

The Role of a Self-paced, Tutor-facilitated Online Learning Environment in Digital Literacy Acquisition and English Language Development among Adult Spanish Speakers



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Thank you for being here for our paper presentation. My name is Gloria Jacobs and I'm here on behalf of our team from Portland State University. I'm excited to share some of our findings about the role of a self-paced tutor facilitated online learning environment for digital literacy acquisition and language learning among adult spanish speakers.

Research Supported By

- Grants from the Institute of Library and Museum Services (LG- 06-11-0340-11)



- Broadband Opportunities Technology Program (41-43-B10593) of the U.S. Department of Commerce



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This research was supported by two grants from the Institute of Museum and Library Services and The Broadband Opportunities Technology Program.



Literacy
Language &
Technology
Research

Who We Are



Portland State
UNIVERSITY

- Research group within an Applied Linguistics Department
- Share a broad commitment to building literacy and language pathways to social and economic justice for underserved and vulnerable populations
- Partner with community based organizations nationally to help individuals acquire digital literacy skills
- Provide educational materials through Learner Web, a digital learning platform designed for adult learners



We are a research group housed within the applied linguistics department, and we share a broad commitment to building literacy and language pathways to social and economic justice for underserved populations. We partner with community based organizations to provide educational materials through Learner Web, which is a digital learning platform designed especially for adult learners.

Problem

There are a significant number of adults within our society who are unable to take advantage of online resources and participation (Pew and American Life Project, 2013).



One of the problems that we address in our work is the fact that despite the growing prevalence of digital technology in everyday life, there remain a significant number of adults who are not able to take advantage of online resources in order to fully participate in the world.

In this study we are focusing on English Language Learners and especially those who are Spanish dominant speakers. In 2010, an FCC survey reported that of the 35% of U.S. adults who have not adopted broadband at home, 22% cite digital literacy as the primary barrier. This inequality requires an investment in training and support, in addition to existing access-focused programs. Those least likely to have adopted home broadband Internet include: lower income folks; minority groups; older adults; adults with less education; and persons with disabilities.

Why Does Digital Literacy Matter?

- Digital literacy skills are fundamental in a world that is increasingly dependent on digitally mediated activities
- Without these vital skills, members of marginalized populations are at further risk for economic, social, and cultural exclusion
- Society at large is diminished if these voices are lost



We come at this research from the perspective that adult digital literacy is fundamental to society. Without digital skills and digital access, adults are unable to engage in our participatory democracy, and have limited abilities to seek education, engage in health care, find and use online information, find and keep a job, and engage with family, friends and the community. We argue that improving adult digital literacy confronts adults' issues of exclusion and marginalization that accompany the increasing importance of digitally mediated activities in modern social life. And finally, we come at this work from the belief that being able to hear all voices enriches society at large.

Theoretical Framework

- *Language Socialization model of SLA* (Duff & Talmy, 2011)
- Language and knowledge are learned in and through interactions
- Sociolinguistic routines become part of language learners' communicative repertoires
- Focuses on group or community more than the individual



As we think about how our focus population interacts with the learning materials and tutors, we have found it useful to turn to the language socialization model of second language acquisition as a way to understand their experiences. We approach our data from the theoretical stance that language and knowledge are learned in and through interactions and that sociolinguistic routines become part of language learners' communicative repertoires. We also view learning as a social phenomenon; thus our unit of analysis is the group and community rather than individual cognition.

What We Know from the Literature

- **Digital inequality**
 - Access and relevance impact digital equity (Pew Internet Studies, 2014)
 - Economics, age, and background experience dictate who is and isn't online (DiMaggio & Hargittai, 2011)
- **Digital Literacy and Language Learning**
 - Technology can play an important role in language learning
 - Digital literacies should be "integrated throughout foreign/second language education, where multiple communities, identities, languages, and cultures converge" (Guikema & Williams, 2013, p. 3)
- **Language socialization and online affinity groups**
 - Language learning and identity (Lam, 2009)

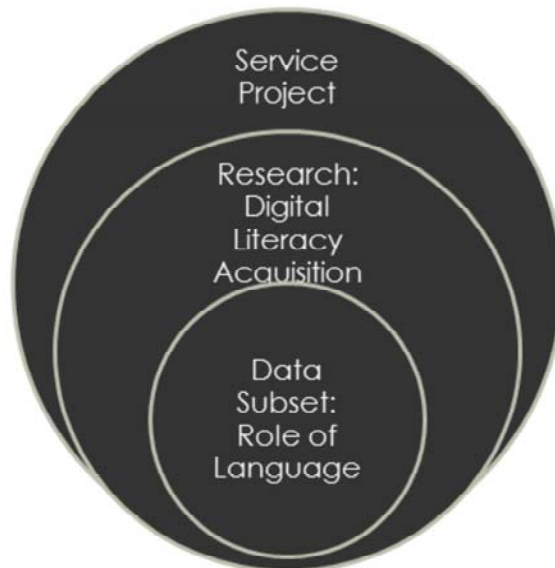


Our work is grounded in the literature on digital inequality, digital literacy and language learning, and language socialization and online affinity groups.

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5 need to add citations
Gloria Jacobs,

Context of the Study



The research I'm describing today is part of a larger multi-year, multi-state service project and research project.

The service project involved a multi-state support system for broadband Adoption by Vulnerable Adults. The project lead was the Learner Web team at Portland State and the program was implemented by six partners in geographically dispersed locations across the United States. The Learner Web, a self-paced adult learning support system was used in tutor-facilitated community based computer labs. Labs were staffed by volunteer and paid tutors who all were English speakers, and in many cases were bi or multilingual. Tutors received training in using the Learner Web. The basic content was developed by the Minnesota Literacy Council and Proliteracy and was customizable by partners in order to be locally relevant while globally connecting the learners and tutors. The labs within each geographic area included adult literacy programs, adult basic education program, employment and training programs, colleges and community colleges, K-12 schools, public libraries, social service agencies, public housing agencies, and faith-based organizations. The project included tutors who logged nearly 50,000 hours and there were over 12,000 learners of whom over 2,000 identified Spanish as their preferred language.

The research project focused on the implementation of the service project and specifically examined the digital literacy acquisition process. Within the research project, we've been documenting and describing the tutor and learner interactions, learning environments, implementation variations, motivations, and impacts on learners. Our goal is to be able to make recommendations for implementation of similar projects. We are not seeking to identify best practices but instead to provide a description of what this learning looked like

in these various settings so that others can transfer what we've learned to the needs of their settings.

Although the entire project was much bigger, today we're focusing just on the role of language in the digital literacy acquisition process. So the findings we're reporting out are based on a subset of our larger data corpus.

Context of the Study

- A Multi-State Support System for Broadband Adoption by Vulnerable Adults
- Tutor-facilitated, community-based learning support system
- Bilingual and monolingual tutors and learners work together in public computer centers
- Materials available in Spanish and English
- Self-paced instruction
- Content customized by partners: locally relevant and globally connected



Now that you have the background of who we are and how we approach our work, I'm going to share more specifics about the project that is the focus of our study. The project involved a multi-state support system for broadband adoption by vulnerable adults – those that the literature has identified as being on the margins of the digital world. The support was delivered through tutor facilitated community based learning systems and included bilingual and monolingual tutors and learners working together in public computer centers. Learning was self-paced and the materials were available in Spanish and English. Furthermore, each partner was able to customize the materials so that the content was locally relevant even as it connected the learners globally.

National Networks of Partnership

- Portland State University: project lead
- **Implementation Partners**
 - Richmond Public Library (Richmond, CA)
 - Goodwill of Southeast Louisiana (New Orleans, LA)
 - Minnesota Literacy Council (4 cities in MN)
 - Cayuga Community College (Literacy Zones and ABE programs in NYS)
 - Literacy Coalition of Central Texas (3 counties in Austin, TX area)
 - South Texas College (2 counties in McAllen, TX area)
- **Content Development Partners**
 - Learner Materials: Minnesota Literacy Council
 - Tutor Training Materials: ProLiteracy

These were partners in implementation and development.
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Local Networks of Partnership

Implemented within community anchor institutions

- adult literacy programs
- adult basic education (ABE) and employment/training programs
- colleges and community colleges
- K-12 schools
- public libraries
- social services agencies
- public housing agencies
- faith-based organizations

National partners developed local networks to bring learners and tutors together in public computer labs. Over three years, the project operated in over 120 computer labs nation-wide.

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Scope of the Project

Tutors

- logged nearly **50,000 hours** in computer labs
- **over 41,000** of these hours were **volunteered**
- over **500 tutors** were trained
- Many sites had tutors who were bilingual (Spanish/English tutors)

Learners

- Over **12,000** eligible **learners** participated
- **2213** learners who **identified Spanish** as their preferred language

The project included tutors who logged nearly 50,000 hours and there were over 12,000 learners of whom over 2,000 identified Spanish as their preferred language.

Learning Design

Learner Web Online Platform



Community Tutors



Language Choice



My Home

English
Hi, drew | Sign Out

Goal | Step | Resources | Workspace | Help



The learning model used in this study provides adult learners with features designed to support their goal oriented learning.

Tutors and learners came together in open-access computer labs to engage, discuss, and explore computers and the Internet. The Learner Web, an online learning platform, provided access to instructional content that included video, reading, and interactive practice activities across the web. It scaffolded and organized resources towards specific learner-centered goals and provided a series of self-check quizzes to help learners reflect on the content they learned as they moved through the materials at their own pace.

Focus of this Presentation



Thus far I've provided you with the context within which this research and this particular analysis occurred. At this point, I'll be shifting into specifically discussing the findings salient to the role of language.

IMLS: Tutor-Facilitated Digital Literacy Acquisition within Vulnerable Populations

- Research focused on the implementation of Portland State's BTOP project (Sept. 30, 2010 - Sept. 30, 2013)
- Examines the digital literacy acquisition process
- Documents and describes tutor and learner interactions, learning environments, implementation variations, motivations, and impacts on learners
- Make recommendations for implementation in organizations such as libraries, adult education programs, community based organizations, corrections, and other settings.

The IMLS research study took the data from the BTOP project and for the past two years we've been involved in data analysis in order to understand the digital literacy acquisition process. By the end of the project, we hope to be able to make recommendations for implementation of similar projects.

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Research Questions

- Given learning digital literacy content offered in two languages, how do Spanish and bilingual learners and tutors interact with digital literacy learning materials?
- What factors influence their language choices?



These are the research questions for this particular aspect of the study: how do Spanish and bilingual learners and tutor interact with the digital learning materials and what factors influence their choices.

Data Corpus

Interviews

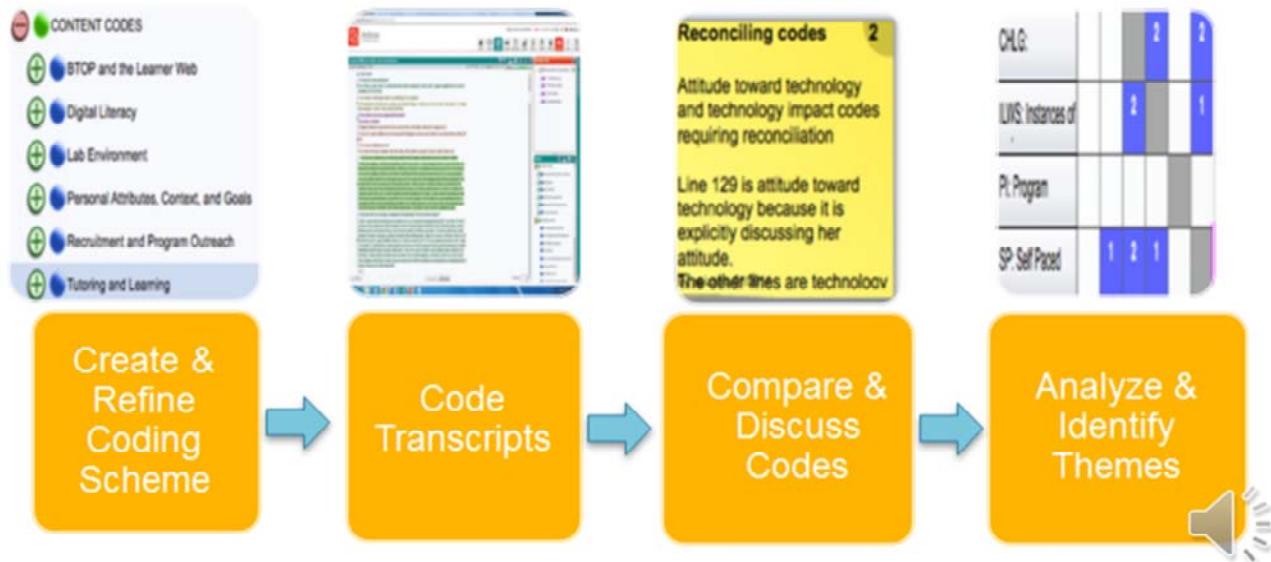
- 28 Learners (4 in Spanish, 3 Spanish/English Bilingual)
- 29 Tutors (6 Spanish/English Bilingual)
- 5 Case Studies (1 in Spanish, 1 Spanish/English Bilingual)
- 14 Key Stakeholders (3 Spanish/English Bilingual)

Lab Observations: the learning conditions, examine strategies tutors use to meet different learners unique needs



Our data corpus includes interview transcripts from 28 learners, 29 tutors, and 5 case studies. We also interviewed 14 key stakeholders and conducted lab observations. The subset of data that informed the analysis I'm discussing today was that of the Spanish speaking and bilingual tutors and learners.

Grounded Theory Analysis



We conducted a grounded theory analysis in which we first created and refined our coding scheme and iteratively coded our transcripts. During this iterative process, we met regularly as a team to compare and discuss codes in order to ensure interrater reliability. After mapping the territory, we identified categories and themes and began building a grounded theory of self-paced tutor facilitated digital literacy acquisition.

Emergent Themes

- Learner Path
- Interconnectivity with Community
- Role of Language



Three main themes have emerged: How the learner moves through the digital literacy acquisition process, how programs are embedded and connected with the larger community, and the role language plays. In this presentation we're focusing on the role of language. In this presentation, we're focusing on the role of language.

Emergent Themes

Learner Path

Program Components

Skills Integration & Impact

Program Interaction

Entry

I'm not going to break it!

I can do it!

This is important to me!

Pivotal Moments for Learners

- I'm not going to spend much time on this, but we think it important to frame the language piece within the learning path the learners experience.
- We have found that they move through three basic phases of Entry, Program Interaction, Skills Integration and Impact
- And as they are developing digital literacy skills, they experience three pivotal moments in learning
 - Overcoming fear (I can do it!)

- Gaining confidence (I'm not going to break it!)
- Seeing relevance (This is important to me!)

Emergent Themes

Interconnectivity



It's also important to understand that these programs are embedded within the communities through an interconnected web of services and institutions.

Emergent Themes

Role of Language



At this point, I'm going to move into our findings on the role of language.

Findings Overview: Role of Language



Language Made a Difference

- Tutor bias/preference
- Need for computer specific English vocabulary development
- Dialect
- L1/L2 proficiency
- Learner flexibility
- Learner desire to develop English skills



Our research questions asked, Given learning digital literacy content offered in two languages, how do Spanish and bilingual learners and tutors interact with digital literacy learning materials? What factors influence their language choices?

Although there are similarities in the experiences of English dominant learners and the Spanish or bilingual learners, examining the experiences of individuals who identified Spanish as their primary language allowed us to see qualitative differences in their experiences.

Analysis indicated that the learners interacted with tutors and the online learning system based on these six factors

Findings Overview: Tutor/Learner Tensions

- Tutor desire to provide positive learning experiences / Learner desire for self-determination
- Tutors and learners used the system based on their beliefs, perceptions, needs, and desires.
- The needs and desires of the learners may have at times been counter to the beliefs and perceptions of the tutors.



Looking at the data through the lens of the spanish dominant speakers also allowed us to identify tensions between what the tutors saw as the needs of learners and how the learners understood their needs and positioned themselves as learners.

In the next few slides, I'm going to unpack the six factors by sharing interview excerpts with you. Then I'll move in to implications and conclusions.

Findings Overview: Role of Language

- Impact of program extends beyond digital literacy acquisition and language learning
 - Language is a resource
 - Sense of accomplishment
 - Social connections



I'll also be talking about the impact of the program

Findings: Tutor Bias/Preference

There are always those who want to learn a second language and computer skills at the same time, but I don't think that's a good idea....it's not made to teach them a different language. I wouldn't recommend them to try to learn a second language and computer skills at the same time.
-- Tutor

*I tell them, if you're wanting to do it in Spanish, **stick with the Spanish** because there are just certain things, they kind of seem unexplainable in English...* --Tutor

*If there is something that they want to learn how to do and I know that there's a resource on the English site...I'll toggle back to the English site and I'll put them on the resource in English if I feel like they're comfortable **but the quizzes and stuff will all be in their native language.*** - Tutor



We found that the tutors had clear biases and preferences for how they wanted learners to interact with the materials. Some tutors indicated that the primary purpose of the program was digital literacy, so the cognitive load of language learning shouldn't be added to the task. Others wanted learners to stay within their L1 in order to provide clarity of meaning. However, other tutors were more flexible and used the language switching function of the program to allow the learners to access the materials they needed in the language the tutor thought was most useful.

Findings: Computer Specific Vocabulary Development

A lot of what the internet is...in English, so I try to throw that in.
In English that they have to look for certain words, certain words, certain phrases, to be able to navigate the internet because not everything's always going to be in Spanish.
--Tutor

Some of the words [technology specific words] are the same in English and Spanish, some of the words you know they have a translation so are people learning that lingo in both languages.
--Tutor



Tutors, however, also acknowledge that exposure to English, and especially the English of the Internet was important because of the predominance of English online. As tutors pointed out, there are certain words on the Internet that individuals need to know, and another suggested that people have to learn that lingo in both languages.

Findings: Dialect

Because seeing the Spanish and Puerto Rican. I don't think the Spanish translation is the Puerto Rican language because we speak a dialect. We doesn't speak right, let's say that, it's changed.

So when it's in another language I get lost to some words because they don't mean the same to me, like they mean to other people. In English it's easier for me to understand what they say.

--Learner



Another finding that emerged was that Even though Spanish may have been their first language, a number of learners opted to use the program in English because of dialect differences.

As one learner told us, “when it’s in another language, I get lost to some words because they don’t mean the same to mean...lin English it’s easier for me to understand

Findings: L1 /L2 Proficiency/Register

My Spanish, is it has um, when you don't use it that much, it become also like a second language. ...
I learn in English I read in English but I write in Spanish and I speak Spanglish. ...So when I saw that program in Spanish and the kind of Spanish they were using the areas skillful and uh academic. I said uh I don't understand it.
-- Learner



We also found that the learner's L1/L2 proficiency was important, but levels of proficiency were complex. For instance, This learner had been in the United States for 40 years, but never attended school here. She was highly aware of her language skills and held a deficit view of her abilities. In essence, she communicated in three languages and language choice changed depending on context of use. So when it came to using the learning material, she shifted to English because she was more comfortable with English for learning. This is also related to register. This learner knew Spanish, but not academic Spanish, so she felt less able to use the spanish material.

Findings: L1 /L2 Proficiency

Sometimes their oral part will be a level 4 but their written part will be a level 3 so we'll place them in the level 3,
so if they can understand conversational English, then I would put them maybe in an English speaking video,
...or I thought that video was better than the Spanish video. -- Tutor



A tutor provided us with some insights into this phenomenon and how she responded. This particular site was linked to an ESL program and used testing to determine student placement. The tutors adjusted what materials they used based on what they knew of the learner's language skills, but they also adjusted depending on the quality of the learning materials.

Findings: Learner Flexibility

- Choice: Learners preferred bilingual tutors
- Autonomy: Learners asserted control over their learning

In one lesson I will put it in English and then I will change the lesson to Spanish....It is different, difficult, but it is important....It works for me because, like on Thursday, I finished and the tutor said to me, "Oh, Ms. M. you have this in English." And I said to her, "Yes I put it in English." She said, "Oh you did," **She said, "You put it?"** I said, "Yes I did." She said "Oh okay." So then **from there I go to the Spanish and everything that I have heard in English I see it again in Spanish and I know that I have understood it.**



Despite tutor preferences and biases, the learners pushed back based on what they wanted. For example, this learner told us about how she used the language switching function to support her learning. She moved through the lessons twice, once in each language. This process supported her learning of the material, but also her language skills.

Findings: Learner Desire

*She asked me, she say "You want it in Spanish?" **I say no, leave it in English. Because that's what help me to improve my English.***

*She [a learner] started out doing it in Spanish and did quite a few of the plans. And then later wanted to go back and start all over and do them in English. **She's like, no I really need to know these words and this vocabulary in English. I really need to know how to do this in English.***

*She came in and she told me that her primary language was Spanish....**But when she looked at someone else's computer and saw her doing the lessons in English, she said to me that she wanted to do them in English too....***



The learner's flexibility in moving between languages was related to their desire to learn English, and again the learners would assert themselves.

Impact: Language as a Resource

Without this they're being isolated, not by choice, but for usually economic reasons or education. So, if they can continue, like I said, at least have a peek through that window to know that it's available and they can access it and actually succeed with it, I think it's an excellent thing.



Now I want to move to sharing a bit of the impact of the study. One that we think is really important is that both the learners and tutors came to see that language is a resource.

Impact: Sense of Accomplishment

It's like they completed Mt Everest. ...Some people come with a lot of issues and their bad past, ...we're here to help them out.



Secondly, although we've been focusing on the Spanish speaking participants, we've found that these impacts are not unique to English language learners. Many have not had positive learning experiences, and through this program, they've experienced success.

Impact: Sense of Accomplishment



It [progress through the program] inspires a sense of confidence with them that I see. I know for quite a few, they looked at it [computers] as an evil box. And now they hit the button, get started, they, next thing I know they're telling me about someone they contacted in Costa Rica. Or they're paying their bills or doing some shopping, using Amazon. I'd say "Welcome to digital world."

As one tutor noted, the learners gained a sense of confidence and were able to move past seeing computers as "an evil box." They've learned how to take control of certain aspect of their lives and have become part of the digital world.

Impact: Social Connection



I've spoken with my family in Mexico and my friends, you know who before I could only talk to over the phone or send letters. You know, those were the only ways to communicate, but now we use the Internet and we can even see each other. It's very important because now I have more contact with my family and friends that I'd had many years not knowing about them

Finally, we've found that for many of the learners, gaining digital literacy and language skills has allowed them to overcome isolation and build social connections.

Conclusions: Language as a Resource



- Tutor bias/preference
- Need for computer specific English vocabulary development
- Dialect
- L1/L2 proficiency
- Learner flexibility
- Learner desire to develop English skills



As we considered these six factors that our analysis identified regarding how tutors and learners interacted with the online digital literacy learning materials within a tutor-facilitated learning environment, we came to understand that a concept that connects all of these is the idea that language variation can be a resource rather than a problem to be solved.

Tutors, in their enthusiasm to provide a highly supportive learning environment, did not always provide opportunities for the learners to act autonomously. Thus the andragogical trait of self-determination as potentially undermined. However, we also saw that learners, whether they came in with an intrinsic sense of who they were as a learner or developed it through positive learning experiences, would act autonomously.

This perspective thus creates a context for learning environments that allow and promote language flexibility.

Conclusions: Language as a Resource

- Language variation is not the problem
- Limited resources are the problem

Some can't speak it, read it, or write it, but they understand it. And there are some that can speak it, but they can't write it. There are some that can read it, they can't write.

It's just differences, and you just, you gotta find what makes them comfortable.

--Tutor



As one of the tutors said, it's just differences, you gotta find out what makes them comfortable.

So, rather than seeing language variation as the problem we have come to understand that it is the lack of resources that is the problem.

Implications: Layered Support

- Multimodal
- Text to Speech
- Simplified English



Based on this analysis, as well as our larger study and previous research, we argue that programs are needed that support learner autonomy and self-determination and increase accessibility to needed resources.

A direct outcome of the research was that the Learner Web team has worked to increase accessibility by continuing to offer learning material in multiple modes, adding text to speech capability to support hearing language spoken fluently, and by adding ESL or simplified English versions of these plans.

Implications for Research

- Generalizability to other language groups
 - Those with few language resources online
 - Availability
 - Accessibility
- Consideration of language variation in online learning
 - Dialect and register
 - Culture
- Examination of how learners and tutors navigate the tensions between learner need to be self-determined and tutor intentions.



We also suggest there are implications for research:

We ask to what extent is this generalizable to other language groups

Those from cultures with few language resources on the internet

Not just culture, availability, accessibility

And we need to further consideration of the role of dialect, register, and culture in people's use of online learning material.

We also need to consider the some times tensioned relationship between tutors and learners as they negotiate what the learner need to be self-determined and autonomous and what the tutor believes to be good teaching and a supportive environment.

Implications for the Field

- Customizing learning approaches
 - Learning material
 - Tutoring
 - Recognize nuances in L1/L2 skills.
 - Coach tutors in working with language variety.
 - Lab environment
- Digital equity as a goal
 - Resist deficit model
 - Move the learner from where they are to where they need to be using language as a resource



There are also implications for the field.

As mentioned, there is a need to Customize learning approaches that meet the needs of Spanish dominant and bilingual learners through the learning material, how individuals are tutored, and how the lab environment is constructed. These supports need to recognize

nuances in language and literacy skills. Furthermore, program managers **need** to make decisions on how to coach tutors in working with language variety.

This is consistent with our stance that program

administrators and policy makers should work toward concept of digital equity by resisting the deficit model of the learner and rather than trying to change the learner, take them from where they to where they need to be using language as a resource

For More Information

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I thank you for your time and interest in this study. Please contact us if you have questions. Also, by the end of the summer, we will have our material available through the PSU library.