

FRENCH TEACHERS' TECHNOLOGY BELIEFS:
A MIXED-METHODS CASE STUDY

by

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Education is constantly being adjusted to incorporate new technologies, and the impetus to learn and implement these new technologies often falls to teachers. As each new technology advances farther than those preceding, we must continue to interrogate the relationship between these technologies and those tasked with their usage. This study asked how French teachers at the University of Oregon feel about the current and future state of technology in their pedagogy, and found that there is a perceived lack of professional development support, but that these teachers see value in emerging technologies. This study also found that teachers value the input of and collaboration with other teachers, and that often co-operation is the most successful avenue to promote teachers' knowledge of and comfort with new technologies.

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Introduction

The integration of technology into life is a fast-moving phenomenon. The evolving and fleeting nature of technological developments makes studying its adoption difficult since teachers must invest time and effort into understanding developing technologies, though it can be difficult to argue that society is becoming more and more technologically integrated each day. Where new technologies and old practices collide we often find the most interesting cases for study. Throughout my course of study of the French language, I have been fascinated by the way teachers use (or do not use) technology compared to those of other classes. In general and in my experience, technology integration into the French classroom has seen similar means of use as in other classroom types, such as word-processing and using slide-based presentations, and electronic tools like online translators have been almost universally detested. However, continuous advancement in the accuracy of these translators is growing, as is its usage in the everyday life of those mono- and multi-lingual. The rapidly advancing technologies of voice- and word-recognition softwares that provide avenues of engagement that are specific to language learning classrooms are also promising technologies, yet these new technologies are notoriously slow to be adopted (Lam 2000, Turnbull and Lawrence 2003, Wozney et al. 2006.) I hope to explore University of Oregon French teachers' perceptions of technology in their teaching, so that the pedagogy of the language and its traditions can be understood more fully and, in turn, shared more widely. This project aims to ask two questions: 1) How do French teachers at the University of Oregon feel about technology usage in instruction? And, 2) What can we learn from these observations that could promote further technology integration

in the French classroom? By studying these teachers with both quantitative and qualitative measures and analyzing them in concert, this paper hopes to draw a picture of the current state of French teachers' technology perceptions. By better understanding the beliefs of those who are most influential in technology integration in the classroom, we can better understand the current climate of technology integration and provide insight into bettering the future of technology integration in language learning.

Literature Review

Technology in the Foreign Language Classroom

Technology in the classroom is an evolving facet of education. As computers become more and more common in education, a growing need for guidance on the principles of technology integration is appearing. The International Society for Technology Integration (ISTE) was formed in 1979 and has released guidelines for educators, school-staff and students regarding the integration of technology into the classroom. Computer Assisted Language Learning (CALL) was first theorized in the 1960s and has provided language teachers with a set of guidelines and goals with which to align their technology usage in teaching.

CALL has existed since modern computers have, and its use in language learning is well established. Generally, CALL has been divided into three periods, each evolving as the available technology advances. Bax (2000, 2003) reviews the history of CALL, and proposes that language teaching will reach a 'normalization' stage where technology will be indistinguishable from the lesson itself. Drawing on Warschauer (2000), Bax analyzes the accepted (though not uncontested) stages of CALL:

'Structural' CALL, which used computers in rote-memorization drills and focused on accuracy; 'Communicative' CALL, which used computers in largely communicative practices, and added a focus on not just accuracy, but also fluency; and, most recently, 'Integrative' CALL, which uses computers in socio-cognitive assignments to add a focus on agency to the previous goals of fluency and accuracy. Bax qualifies Warschauer's delineations of the 'stages of CALL' by pointing out that the stages and dates provided by Warschauer are not able to be specific, in that many pedagogies exist

today that would be defined as ‘communicative’ practices, even though we are no longer in the ‘communicative’ phase of CALL, and that even if we can generalize, we cannot delineate with certainty. Bax proposes his own ‘approaches’ to CALL: Restricted (which differs little from Warschauer’s ‘behaviourist’ phase); Open, which refers to the openness of students and teachers to the ways technology might change the roles of feedback, the teacher, etc. and; Integrated, which does not exist today, unlike Warschauer’s ‘integrative’ phase, and will be when technology in the classroom is indistinguishable from the teaching itself, like the pencil or shoes in society at large.

Technology has generally been considered useful in language learning and teaching. Golonka et al. (2012) published a meta-analysis of language learning technology efficacy and generally supports the efficacy of technology in the field of language instruction. Their meta-analysis of more than 350 other studies suggests support for the claim that technology integration in the foreign language classroom improves language acquisition. Specifically, they found that automatic speech recognition programs were able to accurately guide students’ pronunciation, and that chat functions facilitated by the internet greatly improved learning sentence complexity and language production. Overall, the article shows “moderate support for claims that technology enhanced learners’ output and interaction, affect and motivation, feedback, and metalinguistic knowledge.” (p. 1)

What Affects Technology Integration in Foreign Language Classrooms?

Questions remain about what influences a teacher's acceptance of new pedagogies or innovations, though it is generally known that there is a mix of intrinsic and extrinsic factors. Zhao (2003) studied the environmental (extrinsic) factors affecting

the use of technology in education. Zhao argues that the understanding of teachers' practices and other educational phenomena must be understood in an ecological context, as a product of a myriad of factors, including teachers' pre-existing beliefs. Lam (2000) surveyed teachers to uncover why they do or do not use technology, and found that lack of professional development and technological know-how was a major factor, and that negative beliefs about technology in the language learning classroom were not significant factors and were rarely expressed. Hestick (2014) surveyed core French teachers with a proclivity for technology integration into their classrooms. The survey of two well-versed teachers provides culture- and language- specific benefits that technology proposes, as well as insight into curriculum integration. Subjects reported technology as a factor encouraging student and teacher engagement.

Beliefs and Innovation Integration

The study of beliefs to uncover more direct links between the teacher and their innovation usage or acceptance is considered just as important as the study of more explicit, often extrinsic factors. Pajares (1992), in a review of essential research, solidified and synthesized the concept and importance of studying teachers' beliefs to understand how and why teachers integrate innovations into their pedagogy, and how they do so. Pajares claims that, because beliefs are invisible and often contradictory, we must "infer from what they say, intend, and do" (p. 327). The concept of belief and of belief systems are nebulous and hard to apply broadly across disciplines, but Pajares affirms their centrality to fully understanding how and why teachers make decisions regarding their teaching, and calls for further work not only studying beliefs as a concept, but also beliefs in the practice of actual teachers. Carter (1993) insists upon the

importance of what they call “teacher stories” and their importance in understanding specific teachers pedagogical decisions and beliefs. Allen (2002) studied the “Midwestern Foreign Language Teacher” and found that demographic and geographic factors were some of the largest predictors of teachers’ beliefs aligning with the Standards for Foreign Language Learning in the 21st Century (National Standards, 1999.)

Technology is generally embraced in foreign language instruction, though often underused. However, some questions remain regarding the exact degree to which language teachers embrace technology. Oda (2012) studied post-secondary foreign language usage and beliefs, and found that teachers’ beliefs are the most influential factor, and that past experience with technology and external barriers like a lack of professional development are also influential. Further, it suggests that those development programs should study teachers’ deeply held beliefs if they are to ever fully align with the integrative goals presented by Bax. Turnbull and Lawrence (2003) studied core-French classrooms in Canada on teachers’ beliefs and use of technology. They found that while many are optimistic, few actually use technology. Francis et al. (2008) found a high level of reported usage of technology in broad education and reinforced the links between beliefs and personality and technology usage.

Other languages also show a proclivity for technology integration in instruction. Cummings (2008) surveyed Spanish teachers and found that teachers use technology often in administrative cases and sometimes in pedagogical cases. Further, it found that strongly held, generally positive or optimistic, beliefs about technology were held by the teachers, and that often teachers found technology best supporting the cultural

aspect of language learning, and that certain types of technology were more appropriate for addressing specific aspects of language learning, such as the use of digital video to support cultural exploration. This study contests previous claims that teachers were not using technology and suggests that foreign language teachers are experimenting with technologies and where those technologies are to be integrated into their instructional goals.

Beliefs of American Teachers of the French Language

While beliefs and beliefs systems are unique, some studies suggest American teachers of French have a specific identity held within their teaching pedagogy. Siskin (2007) studied autobiographies of American teachers of French and found that their beliefs systems about the language focused largely on mimicking *le français correct* and how it suggests social or academic advancement only if it is properly executed. One teacher in the study went so far as to quit teaching because of the anxiety imposed by a perceived expectation of flawless usage of the language. Siskin uses this example as evidence that a critical distance is necessary if French teachers (indeed, teachers of any kind) are to appropriately evaluate their held beliefs about the language and culture they are teaching. Siskin suggests the study of beliefs and belief systems of French teachers allows those involved in the French pedagogy to further analyze and ameliorate their own teaching practices.

Measuring Beliefs

The establishment of beliefs as an important factor in teacher acceptance of new innovations required a formulation to better express and measure those beliefs. Wozney

et al. (2006) surveyed teacher perceptions and practices of foreign language teachers in Quebec and established the usage of the Expectancy-Value Theory to assess teachers' beliefs, though the theory has been used in other fields to assess emerging innovations. They composed the Technology Implementation Questionnaire (which was modified and reused by Garling) to survey teachers' perceived expectancy of success, perceived value and perceived cost of technology implementation. They found that teacher implementation was most greatly affected by perceived expectancy of success and perceived value and found that teachers who use technology more outside of the classroom were more likely to integrate it into their teaching.

Most recently, Garling (2016) surveyed K-12 foreign language teachers throughout Iowa to uncover their beliefs and what factors affected technology implementation in their classrooms. Using both qualitative and quantitative data, the researcher uncovered how foreign language teachers feel about technology and a myriad of factors influencing its implementation into their pedagogy. It found that multiple intrinsic, extrinsic and environmental factors affected how teachers felt and used technology.

The Case for Case Studies

The use of case studies is well-established in education research. Merriam (1985) lauds the case study for its ability to look at subjects in a holistic manner. Given the multitude of influences that affect beliefs, a holistic approach is necessary. Merriam acknowledges that the primary concern with case- studies is accurate reporting, as the investigator is the main instrument, so any conflicts of interest or shortcomings on the part of the investigator may influence the validity of the results. In addressing concerns

about generalizability, Merriam differentiates scientific generalization (generalization from a sample to a population with the use of statistics) and the type of generalization here, what can be called ‘naturalistic generalization’, which is concerned with the recognition of similarities and observing natural covariations on a smaller level.

Merriam summarizes that

...rather than transplanting statistical, quantitative notions of generalizability and thus finding qualitative research inadequate, it makes more sense to develop an understanding of generalization that is congruent with the basic characteristics of qualitative inquiry. If one also applies this rationale to questions of validity and reliability, the case study with its strengths and limitations becomes as viable a method of research as any other strategy. (p. 213)

Call to Future Research

The studies reported here call for more research to be conducted on technology in the classroom, on the effects of teachers’ beliefs and on the intersection of these two concepts. The ephemeral nature of beliefs and the swiftly changing nature of technology means that even if current beliefs of teachers regarding technology were able to be fully understood, any major change in the field of technology could cause a proportionate shift in teachers’ beliefs (Pajares, 1992). Therefore, it is paramount to continuously study teachers’ beliefs about technology integration, until, as Bax (2003) proposes, a day comes where technology is indistinguishable from teaching. Until then, insight into why and how teachers use or do not use technology in the classroom will allow us to glean information to tell us if there is something about French teaching that lends itself to technology usage, and if there is any way we can use these understandings to better influence the usability of technology in French teaching.

Methods

The study draws influence from the study of Garling (2016) by using a mixed-methods approach. A qualitative online survey originally created by Wozney et al. (2006) and modified by Garling, with further modifications from this researcher was used to probe teachers' feelings about technology. This survey, the (Reduced) Modified Technology Implementation Questionnaire, was designed to rank participants' enthusiasm in several technology – language-learning areas by having respondents choose a numerical value that indicates their agreement with a statement, as well as some that allow them to choose from a list of options that best describe their situation. Some areas include the perceived benefits of technology, personal teaching style, and contextual factors that may influence technology integration. This survey asked teachers to self-evaluate their experience with and usage of technology. See Appendix A for a complete copy of the questionnaire. Participants were able to enter an email address if they wished to be included for selection of follow-up interviews. The investigator then selected a small sample of willing participants and conducted the interviews. Using the Semi-Structured Interview Questions from Garling (2016) with some additions, the interviews attempted to explore in more depth teachers' technology perceptions. By using open-ended questions, the interview portion served as a tool to allow teachers to freely explain their experiences and emotions. See Appendix B for full list of questions.

Each participant spent an estimated five minutes completing the survey, and around one hour completing the interview. Interviewees participated in no more than two sessions: survey and interview. Data was collected within the survey software Qualtrics and on an app named Otter.ai for an audio recording of the interview.

Interviews were transcribed and analyzed using a color-coded thematic analysis, in which key themes were highlighted in corresponding colors to produce a viewable pattern. For example, one section of analysis may resemble the following:

That scares me, but I know it's gonna be really important for the future of language learning. And what you can do with Google Translate these days, and I'm just brushing the surface with what I know. I don't know that much. So I think really learning from others and maybe taking a course on it, or figuring out ways to connect with other teachers is going to be really beneficial.

In this example, blue-coded text represents the theme of the pervasiveness of technology, yellow-coded text represents the theme of the need for professional development, and red-coded text represents the theme of the importance of teacher collaboration. While not every section of text is coded, there were also sections where multiple themes existed within one sentence and indeed within the same phrase.

Results

(Reduced) Modified Technology Implementation Questionnaire

The University of Oregon employs a total of 15 employees dedicated to teaching French: four tenure-track faculty, three non-tenure track faculty and eight graduate teaching students. Of the 15, 12 responded to the survey. The survey trends mark a generally positive outlook on technology in teaching, with only three questions with average values that would indicate a negative outlook on technology. (Question 3.2...*Is successful only if there is adequate teacher training in the uses of technology for learning*; Question 3.4 ...*Requires extra time to plan learning activities*; and Question 3.5 (*Planning for technology-integrated lessons*) *Involves more work than planning a lesson without computers*) with average response values of 3.92, 4.42 and 3.75 respectively.) Of interest, Questions 1.4 (*...Is easy to integrate into my regular lesson plan*), 2.1 (*...Is a valuable instructional tool*), and 2.5 (*...Can help students learn a foreign language*) had average response values within a range of 1 of the maximum value of 6: 5.17, 5.08 and 5.25 respectively). Further, questions 1.3 (*...Makes me worry that my students will use internet resources such as online translators to do their language tasks for them*) and 3.5 (*... (Planning for technology-integrated lessons) Involves more work than planning a lesson without computers*) had average values within 1 of the median value of 3.5 (3.5 and 3.75 respectively). Responses to Question 8 (*Please read the description of each of the six stages related to the process of integrating computer technologies in teaching activities. Choose the stage that best describes where you are in the process*) suggests that the French teachers at the University of Oregon are at least at the ‘understanding’ stage of technology integration,

though most are able to apply technology in more advanced ways (i.e. adaptive, creative.) Finally, responses to Question 5 (*Please indicate how often you integrate computer technologies in your teaching activities*) would suggest that teachers at the University of Oregon use technology almost always, contesting claims by Turnbull and Lawrence (2003). See Appendix C for full results, see discussion for discourse on these results.

Interviews

Of the 12 survey respondents, 10 indicated interest in being selected for an interview. Of those 10, six were contacted for interviews, three random Tenure/Non-tenure faculty and three graduate teaching students. four interviews were completed, two of which were graduate student teachers and two were Romance Language faculty. The interviews hinted at themes such as the fear of over-reliance on technology, the need for up-to-date infrastructure and the time constraints place on teach, but four key themes were prevalent throughout: 1) The pervasive presence of technology in all facets of life in the 21st century, 2) The importance of interactivity and student engagement when selecting which technologies to incorporate, 3) The importance of professional development in deciding to use or not use technology in their teaching, and, 4) The importance of teacher collaboration in deciding to use or not to use technology in their teaching. Themes 2 and 3 align with the existing literature around the topic, while themes 1 and 4 were less present in the existing literature and suggest the development of new epistemology about technology in the language learning classroom.

Discussion

This discussion section uses the key themes found in the color-coded thematic analysis and the results from the (R)MTIQ for support. This method allows the research to rely on sentiments expressed by teachers in an open-ended format, to better fully understand the beliefs of the teachers herein. Since beliefs are difficult to ascertain from qualitative measures alone (Pajares 1992), the interviews provide data that is more consistent with the actual beliefs of teachers and the survey allows us to make more confident generalizations about the group (University of Oregon French Teachers) as a whole.

The Pervasiveness of Technology in the 21st Century

The pervasiveness of technology in modern life is undeniable. From cell phones to public WiFi hotspots, the technological advancements of recent years have permeated nearly every aspect of contemporary life, including education. The sheer presence of technology in life seems to have made teachers more comfortable in the integration of technology in their classrooms.

Responses to survey question 1.3 would suggest that at the University of Oregon, French teachers are very comfortable with the use of technology and find it easy to integrate. No teachers expressed any level of disagreement with this statement. However, since many teachers expressed a lack of professional development regarding technology implementation (Question 3), this would suggest that some other factor is responsible for their level of comfort. Furthermore, nearly every teacher “mostly agreed” that students need to learn computers for the 21st century (Question 4.6.) One possible explanation for this is the overwhelming presence of technology in their lives,

forcing them to become more comfortable with their usage. Indeed, this sentiment was expressed in many of the interviews conducted herein.

When asked about their ability to find more quality materials through technology, one graduate student teacher responded ‘yes,’ but largely because they “don’t have a lot of backgrounds finding things not through technology at this point.” While not directly responding to the question asked, it does remind one that, for many of today’s teachers, the internet and technology simply *is*. Because of the societal presence in their lives, many began their teaching career pre-disposed to use technology in their classroom. For another teacher, the presence of technology in academia seemed to suggest that language teaching and education, in general, is “moving directly into online and hybrid courses only.”

A third teacher, when asked about the biggest inhibitor to their technology integration, cited the prevalence of technology in the lives of their students.

I feel like they have plenty of screen time already, and I don’t want the classroom to turn into something that they do all day long. And that might become less and less meaningful, or less and less attention-grabbing. It used to be the opposite. You show a video and you grab everyone’s attention. And now that’s what the kids do pretty much all the time now.

This same teacher commented on the impact technology had on their life as well. “I’ve become more and more converted [into being a tech-friendly person]... I’m not a big high-tech person, but I’m already addicted to the computer” Here, the pervasiveness of technology is at least something to be wary of. Later, this same teacher comments again about the difference between classrooms with high levels of technology usage and those without.

When you walked into a classroom years ago, you had eye contact with people, you made small talk, you asked how you're doing. And most of the time now, when you walk into a classroom everybody is doing the texting thing on their phones. And, fair enough, when class starts most of them put their phones away. And when you ask those who don't, they will. But you can feel the compulsion to the phones.

It is evident that the quotidian feeling of technology usage is affecting the way teachers use and think about technology. Regardless of whether the shift supplies these teachers with a negative or positive outlook, it is undeniable that the increased presence of technology in day-to-day life is affecting teacher integration of technology in the classroom. Not surprisingly, there was a marked difference between how the graduate students interpreted the prevalence of technology when compared to the interpretation of the university faculty. This shows some support for the arguments posited by Allen (2002) that demographic factors are the biggest predictor of technology integration. Interestingly, the survey portion of this research would suggest a much more positive outlook on technology overall, though the outlook suggested by an aggregate of the interviews is much less clearly positive or negative. This shows minor support for the claims of Lam (2000) which suggested that negative views about technology have no major effect on its implementation and that negative outlooks are rarely expressed.

Technology Promotes Engagement and Interaction

The most prominent value that teachers at the University of Oregon hold about technology is its promotion of teacher engagement. Responses to Question 4 shows that University of Oregon teachers believe technology is a valuable asset in education. Further, responses to Questions 2.1 and 2.3 show support for the assertion that technology is useful in promoting student motivation and engagement. This finding

would support the claims of Hestick (2014) that technology is a factor encouraging student and teacher engagement.

In the interviews, all teachers suggested that technology can promote student engagement. One teacher responded that

I find [technology] definitely stimulates student engagement, as long as they're interested in what you're doing and as long as the activities are authentic... I think in the classroom setting, technology is what bridges that and makes it more authentic, and allows them to feel like they're interacting with the real world because, for them, technology is the real world.

While it is possible that a certain level of student enthusiasm is necessary for technology to be effective, it can be said that some level of enthusiasm is necessary for *any* teaching tool to work well. However, as the first teacher mentioned, technology allows them “to integrate more fun through technology” and can aid in making the lessons “a bit more interactive.” This, in conjunction with the prevalence of technology in the 21st century, would suggest that technology integration in teaching stimulates student interest and promotes engagement. However, teachers also expressed that over-reliance on technology is something to avoid to varying degrees. From possible hardware issues, to simply over-saturating the students’ experiences with technology, there seems to be some agreement that there is a certain level of technology integration that could have a negative effect on students’ enthusiasm, and in turn, the learning experience. More research is needed to better quantify exactly where that threshold exists.

Lack of Professional Development and Teacher Collaboration Hinder Technology Integration

One underlying theme that arose from the interviews were two main factors that are adversely affecting French teacher integration of technology in the classroom. First, that professional development to train teachers on existing and future technologies is not prominent enough at the University of Oregon. Further, teacher collaboration was indicated as a major factor that influences technology integration, representing a new finding in the field.

Lack of Professional Development

As would be suggested by much of the existing research, a lack of professional development resources in reference to technology seems to be lacking at the University of Oregon, and other research (Lam 2000, Garling 2014) would suggest that this is not limited to the University of Oregon. That is not to say that there is *no* technological professional development at the University, but simply that the teachers studied here would suggest that amelioration of the program is necessary if we are to reach true technological integration in the classroom. Survey responses to Question 3 support this sentiment. Questions 3.2, 3.3 and 3.5 highlight the importance of proper teaching training as a factor influencing the integration of technology.

One teacher, who has taught at schools other than the University of Oregon, suggested a drastic lack of professional development and hardware availability when compared to their past experiences. When asked if they felt comfortable with the amount of training for technology use, they responded that “I did before I came

here...The U of O is not [well] equipped,” they responded. For this teacher, the perceived reason for this lack was an unwillingness to fund the programs.

Sadly, we [in Oregon] have never been willing to fund higher education very well... and as a consequence, I just think that we have not paid nearly enough attention to what we should be able to offer our students of this generation in terms of technology.

Another teacher said that “I haven’t gotten any actual training in terms of using technology” Further, when asked what would help them integrate technology the most in the future, this same teacher said it would be “Training... The big thing [with technology] is that you have to know how it works.” Though this teacher feels like their ability to self-teach new technologies compensates to some degree, it is also evident that the University of Oregon lacks a sufficient support system for the integration of new technologies in the language learning classroom. A third teacher, when asked about the existing system for professional development in regard to technology usage, responded that they ‘haven’t come across it” and that they “don’t think that there’s necessarily people that are against the idea, but there isn’t a bank of resources that I can pull ideas from as a language instructor here [at the University of Oregon.]” This perceived lack of adequate professional development is supported by existing research around factors influencing technology integration. (Zhao 2000, 2003). Of note, one interview respondent stated that “the training [they] needed was offered,” suggesting a possibility that the other teachers are simply unaware of the existing professional support system. However, the fact that they at least *believed* that the programs didn’t exist suggest that the University of Oregon should, at the minimum, focus on increasing *awareness* of the existing programs, if not on further developing them and/or providing more of them.

The Importance of Teacher Collaboration

The importance of collaboration between French teachers was cited by multiple interviewees as a factor influencing their technology integration. As discussed in the section about a lack of professional development, survey responses to Question 3 strongly suggest that teacher knowledge is very impactful on whether a teacher integrates or does not integrate technology in their lessons. Many teachers believe collaboration is the best way to promote technological know-how, and in turn, technology integration. Considered in light of the evidence that suggests the professional development system is lacking, it is possible that teacher collaboration is a byproduct that teachers have developed to counteract a perceived lack of professional development. It is also possible that peer collaboration is more effective than administration-provided professional development, at least at the University of Oregon. More specific research is needed to support this idea, however. When asked about the ability to cooperate with other French teachers, no one responded that collaboration was a large part of their training at the University of Oregon. One teacher commented that “We all like each other, but we’re disconnected... It has happened, but it’s not common.”

Two of the four teachers surveyed placed a very high value on teacher collaboration. When asked about the tools most useful for technology integration, one teacher responded that:

I think it's probably colleagues because I hear how people are using the technology and get excited by that use, and I want to learn about it... I took an online course on how to design online courses, for example in languages, and it was phenomenal to hear what the resources were and what progress has been made in the area of languages. At the U of O, there is absolutely no evidence of people knowing what's out there. It's beginning, but it's beginning with the hard work of individuals who have put their time and effort into developing online courses.... I think U of O has a lot of catching up to do.

Clearly, this teacher feels like the University of Oregon is specifically unequipped to fully promote the integration of technology into language learning classes. When asked specifically about collaboration, later on, this teacher said that "there's a lack of interaction." Possibly stemming from an underdeveloped technology implementation program, there seems to be a lack of encouragement of collaboration, even though the teachers themselves find it most useful in lieu of professional development courses. A third teacher, one of the graduate students, seemed to value the interaction between teachers and the sharing of ideas. "I think it's really important, if something is really useful in the classroom, to share it with your fellow teachers." Later, when asked if they felt the University of Oregon has done a sufficient job in promoting this type of collaboration, they responded that "I think that there could be more attention and energy on that." and that "we just went over technology for one day during my training and we haven't revisited that at the U of O within the Romance Languages department. I'm learning from others.... Figuring out ways to connect with other [teachers] would be really beneficial." Taken together, these excerpts would suggest that, while teacher collaboration is fruitful, there is some disconnect between the programs that do exist at the University and this microcosm of teachers within the University, in both

professional development courses and the promotion of teacher collaboration to promote technology integration. This aligns with a trend in the existing research that would suggest that, while teachers are excited about technology, the lack of adequate support has forced them to develop other methods of promoting their ability to integrate technology into their classrooms.

Conclusion

French teachers at the University of Oregon are generally optimistic about technology integration, though many feel like they could be integrating more than they currently are. While survey results indicate a high level of usage and comfort, in-depth interviews reveal concerns about the progress of technology integration in the French program at the University. This research contends that teachers 1) are highly aware of the increased and increasing presence of technology in the lives of students, administrators, and teachers; 2) feel like technology integration promotes student engagement; and 3) a lack of professional development at the University is felt by the teachers interview herein, and the best tool to further promote technology integration is collaboration between teachers. While many of these concerns are present in existing literature about the usage of technology in education, this case-study of the University of Oregon French Department reveals that the current theory of French teachers for promoting technology integration revolves around teacher collaboration. This would suggest that, if amelioration of professional development systems is unfeasible or unattainable, promotion of collaboration between teachers is the most appropriate method of further promoting technology usage in language classrooms.

Limitations

Possible biases exist within the survey creation, some questions were removed by the researcher. Further, as not every teacher responded to the survey, it is possible that those who did respond were those with strong opinions on the subject, possibly skewing the data. Because not every French teacher at the University of Oregon

participated in the survey or the interviews, there is a possibility that the inferences made from the data collected are not wholly representative of the views of the entire department. Further, an observational component, such as in-class observations could provide further support for the claims herein, as well as complete what Pajares (1992) suggests is required to completely understand teachers' beliefs. Finally, while this is a case study, expanding the research to French departments at other institutions would allow for a larger and more robust dataset to support these claims.

Future Research

Future research should include an observational component and expand the participant pool to multiple French departments. Larger populations of survey respondents would allow for more statistical measures to be applied to the dataset i.e. internal consistency algorithms, as well as more significant capabilities to correlate data by demographic measures. Future research should also consider completing these procedures in multiple geographic areas and/or with other languages to be able to draw comparative conclusions.

Appendices

Appendix A: (Reduced) Modified Technology Implementation Questionnaire

(Introduction to Questionnaire)

This survey hopes to discover University of Oregon French Teachers' beliefs about technology in their instruction. Here, technology has a wide and somewhat subjective meaning: I am referring both to specific technologies (Slide software, word-processors, speech-recognition, pitch-matching machines, digital testing software, etc.) and technology as a concept. Technology here is linked strongly (but not exclusively) to computer and computer-based technologies, but I do not intend to override your currently-held beliefs about what defines technology by providing a definition here. Please respond to the questions with your personal delineations of technology in mind.

(Begin Questionnaire)

(Q1: Perceived Attitudes, Opinions and Costs)

(Q1) On a scale of one (1) to six (6), with one indicating strong disagreement and six indicating strong agreement, I feel technology in the classroom...

- Makes classroom management more difficult
- Is not sophisticated enough to teach language skills
- Makes me worry that my students will use internet resources such as online translators to do their language tasks for them
- Is easy to integrate into my regular lesson plan

(Q2: Perceived Benefits)

(Q2) On a scale of one (1) to six (6), with one indicating strong disagreement and six indicating strong agreement, I feel technology in the classroom...

- Is a valuable instructional tool
- Improves students learning of critical concepts and ideas
- Improves student motivation to learn the language
- Develops deeper student understanding of the content
- Can help students learn a foreign language

(Q3: Reported Contextual Factors)

(Q3) On a scale of one (1) to six (6), with one indicating strong disagreement and six indicating strong agreement, I feel technology in the classroom...

- Is too costly in terms of time and effort
- Is only successful if there is adequate teacher training in the uses of technology
- Is effective if teachers participate in the selection of computer technologies to be integrated

- Requires extra time to plan learning activities
- Planning for technology-integrated lessons) involves more work than planning a lesson without computers

(Q4: Teaching Style)

(Q4) On a scale of one (1) to six (6), with one indicating strong disagreement and six indicating strong agreement, I feel technology in the classroom...

- Is effective because I believe I can implement in successfully
- Promotes student collaboration
- Gives teachers the opportunity to be learning facilitators instead of information providers
- Is an effective tool for students of all abilities
- Helps meet individuals students' learning needs
- Students need to learn computers for the 21st century

(Q5-Q8: Experience and Inclusion Demographics)

(Q5) Please indicate how often you integrate computer technologies in your teaching activities

- Not at all
- Rarely
- Occasionally
- Frequently
- Almost Always
- All of the Time

(Q6) On average, how many hours per week do you spend using a computer for personal use outside of the teaching activities?

- None
- Less than 1 hour
- 1 to 3 hours
- 3 to 5 hours
- 5 to 10 hours
- More than 10 hours

(Q7) Please indicate how frequently computer technologies are integrated into your teaching activities for each of the uses listed below. (Never, Practically Never, Once in a While, Fairly Often, Very Often, or Almost Always)

- Instructional (e.g. drill, practice, tutorials, remediation)
- Communicative (e.g. e-mail, computer conferencing)
- Organizational (e.g. data base, lesson plans, record keeping)
- Analytical/Programming (e.g. statistics, graphing, charting)
- Recreational (e.g. games)

- Expansive (e.g. experiments, brainstorming, simulations)
- Creative (e.g. digital camera, scanners, graphics)
- Expressive (e.g. on-line journal, blogging)
- Evaluative (e.g. portfolio testing)
- Informative (e.g. Internet searches)

(Q8) Please read the description of each of the six stages related to the process of integrating computer technologies in teaching activities. Choose the stage that best describes where you are in the process.

- Awareness- I am aware that technology exists, but have not used it- perhaps I am even avoiding it. I am anxious about the prospect of using computers
- Learning- I am currently trying to learn the basics. I am sometimes frustrated using computers and I lack confidence when using them
- Understanding- I am beginning to understand the process of using technology and can think of specific tasks in which it might be useful
- Familiarity- I am gaining a sense of self-confidence in using the computer for specific tasks. I am starting to feel comfortable using the computer
- Adaptation- I think about the computer as an instructional tool to help me and I am no longer concerned about it as technology. I can use many different computer applications
- Creative Application- I can apply what I know about technology in the classroom. I am able to use it as an instructional aid and have integrated computers into the curriculum

(Q9-Q13- Demographics)

(Q9) Please indicate your gender

- Male
- Female
- Prefer not to say

(Q10) Please indicate your years of training

1 to 3 years

4 to 10 years

11 to 15 years

16 or more years

(Q11) Please indicate your age

Under 25

26 to 35

36 to 45

46 to 55

Over 55

(Q12) Are you a native speaker of French?

Yes
No

(Q13) Please select the option which best matches your preferred teaching style

Largely teacher centered

More teacher direction than student center

Even balance between teacher direction and student centeredness

More student centered than teacher direction

Largely student centered

(Q14) Would you like to receive the results of this project?

Yes

No

(Q15) Would you be willing to participate in a follow-up interview to gain better insight into your classroom? Compensation in the form of one (1) \$5 Gift card to the establishment of your choice will be awarded after interview completion.

Yes

No

(Q16) If you answered yes to either question 14 or 15, please enter your email address.

Appendix B: Semi-Structured Interview Questions

1. What type of access do you have to computer technologies both in and out of the classroom? How does it compare to your students?
2. What have been some of your experiences with incorporating technology into your lessons?
3. What types of computer technologies do you think are the most beneficial for your classroom?
4. What do you think aids you in your integration of technology in the classroom?
5. What do you think prevents you from incorporating more computer technologies into your classroom?
6. What do you feel will help you in the future to integrate more technology into your classroom?
7. What do you think your students are doing outside of the class with technology? Do you see it making an impact in the classroom?
8. Do you think you are teaching the 21st century skills within your classroom? Has technology aided in teaching the 21st century skills? (critical thinking, collaboration, communication, creativity, access information, evaluate information, use and manage information, analyze media, create media products, ITC literacy)
9. How much technology training have you received through your education background, professional development, and continuing education courses? Have you had any follow-up support from the instructors, colleagues, or administration?
10. What influences your technology integration into the classroom?
11. How much time both in and out of the classroom are you able to devote to technology and its integration into the classroom? Are you able to collaborate with others?
12. Are you able to find more quality materials through technology? Why or why not?
13. Does technology help you meet curricular goals? If so, how? If not, why?
14. Do you think technology integration engages students more in the classroom? Why or why not?
15. Do you think technology helps meet the needs of every learner in the classroom? Why or why not?
16. How do you feel about the future of technology in the classroom? Are there specific technologies that you are wary of or excited for, etc.?
17. What are some of the changes you've seen in your classroom because of the changes in technology? How do you predict these changes will take form in the future?
18. If you could summarize your feelings about technology in the classroom, how would you do so?

(Adapted from Garling, 2016)

Appendix C: (Reduced) Modified Technology Implementation Questionnaire Data

Q1 - On a scale of one (1) to six (6), with one indicating strong disagreement and six indicating strong agreement, I feel technology in the classroom...

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Makes classroom management more difficult	1.00	5.00	2.08	1.38	1.91	12
2	Is not sophisticated enough to teach language skills	1.00	6.00	2.67	1.43	2.06	12
3	Makes me worry that my students will use internet resources such as online translators to do their language tasks for them	2.00	5.00	3.50	1.04	1.08	12
4	Is easy to integrate into my regular lesson plan	4.00	6.00	5.17	0.69	0.47	12

Q2 - On a scale of one (1) to six (6), with one indicating strong disagreement and six indicating strong agreement, I feel technology in the classroom...

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Is a valuable instructional tool	4.00	6.00	5.08	0.76	0.58	12
2	Improves students learning of critical concepts and ideas	3.00	6.00	4.17	0.90	0.81	12
3	Improves student motivation to learn the language	3.00	6.00	4.25	0.72	0.52	12

4	Develops deeper student understanding of the content	2.00	6.00	4.17	0.99	0.97	12
5	Can help students learn a foreign language	4.00	6.00	5.25	0.72	0.52	12

Q3 -On a scale of one (1) to six (6), with one indicating strong disagreement and six indicating strong agreement, I feel technology in the classroom...

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Is too costly in terms of time and effort	1.00	5.00	2.58	1.19	1.41	12
2	Is successful only if there is adequate teacher training in the uses of technology for learning	1.00	6.00	3.92	1.38	1.91	12
3	Is effective if teachers participate in the selection of computer technologies to be integrated	3.00	6.00	4.83	0.99	0.97	12
4	Requires extra time to plan learning activities	2.00	6.00	4.42	1.38	1.91	12
5	(Planning for technology-integrated lessons) Involves more work than planning a lesson without computers	1.00	6.00	3.75	1.96	3.85	12

Q4 -On a scale of one (1) to six (6), with one indicating strong disagreement and six indicating strong agreement, I feel technology in the classroom...

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Is effective because I believe I can implement it successfully	3.00	6.00	4.92	0.95	0.91	12
2	Promotes student collaboration	2.00	6.00	4.00	1.29	1.67	12
3	Gives teachers the opportunity to be learning facilitators instead of information providers	2.00	6.00	4.00	1.22	1.50	12
4	Is an effective tool for students of all abilities	2.00	6.00	4.17	1.21	1.47	12
5	Helps meet individual student's learning needs	3.00	6.00	4.17	0.80	0.64	12
6	Students need to learn computers for the 21st century	2.00	6.00	4.92	1.11	1.24	12

Q5 - Please indicate how often you integrate computer technologies in your teaching activities

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	(Q5) Please indicate how often you integrate computer technologies in your teaching activities	3.00	6.00	4.83	0.99	0.97	12

Q6 - On average, how many hours per week do you spend using a computer for personal use outside of the teaching activities?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	(Q6) On average, how many hours per week do you spend using a computer for personal use outside of the teaching activities?	4.00	6.00	5.58	0.76	0.58	12

Q7 - Please indicate how frequently computer technologies are integrated into your teaching activities for each of the uses listed below.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Instructional (e.g. drill, practice, tutorials, remediation)	2.00	6.00	4.17	1.34	1.81	12
2	Communicative (e.g. e-mail, computer conferencing)	1.00	6.00	4.17	1.57	2.47	12
3	Organizational (e.g. data base, lesson plans, record keeping)	5.00	6.00	5.67	0.47	0.22	12
4	Analytical/Programming (e.g. statistics, graphing, charting)	1.00	6.00	2.58	1.66	2.74	12
5	Recreational (e.g. games)	1.00	5.00	3.08	1.11	1.24	12
6	Expansive (e.g. experiments, brainstorming, simulations)	1.00	3.00	2.00	0.82	0.67	12

7	Creative (e.g. digital camera, scanners, graphics)	1.00	5.00	2.50	1.19	1.42	12
8	Expressive (e.g. On-line journal, blogging)	1.00	5.00	2.33	1.31	1.72	12
9	Evaluative (e.g. portfolio, testing)	1.00	5.00	2.92	0.95	0.91	12
10	Informative (e.g. Internet searches)	1.00	6.00	3.67	1.55	2.39	12

Q8 - Please read the description of each of the six stages related to the process of integrating computer technologies in teaching activities. Choose the stage that best describes where you are in the process.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	(Q8) Please read the description of each of the six stages related to the process of integrating computer technologies in teaching activities. Choose the stage that best describes where you are in the process.	3.00	6.00	5.08	0.86	0.74	12

Q9 - Please indicate your gender

#	Answer	%	Count
1	Male	16.67%	2
2	Female	83.33%	10
3	Prefer not to say	0.00%	0

	Total	100%	12
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Q10 - Please indicate your years of training

#	Answer	%	Count
1	1-3 years	33.33%	4
2	4-10 years	25.00%	3
3	11-15 years	8.33%	1
4	16 or more years	33.33%	4
	Total	100%	12

Q11 - Please indicate your age

#	Answer	%	Count
1	Under 25	8.33%	1
2	26-35	41.67%	5
3	36-45	16.67%	2
4	46-55	25.00%	3
5	Over 55	8.33%	1
	Total	100%	12

Q12 - Are you a native speaker of French?

#	Answer	%	Count
1	Yes	25.00%	3
2	No	75.00%	9
	Total	100%	12

Q13 - Please select the option which best matches your preferred teaching style

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	(Q13) Please select the option which best matches your preferred teaching style	1.00	5.00	3.42	0.95	0.91	12

#	Answer	%	Count
1	Largely teacher centered	8.33%	1
2	More teacher directed than student centered	0.00%	0
3	Even balance between teacher direction and student centeredness	41.67%	5
4	More student centered than teacher direction	41.67%	5
5	Largely student centered	8.33%	1
	Total	100%	12

Appendix D: Administrator Request Letter

December 31st, 2018

Administrator
Romance Languages Department
University of Oregon
Eugene, OR 97401

Dear Administrator,

My name is Luke Kuykendall and I am an undergraduate student at the Clark Honors College at the University of Oregon, working with Professor Patricia Pashby. As a requirement for graduation from the Clark Honors College, I am writing a thesis on the topic of educators of French and their feelings regarding technology in the classroom. The purpose of this study is to explore the beliefs held by educators of French regarding technology integration to determine best practices regarding the development of language-learning technology and language-learning pedagogy using technology. I will do this through a questionnaire developed by a researcher at the University of Iowa (Garling 2016) to examine factors affecting technology integration. Further, a small number of follow-up interviews will take place to attempt to qualify some of the quantitative data collected through the survey.

I believe your institution offers my research an invaluable pool of participants. I have attached a copy of my Thesis Prospectus which outlines procedures, benefits and risks for participants. This study will contribute to the field of language learning by providing clearer insight into how and why French teachers use technology. I am contacting you for approval to communicate with your French educators at all levels within your institution utilizing their institutional email address.

I understand the time constraints placed on educators, and I also understand the need to be minimally disruptive to the educational process. This study concerns only educators of French. No undergraduate students will be involved in this study. Please feel free to contact me by emailing ltk@uoregon.edu, or by phone at (541) 951-3410 if you have further questions or concerns about this study. The survey is set to close January 24th, 2019.

Thank you very much for your consideration.

Best regards,

Luke Kuykendall,
Robert D. Clark Honors College
ltk@uoregon.edu

Appendix E: Educator Request Letter

January 15, 2019

Educator
Romance Languages Department, French
University of Oregon
Eugene, OR 97401

Dear Educator,

Technology in the French classroom has proven an exciting and fruitful avenue of improvement for language-teaching pedagogy. I have selected you to help me understand how the professional French educator, such as yourself, uses and feels about technology in the classroom. I am using a reduced questionnaire designed by Garling (2016) to help me complete my Thesis at the Robert D. Clark Honors College at the University of Oregon. If you are willing to help me gather data for my study, I have provided a link at the end of this letter which will take you to the survey. Further, if you are interested, I hope to conduct informant interviews to further discover why and how French teachers at the UO regard technology. The interview process is where most of my analysis will be drawn from, so I encourage you to consider being an interview participant as well as a survey participant because I believe your feelings about technology are important and deserve to be analyzed and shared. There is no penalty for only completing the survey, or not participating at all, if you so choose.

The questionnaire is short and should take no more than 10 minutes to complete. There are no 'right' or 'wrong' answers. I truly value your input on this research and if you would like a copy of the report of the findings, they can be sent to you this summer through this email address, or by requesting a copy by emailing ltk@uoregon.edu. All information you provide will be kept confidential, however the University of Oregon Institutional Review Board (A committee which reviews and approves research at the University) and federal or state regulatory agencies may inspect and copy records pertaining to this research. Any report written with this information will not include identifying information about you.

I understand the time constraints placed on educators, and I also understand the need to be minimally disruptive to the educational process. There are no perceived risks regarding this study. However, I hope that this research may benefit future researchers and/or designers of both French pedagogy and language-learning technology. You will not be penalized in any way if you choose not to participate or withdraw from participation. This study concerns only educators of French. No Undergraduate students will be involved in this study. Please feel free to contact me by email at Ltk@uoregon.edu, or by phone at (541) 951-3410 if you have further questions or concerns about this study.

Thank you very much for your consideration. This survey is set to close January 24th, 2019. Following is the link to the survey

https://oregon.qualtrics.com/jfe/form/SV_eyTeS79qlZ9nJiJ

Best regards,

Luke Kuykendall,
Robert D. Clark Honors College
ltk@uoregon.edu

Appendix F: Educator Follow-Up

Hello,

(If you have already completed the survey, please disregard this message)

This email is to remind you about my thesis project French Teachers' Technology Beliefs: a Mixed-Methods Case Study. I have been made aware of some difficulties accessing the survey, but these should be remedied now. As a result, I've extended the survey's expiration: The first step to this project, the Reduced Modified Technology Implementation Questionnaire, is now set to close this Sunday, 1/27/19 at 11:59pm. (Previous communication said Thursday, 1/24.) I apologize for any inconvenience this may have caused.

As a reminder, the survey is short and should take between 5-10 minutes of your time. Your responses to this survey are critical to my being able to develop a well-rounded sense of the feelings about technology at the UO. At the end, you will be able to submit an email address if you are interested in participating in the follow-up interviews which are also crucial to my thesis.

Thank you for your time and contemplation. I hope to be able to use your vast experience to better understand the culture of French teachers and technology in secondary education. I greatly appreciate your consideration. NOTE: Choosing to not participate will not harm you in any way.

For your convenience, here is the link to the survey:

https://oregon.qualtrics.com/jfe/form/SV_eyTeS79qlZ9nJiJ

Sincerely,

Luke Kuykendall
Robert D. Clark Honors College
Department of Romance Languages, French

Appendix G: Interview Request Letter

Bonjour,

Thank you for completing the Reduced Modified Technology Implementation Questionnaire and for indicating you would be willing to participate in a follow-up interview to help me complete my project *French Teachers' Technology Beliefs: A Mixed-Methods Case Study*. I have received your survey responses and would cherish the opportunity to further probe your beliefs on this topic.

As a reminder, your participation in this project is voluntary and it is your prerogative to withdraw participation at any time.

{INSERT TIME/DATE/LOCATION} If this time or location does not work for you, please respond with a more convenient time or location.

This portion of the process involves a third-party application called “Otter” to record and transcribe the interview. You may object to an audio-recording of the interview, in which case handwritten notes taken by the interviewer will substitute. In most cases, this will also exempt you from being quoted in the final report. Unless otherwise requested, your sentiments from the interviews may be quoted in the Thesis. Before the interview begins, the interviewer will ask you, the interviewee, for any questions, comments, or concerns about your privacy rights, the research process, or any other aspect of the project.

As stipulated in the survey, selection for this portion of the process entitles you to one five dollar (\$5) gift card to the establishment of your choice. Please include your choice of gift card in the response to this email.

I would like to thank you again for your continued participation in this project. I am excited to learn from you and your classroom practices to provide insights into the process of teaching French.

Sincerely,

Luke Kuykendall
Robert D. Clark Honors College
Department of Romance Languages, French

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