less likely to volunteer to serve as translators and to speak in English when collaborating. Therefore, the most useful findings relate to how best to improve the conversational French capacities of WPI students working at the Lyon, France project center.

Since the Lyon, France project center does not have the benefit of any pre-IQP live and/or immersive French language academic resources provided by WPI, except for the language app Transparent, students need to be guided to find resources that will assist them in building their language capabilities. This research only scratches the surface.

This research project was conducted within a seven-week period and is deserving of additional inquiry which would allow for a comparison of the effectiveness of each method based on the level of student competency achieved. WPI students can build on this research and expand on the conclusions by conducting a comparison between types of approaches (University Classes, Short Courses, Apps and Online Videos) as well as a comparison within each of the four categories. For example, which app was most effective for the most students.

Ultimately, the research may lead WPI to partner with a live-instruction course or to secure discounts or course rates to make the best options affordable. Lastly, given the importance of Americans presenting the best of our Nation abroad, research should be constructed such that negative impacts of not speaking French sufficiently are studied and WPI, based on findings, can assess whether a greater commitment to the Lyon France project center, partners and to students is needed in the form of offering a conversational French class or some other solution. By learning more conversational French, WPI students will not only understand another culture, but will gain a new and deeper perspective on living in France and be more appreciated for their efforts.

Bibliography:

About us | Lingoda | Online Language School. (n.d.). Lingoda. Retrieved June 30, 2021, from https://www.lingoda.com/en/about-us/

afus. (n.d.). *Home*. AFUSA. Retrieved June 7, 2021, from https://afusa.org/

Bangkok, Thailand Project Center—IQP | WPI eProjects. (n.d.). Retrieved June 30, 2021, from https://eprojects.wpi.edu/project-sites/71

Barlow, J., & Nadeau, J.-B. (2016). *The Bonjour Effect: The Secret Codes of French Conversation Revealed* (1st ed.). St. Martin's Griffin.

Chien, C., Huang, Y., & Huang, P. (2020). YouTube Videos on EFL College Students' Listening Comprehension. *English Language Teaching*, *13*(6), 96–103.

Delbio, A., & Ilankumaran, M. (2019). *Paradigms of Second Language Acquisition: A Neurolinguistic Perspective*. *8*(1), 6.

Education—Language Learning & Instructional Tools for Teachers. (n.d.). Retrieved June 10, 2021, from https://www.transparent.com/education/

EXPLAINED: Why bonjour is the most sacred word to French people. (2020, September 1). *The Local France*. https://www.thelocal.fr/20200901/explained-why-bonjour-is-the-sacred-word-to-french-people/

French | Assumption University. (n.d.). Retrieved July 5, 2021, from https://www.assumption.edu/undergraduate/french

French | Worcester State University. (n.d.). Retrieved July 5, 2021, from https://catalog.worcester.edu/undergraduate/school-humanities-social-sciences/french/

Ghana Project Center: Development Design Lab—IQP | WPI eProjects. (n.d.). Retrieved June 30, 2021, from https://eprojects.wpi.edu/project-sites/2401

Global Projects Program. (n.d.). WPI. Retrieved June 9, 2021, from https://www.wpi.edu/project-based-learning/project-based-education/global-project-program

Google Maps. (n.d.). Google Maps. Retrieved July 3, 2021, from https://www.google.com/maps/dir/Worcester+Polytechnic+Institute,+Higgins+Laboratories,+Institute+Road,+Worcester,+MA/Assumption+University,+500+Salisbury+St,+Worcester,+MA+01609/@42.2843108,-71.8363376,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1s0x89e4065910373677:0xc6c3218673dc6dad!2m2!1d-71.8081371!2d42.2743015!1m5!1m1!1s0x89e4071e9306fd6b:0xa472922f4b5161b!2m2!1d-71.8291592!2d42.2943228!3e2

heccmaadmin. (n.d.). For College Students. *HECCMA*. Retrieved June 22, 2021, from http://www.heccma.org/students/

Humanities & Arts Courses | WPI - WPI. (n.d.). Retrieved June 9, 2021, from https://web.wpi.edu/academics/catalogs/ugrad/hucourses.html

Interactive Qualifying Project. (n.d.). WPI. Retrieved June 9, 2021, from https://www.wpi.edu/academics/undergraduate/interactive-qualifying-project

Israel Project Center (Eilat)—IQP. (n.d.). WPI. Retrieved June 9, 2021, from https://www.wpi.edu/project-based-learning/project-based-education/global-project-program/project-centers/israel-project-center-eilat-iqp

Israel Project Center (Eilat)—IQP | WPI eProjects. (n.d.). Retrieved June 9, 2021, from https://eprojects.wpi.edu/project-sites/2156

Learn a language for free. (n.d.). Duolingo. Retrieved June 11, 2021, from https://www.duolingo.com/

Learn a New Language | Language Classes and Training. (n.d.). Berlitz. Retrieved June 10, 2021, from https://www.berlitz.com

Learning Languages. (n.d.). *Learning Center*. Retrieved June 7, 2021, from https://learningcenter.unc.edu/tips-and-tools/learning-a-second-language/

Major in French and Francophone Studies (B.A.). (n.d.). *Clark University*. Retrieved July 5, 2021, from https://www.clarku.edu/academics/undergraduate/programs/majors-minors/french-and-francophone-studies/

Moscow, Russia Project Center—IQP. (n.d.). WPI. Retrieved June 9, 2021, from https://www.wpi.edu/project-based-learning/project-based-education/global-project-program/project-centers/moscow-russia-project-center-iqp

Ozfidan, B., & Burlbaw, L. M. (2019). A Literature-Based Approach on Age Factors in Second Language Acquisition: Children, Adolescents, and Adults. *International Education Studies*, *12*(10), 27–36.

Prague, Czech Republic Project Center—IQP | WPI eProjects. (n.d.). Retrieved June 30, 2021, from https://eprojects.wpi.edu/project-sites/4156

Project Center Directory. (n.d.). WPI. Retrieved June 15, 2021, from https://www.wpi.edu/project-based-learning/project-based-education/global-project-program/project-centers

review, U. (2012, June 21). *How YouTube works* [Collection; Text]. corporateName=The State of Queensland; https://www.business.qld.gov.au/running-business/marketing-sales/marketing-promotion/online-marketing/youtube/how

School, L. L.-O. L. (n.d.). *Spanish Tutors Online | Live Lingua | Award-winning*. Live Lingua. Retrieved June 30, 2021, from https://www.livelingua.com

Szczegielniak, A. (n.d.). *Introduction to Linguistic Theory*. 44.

The Babbel Method | Babbel. (n.d.). Retrieved June 11, 2021, from https://about.babbel.com/en/

Tirana, Albania Project Center—IQP | WPI eProjects. (n.d.). Retrieved June 9, 2021, from https://eprojects.wpi.edu/project-sites/246

What Is Constructivism? (n.d.). Western Governors University. Retrieved July 3, 2021, from https://www.wgu.edu/blog/what-constructivism2005.html

Appendix

Appendix A: Additional Project Center Information

The Bangkok, Thailand project center has WPI students work with students from Chulalongkorn University on projects proposed by local nonprofit organizations, universities, and governmental organizations. Thailand is predominately a Buddhist country with a mix of large urban and rural communities. Since 1989, the center has addressed common challenges to developing nations by working on a variety of social and environmental projects such as solutions for water contamination and waste management, evaluating improvements for rice-farming technology, creating a program for a school district's traffic, developing methods for sharing health information, and designing "learning centers" to learn about the local culture and livelihoods (*Bangkok, Thailand Project Center - IQP | WPI EProjects*, n.d.).

Established in 2020, the Ghana development design lab, within the Eastern Region of Ghana in the villages of Kyebi and Dwenase, which are populated by the Okyeman – one of the three major "tribes" in Ghana. Projects for this lab include developing a health center assessment, organizing a community infrastructure project, establishing a Science Technology Engineering and Mathematics (STEM) curriculum for rural Ghana, conducting a village mapping and zoning project and archiving Okyeman records (*Ghana Project Center: Development Design Lab - IQP | WPI EProjects*, n.d.).

The Israel (Eilat) project center has addressed problems such as exploring alternative energy solutions, improving access to clean water, and evaluating the thermal performance of desert housing. Israel is a nation between the Mediterranean and Red Seas, containing geographically diverse features and a unique atmosphere rooted in its rich history, and a cultural focus on innovation (*Israel Project Center (Eilat) - IQP*, n.d.).

The Moscow, Russia project center has addressed problems and questions including how to repurpose the design for a coffee grinder, evaluating the consequences of climate change in the Arctic for Russian energy companies with Ernst & Young, and identifying the best available technologies and practices to increase energy efficiency for the Moscow Metro. Russia is the largest country in the world, spanning twelve time zones across Europe and Asia, in terms of land mass, natural resources, and opportunities for economic and technological growth (*Moscow, Russia Project Center - IQP*, n.d.).

The Prague, Czech Republic project center has pioneered efforts for WPI students to establish the center and improve the city of Prague. Some of the projects have involved working with local museums and art communities, making tourism more sustainable, historical preservation, and economic development of industries and companies (*Prague, Czech Republic Project Center - IQP | WPI EProjects*, n.d.).

The Tirana Albania project center has addressed topics including waste management, water resources, sustainable agriculture, ecotourism, education, entrepreneurship, and technological innovation. Albania is located on the Adriatic Sea in Southeastern Europe, which is across from Italy and north of Greece. The country has many small cities of historical and archeological interest in addition to Tirana (*Tirana, Albania Project Center - IQP | WPI EProjects*, n.d.).

Appendix B: Categorization of Mobile Apps by Preferred Learning Style

Visual-focused apps

According to the survey, most of the students preferred visual learning. Duolingo and Drops engage visual learners through game-based systems to teach people another language, while offering free options for their service.

Duolingo offers free games as lessons applied to actual scenarios, providing a way to keep people engaged with its visual, auditory, and reading components combined in a way to teach users conversational phrases through games. The app is free but has frequent ads and promotions for its subscription plans.

Drops combines word games and visual mnemonic associations to teach vocabulary and grammar. It is free but limits the user to five minutes a day for use, offering a subscription plan for more than five minutes of access a day.

Reading/Writing-centered apps

According to the survey, reading/writing was the third-most preferred learning type. Reading and writing are essential parts of understanding another language, and many apps incorporate this in different ways but Rosetta Stone, Babbel, Speakly, Transparent, and Busuu rely on this heavily.

Rosetta Stone presents short lessons in the context of real situations and uses speech recognition to grade the user's performance, starting with conversational phrases and then reinforces the language with vocabulary and grammar. It also has a three-day free trial.

Babbel uses dialogue to teach another language and uses speech recognition for feedback. Students must pay for Babbel's services immediately upon use but it starts with a more conversational focus moving to formal over time, which may be a helpful introduction into another language. Babbel immerses learners in a new language through real-life dialogues, builds each course on the learner's native language and personal interests, employs proven cognitive techniques moving through new vocabulary to the learner's long-term memory, and uses human voices and speech recognition to help the learner gain more confidence speaking (*The Babbel Method | Babbel*, n.d.).

Speakly starts with writing and speaking whole sentences and then presents real-life situations. The individualized learning is based on the words which may be prevalent to the user. Offers a seven-day free trial and a tutor which adds to the subscription plan.

Transparent has a series of activities and uses speech recognition to teach vocabulary and grammar. It is free to WPI students.

Busuu has a series of lessons building vocabulary, grammar, and writing which leads to conversational skills but has a learning time limit of ten minutes a day. It offers one-to-one tutoring but only on its most expensive subscription plan.

Auditory apps

Although auditory learning is a way people learn and is essential in interpreting conversational components of a language, everyone on the survey stated that auditory aspects

supplement the other learning styles. So do the apps Memrise, Pimsleur, and Mondly as such in comparison to apps focusing on more visual and reading/writing learning styles.

Memrise promises a more "street-smart" approach relying on words and phrases from its thousands of video and audio clips of native speakers. The app may be one of the most immersive apps with countless videos of people speaking in the user's desired language. Memrise is recommended as supplementary material since users must pay for courses provided by the app. The app also uses speech recognition to provide feedback.

Pimsleur provides completely auditory information by playing recordings of conversations for pronunciation practice. The app has a seven-day free trial but focuses on teaching only the spoken components of a language which is a great advantage for becoming a conversationalist in the language.

Mondly French (the Mondly app for teaching French – there are different Mondly apps for different languages) presents common phrases, records of native speakers for pronunciation and accents, practice with casual conversation, repetition, and provides a chat bot. It starts with conversational training and then moves to grammar, vocabulary, and pronunciation. It also offers a seven-day free trial, however one must pay to avoid a 95-minute wait between lessons.

Appendix C: Faculty Interview Questions

Introduction: Hello [insert name here], I am Stanley Cliche, a rising Senior at WPI, and for my IQP I am suggesting options to improve the competency of WPI students learning French to effectively converse in France while attending WPI's Lyon, France project center.

I) **Before we begin, I wanted to ask if you are you comfortable with me using your name and/or direct quotes in my report and presentation?** [Provide some time to answer.] **I am wondering if you are comfortable with me recording this interview for reviewing the content in the future? None of the recorded video will be made public.** – Affirms consent between interviewer & interviewee.

II) **How/Why did you become interested in the [insert project center location] project center?** – The question is an icebreaker and hopefully starts the conversation and elaborates on the director's motivation.

III) **I am assuming the predominant language spoken in [insert area] is [insert language]. Is this correct? Is English widely used or accepted, or is another language used more frequently?** – The question inquires if the WPI students are in an area where the language is not predominantly English.

IV) **Are you a native speaker of [insert language]?** – The question inquires if the director has used secondary-language learning tools for the area of their center.

V) **What is the expectation for the local language competency of the students before arriving at the center?** – The question inquires how prepared the students are expected to be before going to the project center, with knowledge of how much they are expected to know the language.

VI) **What language-learning tool(s), method(s), and/or service(s) do you use to help the students transition to the center's area?** – The question inquires what kind of tool(s) and/or service(s) the director is using to prepare the students for the local area of their center.
Follow-up questions in the event no equivalent answers to these are provided:
   a. **What do you like about the tool(s), method(s), and/or service(s) you are using for your students?** – The question asks directors their opinion about the tool(s) and/or service(s) their students are using.
   b. **Have you used these tool(s), method(s), and/or service(s) yourself? How effective do you think they are?** – The question asks directors how much they have researched the tool(s) and/or service(s) they are having their students use.

VII) **How often do you expect WPI students to speak with the residents of the area?** – The question asks how often the directors expect the students to interact with the residents of their center's local area.

VIII) **Do you have more information or suggestions for me? Can I reach out if I have any more questions in the next couple of weeks?** – If the interview goes well, I want to end on a positive note and ask if I can contact them later if necessary.

Institutional Review Board

FWA #00015024 - HHS #00007374

Notification of IRB Approval

Date: 17-Jun-2021

PI: Miller, Fabienne

Protocol Number: IRB-21-0675

Protocol Title: Overcoming Language Barrier Suggestions

Approved Study Personnel: Miller, Fabienne~Cliche, Stanley~Krueger, Robert~Stanlick, Sarah~Jaeger, Caroline~

Effective Date: 17-Jun-2021

Exemption Category: 2

Sponsor*:

The WPI Institutional Review Board (IRB) has reviewed the materials submitted with regard to the above-mentioned protocol. We have determined that this research is exempt from further IRB review under 45 CFR § 46.104 (d). For a detailed description of the categories of exempt research, please refer to the IRB website.

The study is approved indefinitely unless terminated sooner (in writing) by yourself or the WPI IRB. Amendments or changes to the research that might alter this specific approval must be submitted to the WPI IRB for review and may require a full IRB application in order for the research to continue. You are also required to report any adverse events with regard to your study subjects or their data.

Changes to the research which might affect its exempt status must be submitted to the WPI IRB for review and approval before such changes are put into practice. A full IRB application may be required in order for the research to continue.

Please contact the IRB at irb@wpi.edu if you have any questions.

*if blank, the IRB has not reviewed any funding proposal for this protocol

Appendix E: Language Learning Service Evaluation (Part 1)

Name of Service	Methods	IMMERSION 1 - none 2 - some 3 - optional	Conversational / Formal	LANGUAGE TYPE(S) 1 - formal 2 - formal to conversational 3 - conversational to formal or completely conversational	Engagement / Appeal	Flexibility	Learning Efficiency	Cost	COST/FREE 1 - cost 2 - free trial 3 - free	Accessibility	Apple Review	Google Play Review	Sum
Duolingo	Offers free games as bite-size lessons. If using free version, it prompts ads after each lesson.	1	Applys learning to actual scenarios, so possibly casual.	3	Very bright and colorful aesthetic, and has fictional languages - Klingon. Focuses on phrases.	Uses games so unlikely to change them.	Equates 34 hours of Duolingo to an university semester.	Free, but offers a subscription plan without ads.	3	iPhone & Android apps.	4.7 stars & #3 in Education on Apple store.	4.6 stars from 11,146,950 reviews.	7
Lingoda	Take lessons with native-speaking teachers in small groups or 1-on-1.	3	Mentions a focus on grammar, so formal. However there is also a focus on conversations, & speaking like a local which includes idioms.	2	Provides a classroom environment which can be scheduled & rescheduled at any time.	Is an online language school providing small 3-5 person classes, so may be open to suggestions.	Depends on consumer but recommends 5 classes / week for 2.5 months.	Free 1 week trial, then either: $9.5 / class for each month, or $6.75 / class for 3, 6, or 12 months.	2	website			7
Memrise	Courses used by native speakers, thousands of audio & video clips of locals speaking their native language, & speech recognition technology.	2	Promises a more 'street-smart' approach and relies more on words and phrases, so conversational.	3	Seems chaotic, but the selection of clips may help keep people engaged.	Recordings, so no.	Seems to depend on the consumer.	Entire courses can be accessed with Pro account where prices seem to vary.	2	iOS & Android	4.8 stars & #104 in Education on Apple store.	4.6 stars from 1,401,773 reviews.	7
Mondly	For the French portion: presents common phrases, records of native speakers for pronunciation & accents, practice with casual conversations, & repetition. Has a chat bot to teach more about the language.	2	Seems to focus on conversational and move to grammer, vocab, & pronunciation, so formal. Has speech recognition to provide immediate feedback.	3	Records people to ensure pronunciation is correct.	Relies on programs & records, so probably not.	May depend on the user.	7 days free trial. Pay for more lessons, or wait about 95 minutes for another lesson.	2	iOS & Android	4.8 stars from about 15.3 thousand ratings.	Mondly French has 4.7 stars from 101,550 reviews.	7
Pimsleur	Auditory. Listens to a recorded lesson.	2	Seems disigned for convenience (on the go), so conversational.	3	Seems compatible for something that can be done during free time, like listening to a podcast.	Recorded lessons, so unlikely.	Seems to depend on user demand. Promises having actual conversation after 30 minutes / day for a week.	Free the 1st week, and then is $14.95/month	2	Android & iOS	4.7 stars & #141 in Education on Apple store.	4.5 stars from 4,488 reviews.	7
TV5Monde	A public service of French-speaking public audiovisual services consisting of 10 channels. Offers for 'discovering' French through videos and articles, 'playing' with French through quizzes and games and dictations, learning French from videos, and teaching French.	1	Focuses on listening comprehension so - conversational.	3	Curriculum based on videos and news reports provides a dual element of immersion in current events and teaching comprehension.	Dependent on videos, likely no flexibility.	There is a structure but no time-frame is given.	Free	3	website			7
Babbel	Immerses people through dialogues, builds each course based on primary language & personal interests, employs cognitive techniques for new vocab, and uses speech recognition.	2	Starts casual and moves to formal.	3	Addresses learning possibilities through reading, writing, speaking, seeing, or listening.	Doesn't seem to provide very much.	Seems to depend on user demand.	Prices may change. 1 month: $13.95, 3 months: $29.85, 6 months: $50.70, 12 months: $83.40	1	iOS & Android	4.7 stars & #19 in Education on Apple store.	4.5 stars from 622,301 reviews.	6
Berlitz	Language classes in private in-person and online, group in-person and online, and online self-paced.	3	Promises immersion so conversational components may play a part. Encourages cultural understanding.	2	Seems to be like remote and in-person classes offered at a college but with more options for teaching.	Based on the options, it's possible any class with an instructor may have some flexibility.	Determined by consumer.	However, the prices vary in hundreds of USDs.	1				6

Name of Service	Methods	IMMERSION 1 - none 2 - some 3 - optional	Conversational / Formal	LANGUAGE TYPE(S) 1 - formal 2 - formal to conversational 3 - conversational to formal or completely conversational	Engagement / Appeal	Flexibility	Learning Efficiency	Cost	COST/FREE 1 - cost 2 - free trial 3 - free	Accessibility	Apple Review	Google Play Review	Sum
Busuu	Series of lessons building on vocabulary, grammar, and writing which leads to building conversational skills. Suggests a learning schedule of 10 minutes / day.	2	Has a focus grammar learning, so formal. Has a French for Travel course focusing more on phrases. Builds from grammar & vocab to conversational.	2	Has a way to track the user's progress.	Has the option for one-on-one tutoring but seems to be supplimentary, so not likely.	Seems to depend on the user's plan.	Mutliple plans, which seem to cost more for a month in comparison to the 12 and 24 month plans. Can use all service for 7 days free.	2	iOS & Android	4.7 stars & #67 in Education on Apple store.	4.4 stars from 435,055 reviews.	6
Drops	Combines word games and mnemonic associations.	1	Seems to focus on grammar, word learning, and audio recordings.	2	Use of video games & brief study sessions. Provides immediate feedback. Associate vocabulary w/drawings, & verb conjugation.	Games, so unlikely.	Has 5 minute / day sessions.	Free. Offers subscription plans for more than 5 minutes / day.	3	iOS & Android	4.8 stars & #70 in Education on Apple store.		6
HECCM Cross-registration	Provides students the opportunity to take courses at other member institutions.	3	Depends on the class.	2	Applies to WPI students specifically; tuition and transport paid by student.			Tuition of host university.	1	website			6
Live Lingua	Sets up users with a 1-on-1 lesson with a native language speaking tutor. Offer options for group learning.	3	Seems to be based on the user's learning style.	2	Seems like the opportunity for a completely individualized lesson.	Seems to depend on what the user wants so very flexible.	Schedule can be made at the user's discretion.	Standard lessons cost $29.99/hour. Exam preparation is $34.99, & group classes vary.	1	website			6
Rosetta Stone	Presents bit-size lessons in the context of real situations and records the user to grade their performance.	1	Seems to start with phrases and reinforces the language with vocabulary & grammar.	3	Has short lessons encouraging confidence in language competency & immediate feedback. Suggests when the answer is wrong to try again.	Doesn't seem to provide very much.	Depends on the user.	Free 3-day trial. 3 Months: $11.99/month ($35.97). 12 Months: $7.99/month ($95.88). Lifetime is $179. Prices may vary.	2	website, iOS, & Android.	4.8 stars & #50 in Education on Apple store.	4.6 stars from 307,434 reviews.	6
Speakly	Presents the 4000 most-used words in order of statistical relevance, lets users write & speak whole sentences, & presents real-life situations & listening exercises.	1	Seems conversational, since it focuses on words and conversations.	3	Seems to offer individualized learning based on words which may be prevalent to the user. Provides options for how to learn vocabulary.	Provides tutoring options which can be group or individual - 79 or 179 EUR + VAT / month.	Claims to take about 100 hours of study time in total to learn what take years in traditional langage courses.	Try 7 days for free. € 10.99 EUR/month for a month for 1 language. €9.00 EUR/month for 3 months of 1 language learning.	2	iOS & Android	4.5 stars from 304 ratings.	4.2 stars from 4,106 reviews.	6
Alliance Française	International organization with some chapters offering classes in a relaxed setting, and events for immersion.	3	Has classes focusing more on grammar and pronunciation - formal. https://frenchculturalcenter.org/classes-for-adults/	1	Has classes and tutoring options like a classroom but offers more fun and immersive experiences. Tests students' fluency in French before taking a class, suggesting a more individualized experience.	According to Professor Miller, they do have some accomodations.	Multiple hours a week for 5 to 10 weeks depending on the class.	$555 for non-members and $515 for members.	1	website			5
FrenchPod101	Provides video & audio resources for learning French. Has free videos on YouTube.	1	Seems to have different videos ranging to tips for speaking fluently and learning about gender pronouns.	3	No feedback of any kind from the videos, but offers feedback from a teacher if user pays for their Premium PLUS subscription.	informal videos, so unlikely.		YouTube videos are free. Basic plan is $4 / month for a 2-year subscription, $10 / month Premium, & %23 / month for PremiumPLUS.	1	Innovative Language 101 app on iOS, Android, & kindle fire. Free videos on YouTube.			5
Transparent	Uses declarative memory claiming it's the key to 2nd-language acquisition. Blends technology with human instruction.	1	Formal, since they "treat language learning as more than a casual pursuit."	1	Records people to ensure pronunciation is correct.	Little, instructor receives reports.	Determined by consumer.	Currently free to WPI students. $24.95 or $49.95 /month for 1 or all languages.	3	website, iOS, & Android	2.8 stars from 4 ratings on Apple store.	2.8 stars from 142 reviews.	5
Le Monde	News articles, videos, language lessons, etc. Sends a personalized lesson daily with linguistic, written, audio, and video content.	1	Sends informal videos involving writing so - formal. https://apprendre-francais.lemonde.fr/cours-francais-fle	1	Has a story element to its teaching style which may be fun. Sends feedback daily. Seems like a fun activity customizing for the individual which may be helpful but has no structure.	Determined by algorithm so flexibility is unlikely.	Doesn't seem to offer a time-frame.	€ 9.99, 19.99, or 29.99 per month depending on the subscription. Has a 7 day free trial.	2	Website. Also has apps available for iOS and Android.			4

Appendix F: Research Questions

1) How do young adults acquire a second language at a conversational level?
2) What options are available, convenient, and appealing to higher education students seeking to learn a second language? For WPI students which institutions through the cross-registration program may be the most efficient and appealing to them? What informational online sources, mobile apps, and short-term classes would be the most appealing to WPI students seeking to learn French?
3) How and what have other project center directors done to manage the language barrier in the cases where WPI does not offer a class dedicated to the primary language of their center's local area? How and what have they done for students who are not proficient in the language of their center's local area?

Overcoming French Language Barrier Student Survey

Your participation in this research is voluntary. You may decide to stop participating in the research at any time without penalty or loss of other benefits.

1. Have you had any French learning experience prior to the IQP preparation term? If yes, how many years of experience do you have?

   Check all that apply.

   ☐ Not applicable

   ☐ 1 year or less

   ☐ 2 - 3 years

   ☐ 4 years or more

   ☐ Native speaker

2. What kind of learner are you?
   Check all that apply.

   ☐ Auditory

   ☐ Visual

   ☐ Kinesthetic - tactile contact

   ☐ Reading/Writing

   Other: ☐ _____

3. Which of these resources have you used in the past? Select all that apply.

   Check all that apply.

   ☐ BFMTV

   ☐ Cafebabel

   ☐ Le Monde

   ☐ Le Progres

   ☐ Liberation

   ☐ RFI

   ☐ TV5Monde

   ☐ VoxEurop

   Other: ☐ _____

4. What did you like and dislike about the services used, if any, in the previous question?

5. What tool(s), other than Transparent, did you use to learn French for the IQP?

Check all that apply.

☐ Language course(s) at a university

☐ Babbel

☐ Berlitz

☐ Duolingo

☐ Drops

☐ Rosetta Stone

☐ Speakly

☐ Transparent

☐ YouTube

Other: ☐ _____

6.   Why did you use these additional tools? Did they work for you?

7.   Do you have any suggestions about how to effectively learn a language at a conversational level?

Appendix H: Student Questionnaire – Google Forms Responses

| Timestamp	Have you had any French learning experience prior to the IQP preparation term? If yes, how many years of experience do you have?	What kind of learner are you?	Which of these resources have you used in the past? Select all that apply.	What did you like and dislike about the services used, if any, in the previous question?	What tool(s), other than Transparent, did you use to learn French for the IQP?	Why did you use these additional tools? Did they work for you?	Do you have any suggestions about how to effectively learn a language at a conversational level?
6/23/2021 15:50:37	2 - 3 years	Auditory, Visual	Duolingo, Transparent	I liked that they had short lessons with a mix of vocab, grammar, and speaking questions. I particularly like when answering the question feels like	Google Translate	quick and convient	watching/listening to French media
6/23/2021 15:51:39	Not applicable	Visual, Kinesthetic - tactile contact	Duolingo, YouTube, Sometimes tiktok has French videos!	Not really a way to hold myself accountable	None		
6/23/2021 15:55:21	1 year or less	Reading/Writing	Duolingo, Transparent	I liked the progress bars and game-like qualities of duolingo and transparent. I also liked the minute chunks each lesson was sorted into.			Start talking to people in that language.
6/23/2021 16:10:26	4 years or more	Visual, Kinesthetic - tactile contact	Language course(s) at a university, Duolingo, Transparent		TV5Monde	my grandparents watch TV5Monde so I watched with them. It is helpful to see a casual speed of speaking and the structure of sentences in news conversation	
6/23/2021 16:46:45	2 - 3 years	Visual	Transparent	Transparent was a decent service, but I feel like it focused more on developing vocabulary instead of explaining grammar. I think developing vocabulary is good, but I feel like Transparent does that in a bit higher proportion than is necessary.			Honestly, taking classes for a couple years would be best. Learning language takes time, and people can't get up to a conversational level using just an online service for a semester. A full set of French classes at WPI would be great for learning conversational French.
6/23/2021 17:04:29	4 years or more	Auditory, Visual, Reading/Writing	Language course(s) at a university, Duolingo, Rosetta Stone	Too formal. Need to learn conversational French fast.			CreTe language groups for people to practice in. They do their duo lingo work then they get together for 30 mins and speak only in French or whatever language they are trying to learn.
6/24/2021 10:33:39	1 year or less	Kinesthetic - tactile contact	Babbel, Duolingo	It is easy to learn the vocabulary and sentence structure. It is not that easy to learn dialect or accents and how to pronounce your words properly.	N/A	N/A	I know not everyone has this, but if I were to learn a new language to the point where I can have a conversation. I would want someone to make me have at least one entire conversation in that language everyday for a month or two. So, I guess my suggestion would be to practice, and to get back constructive criticism for your speech.
6/24/2021 11:14:11	2 - 3 years	Auditory, Reading/Writing	Duolingo, Transparent, memrise				
6/25/2021 11:35:45	1 year or less	Visual	Duolingo, Rosetta Stone, Transparent	I really like the software of duolingo and find it really useful but lots of time the words they teach are random and not super useful	GoogleTranslate	Helped us communicate with our sponsors and learn specific words. Translation was not perfect but it worked okay	N/a
6/29/2021 10:48:45	4 years or more	Visual	Duolingo, Rosetta Stone, Transparent, YouTube, Viki.com (it has a language learning feature for subtitles)	Duolingo: doesn't go in depth and is limiting / Rosetta Stone: All audio no visual, very intimidating / Transparant: too easy to cheat through and we used it on a tight time frame / Youtube: not official translation site / Viki: none	N/A	N/A	Watch dramas, watch talk shows, label things in your house in that language, find an easy book and try to read it
6/29/2021 10:55:39	Not applicable	Visual	Duolingo, Rosetta Stone	i liked the notifications and reminders I got but i didn't like how it was mainly vocab based	none		go beyond vocab, it's a good start but the grammar is the hard part, duolingo though did a good job or using visuals for me to help
7/2/2021 11:13:21	Not applicable	Kinesthetic - tactile contact	YouTube	Not very hands on		N/A	Having conversation with a French speaker

The findings from Figure 2 demonstrate that:

- Four students reported they most preferred visual learning.

- Two preferred kinesthetic learning.

- One preferred reading/writing.

- Five students had two or three types of learning preferences.

- Students who said they were auditory learners had their learning preference accompanied by one or two more other types of learning.

Figure 3: Ways students prefer to learn.

Number of Participants: 12
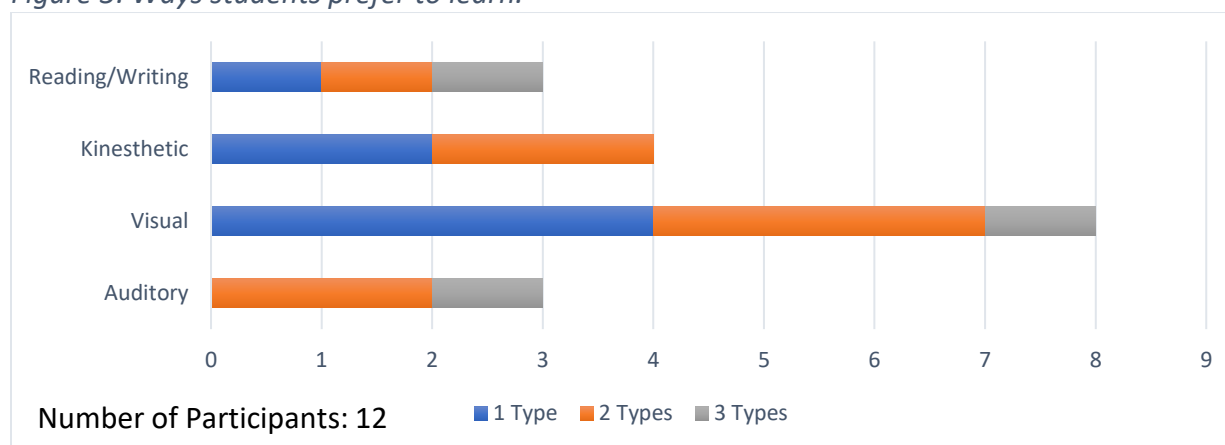
Based on the data from Figure 3:

- All four of the students who used a total of two resources used Duolingo as one of the resources. Two of them supplemented with Transparent, one supplemented with Babbel, and another with Rosetta Stone.

- All five of the students who used a total of three resources used Duolingo, three of them also used Transparent, one supplemented with Memrise, another with Rosetta Stone, and the third with a university course through the HECCMA. Of the other two of the five who used Duolingo, one supplemented with YouTube and TikTok, and the other with a university course and Rosetta Stone.

- Two students used one resource each: Transparent in one case and YouTube in the other.

- One student in the survey used a total of five different resources: Duolingo, Rosetta Stone, Transparent, Viki.com, and YouTube (refer to Figure 3 in Appendix I for a visual interpretation of the data).
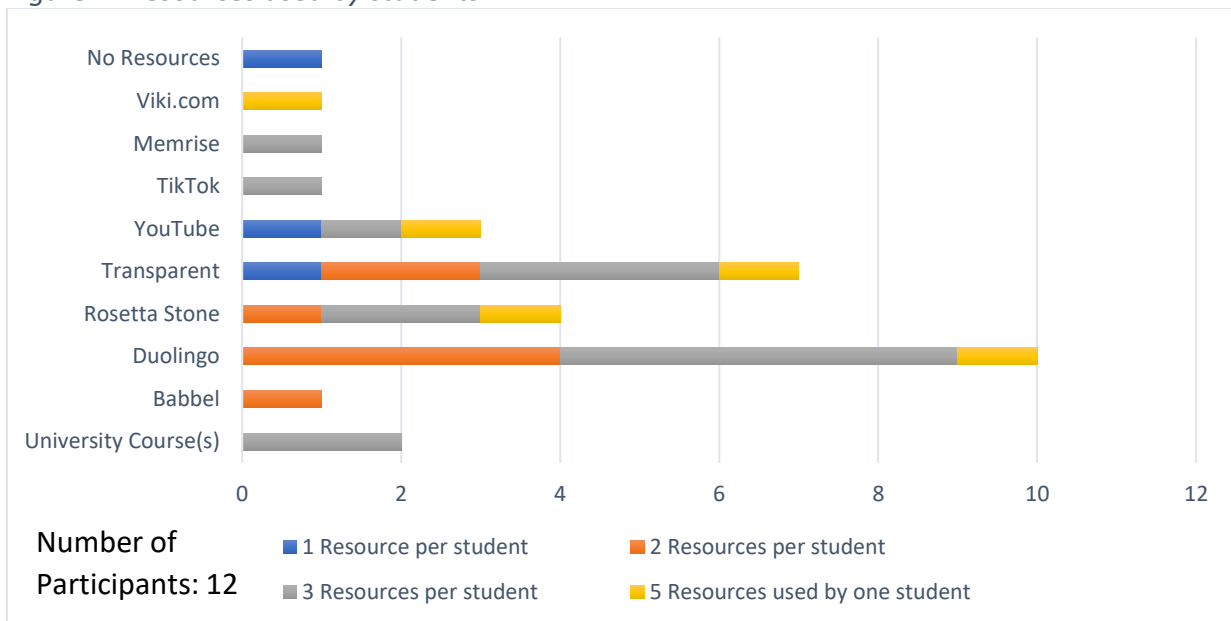
When asked via survey: Do you have any suggestions about how to effectively learn a language at a conversational level?

1. Their responses were:
   - "Start talking to people in that language."
   - "[Create] language groups for people to practice in. They do their [Duolingo] work then they get together for 30 mins and speak only in French or whatever language they are trying to learn."
   - "I know not everyone has this, but if I were to learn a new language to the point where I can have a conversation. I would want someone to make me have at least one entire conversation in that language everyday for a month or two. So, I guess my suggestion would be to practice, and to get back constructive criticism for your speech."
   - "Honestly, taking classes for a couple years would be best. Learning [a] language takes time, and people can't get up to a conversational level using just an online service for a semester. A full set of French classes at WPI would be great for learning conversational French."

2. Two responded that watching media in French would help. Their responses (quoted as written) were:
   - "Watch dramas, watch talk shows, label things in your house in that language, find an easy book and try to read it"
   - "Watching/listening to French media"

3. One responded with a general thought about the struggle and help provided by the app Duolingo:
   - "go beyond vocab, it's a good start but the grammar is the hard part, [Duolingo] though did a good job or using visuals for me to help"

Appendix J: Project Centers and Instructors

Professors in red lettering did not reply to the email, professors who replied to the email but did not agree to an interview are in a gold text effect, and professors highlighted green agreed to an interview.

Project Center	Instructor	IQP	Preparation	Founding and/or External Website	Proficiency
Moscow, Russia	Svetlana Nikitina,	D21, D22	ID2050 and PQP in term preceding departure. Online Russia Ready (HU2230) preparatory course.	2013	"Beginner" Russian
Israel Project Center (Eilat)	Isa Bar-On Braun,	C21, C22	ID2050 and PQP in term preceding departure. Students are required to attend a 1.5-hour language session (non-credit bearing) twice per week for 6 weeks in B term – must be completed on campus. Meeting times will be in the evening and the location will be confirmed by the Site Director.	2014	"Conversational" Hebrew
Tirana, Albania	Robert Hersh	B21 B22	Participation in the program will require enrollment in, and successful completion of the preparation course (1/3 unit, ID2050) and pre-qualifying project (1/6 unit, PQP) conducted in the term before you go away. Preparations may start as early as two terms prior to your off-campus experience.	2013 website	
Ghana Development Design lab	Robert Krueger	C21	Students are required to attend a 1/6 credit pre-prep course in A Term. This course will meet once per week with day/time TBD. Students will discuss Ghanaian history, culture, law, policy, and the Twi language.	2020 website	
Yerevan, Armenia	Michael J. Aghajanian & Holly K. Ault	D21	ID2050 and PQP in term preceding departure.		
Bucharest, Romania	Bogdan M. Vernescu & Rodica Neamtu	D21	ID2050 and PQP in term preceding departure.	website	

Mandi, India	Ingrid K. Shockey	D21	ID2050 and PQP in term preceding departure.	2013	
Bangkok, Thailand	Ester F. Boucher	C21	ID2050 and PQP in term preceding departure. Language and Culture course in A-term must be completed on campus.	1989	
Thessaloniki, Greece	Robert Hersh	D22	ID2050 and PQP in term preceding departure.	2016	
Kyoto, Japan	Jennifer deWinter	B21	ID2050 and PQP in term preceding departure.	2018	
Prague, Czech Republic	N. A. Deskins, & Marie T. Keller	B21	ID2050 and PQP in term preceding departure.	website	