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# The Role of Translation in Multilingual User Experience

Tetyana Zhyvotovska
*University of Texas at El Paso*

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THE ROLE OF TRANSLATION IN MULTILINGUAL USER EXPERIENCE

TETYANA ZHYVOTOVSKA

Doctoral Program in Rhetoric and Composition

APPROVED:

_____
Lucía Durá, Ph.D., Chair

_____
Laura Gonzales, Ph.D.

_____
Kirsten Nigro, Ph.D.

_____
Stephen L. Crites, Jr., Ph.D.
Dean of the Graduate School

THE ROLE OF TRANSLATION IN MULTILINGUAL USER EXPERIENCE

by

TETYANA ZHYVOTOVSKA, B.A., M.A., M.A.

Dissertation

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# Abstract

Examining the intersections of technical communication, user experience, and translation, this study focused on the contexts of a user experience (UX) research center as a site where these intersections occurred and on practices of multilingual users while encountering translated information. In order to explore translation practices in relation to UX and cover the gap in understanding multilingual UX, the study examined how multilingual users worked with translated content, how they acted and reacted to it, and what they experienced during this process. Based on the existing scholarship in translation and usability studies in technical communication, this dissertation undertook empirical research (qualitative and usability study) to expand the definition of multilingual UX and explain the role of translation in UX and in technical communication in general. The qualitative study aimed to identify the contexts a UX research center navigated and functioned in through the interviews with the affiliated researchers of the Multilingual UX Consortium. The usability study was conducted to record and analyze practices of multilingual users while using a higher educational institution website with translated content. Finally, using the findings of these studies, the dissertation provided the definition of multilingual UX and described the contributions of a UX center to translation and UX theory and practice. This research illustrated strong connections between areas of technology design, translation, and UX, including complex relationships involved in translation and design processes for multilingual audiences. The study calls for a change in understanding multilingual UX and its practices by recognizing its complexity, humanity of translation, and value of users' experience when engaging with multilingual information products. The study also offers strategies for technical communicators, UX researchers, and content design specialists in

industry contexts to help guide effective design of information products for multilingual users and communities.

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# Chapter 1

## Introduction

### 1.1 Background and Study Context

Instances of language contact are ubiquitous. My exposure to multilingualism started very early, since I grew up in Ukraine, where people speak two languages (Ukrainian and Russian) on an everyday basis. Multilingualism was present in different forms, from everyday conversations, to learning languages in educational settings, or reading literature in original languages. From an early age, I have been fascinated by how linguistic units (sounds and words) can open an array of different possibilities to express meaning and communicate a message. My interest in languages led me to study English as a foreign language, which contributed to my existing multilingual experiences. Also, my interest in languages led me to the field of translation, which I decided to pursue as one of my majors at Odesa State University in Ukraine.

My early exposure to multilingualism and interest in languages worked as foundation for my professional career and growth as a teacher and translator/interpreter. As a trained translator/interpreter, I conducted translation/interpretation in various settings (industry, education, travel, law, non-profit sector) and in different geographical regions in Europe and the United States. Through these experiences, I learned to appreciate the profuse possibilities of translation as mediation between languages and cultures, including the linguistic creativity that comes into play when attempting to maximize the value of translation. Later, to reach my goals of continuing my education and working outside my country, I had to navigate multilingual websites, which was one of my first encounters with multilingual user experience. As a native speaker of Ukrainian and Russian, I used multilingual websites to look for opportunities for professional development in different organizations, apply for graduate programs at various

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universities, and learn visa regulations from government institutions. Often, to clarify the information presented on these sites, I would switch between website versions in three languages – Ukrainian, Russian, and English. Sometimes, my experience was quite challenging, in spite of the fact that I managed to find the answers to my questions and get the information necessary to achieve my objectives. This is why I started thinking about how multilinguals use translated content in information products and what challenges they experience during this process.

Later, the experience of working as an international faculty and being an international student allowed me to develop my perspectives on multilingualism and translation and to clearly see what elements come together to achieve effective forms of expression in different languages. I believe that my journey as a multilingual and a professional allows me to shed light on the important intersections of technical communication, translation, and user experience. My journey is also a reason why I care about how these areas connect, intersect, and influence each other. As can be seen in just one example of navigating a multilingual website, these three fields come together to communicate information, present it in a language used by the audience, and provide effective experience for users so they can access information, use and apply it to achieve their objectives. The fields of technical communication, translation, and user experience come together to make the process of working with information by the users efficient. In some contexts, with emphasis on technology design and translation positioned as a costly and fixed product, multilingual communities and users get overlooked and marginalized by being kept out of the process of product development and usability testing. Multilingual user experience provides an opportunity to center multilingual users, keep their needs in mind when designing products, and include them in technology design process.

In my research, I examine the intersections of technical communication, translation, and user experience; study how multilingual user experience works; what role translation plays in it; and how initiatives directed towards inclusion and support of multilingual communities can be implemented to make user experience smarter, more equitable, and more effective.

**1.2 Study Overview**

Examining the intersections of technical communication, user experience, and translation, this study focuses on the contexts of a UX research center as a site where these intersections occur and also on practices of multilingual users while encountering translated information. In order to explore translation practices in relation to UX and cover the gap in understanding multilingual UX, it is important to examine how multilingual users work with translated content, how they act and react to it, and what they experience during this process. By examining the context of a UX research center and engagement of multilingual users with translated content, I search for ways of expanding theoretical understanding of multilingual UX and improving UX of multilingual users by centralizing their needs and including them when designing information products.

To understand the role of translation in multilingual user experience, this study asks the following questions:

- How does a multilingual UX research center help navigate multilingual, cross-organizational, cross-disciplinary, and cross-cultural contexts, through translation as communication practice? What role does social justice play in these navigational decisions?

- How does translation play out in a multilingual UX scenario? How is it similar to or different from localization and internationalization?

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- What is multilingual user experience? How can a multilingual UX center and its research contribute to translation and UX theory and practice?

Based on the existing scholarship in translation and usability studies in technical communication, this dissertation undertakes empirical research (qualitative and usability study) to expand the definition of multilingual UX, explain understanding of role and place of translation in UX and in technical communication in general, and make practical suggestions for UX researchers and designers of information products with multilingual content. To answer the first question, I identify the contexts a UX research center functions in and examine how it navigates these contexts through the study conducted with the affiliated researchers of the Multilingual UX Consortium. Next, to answer the second question, I design and conduct the usability study of a higher educational institution website that has translated content. Finally, using the findings of these studies, I define what multilingual UX is and describe the contributions of a UX center to translation and UX theory and practice through its research.

An expanded view of multilingual UX is surfacing from views of the interviewed scholars and user experience records collected through usability sessions, interviews, and observation, which urges us to look at UX work on the users' side occurring during the use of information products with translated content. This study illustrates strong connections between areas of technology design, translation, and user experience that include complex relationships and considerations when involved in translation and design processes for multilingual audiences. These connections often go unrecognized in current discussions in technical communication. The study calls for a change in understanding multilingual UX and its practices by recognizing its complexity, the humanity of translation, and value of users' experience when engaging with multilingual information products. This study also has implications for existing and developing

UX centers through strategies that can be used to diversify their practices and promote community-based approaches in their work and inclusion of diverse groups of users, including multilingual communities.

Before I proceed with the focus, literature review, methodology, and findings of my research, I find it important to present definitions of some main terms that I use and refer to in my dissertation. Since this research is multidisciplinary in its nature, Glossary of Terms explains and helps readers from different disciplines understand how these terms are used in the context of this dissertation project.

Glossary of Terms

*culture* - meanings, values, and collective experiences developed and shared by groups of people over time

*globalization* - the set of processes that contribute to growing interactions and integrations between societies, economies, businesses, and individuals around the world

*interpretation* - communication of the meaning of oral or signed source-language interaction in a target language

*language* - system of communication and principal method of human interaction

*rhetoric* - any form of meaning making with the intent to communicate or persuade, drawing on a combination of aural, gestural, embodied, and/or alphabetic modalities

*rhetorical analysis* - analysis based on the examination of all aspects of a rhetorical situation including exigence, audience, and constraints (Bitzer, 1968)

*rhetorical situation* – "a complex of persons, events, objects, and relations presenting an actual or potential exigence which can be completely or partially removed if discourse, introduced into the situation, can so constrain human decision or action as to bring

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about the significant modification of the exigence"; three constituents of any rhetorical

situation are exigence, audience, and constraints (Bitzer, 1968, p. 6)

*technology* - processes, systems, tools, devices, and resources used to design and produce

products and services

*translation* - communication of the meaning of a written source-language text in a target-

language text

**1.3 Dissertation Structure**

*Chapter 1. Introduction*

Chapter 1 provides the background and study context focusing on intersections of technical

communication, translation, and user experience. It also presents the rationale for choosing the

subject of this study, states the problem, explains study objectives, and outlines the dissertation

chapters.

*Chapter 2. Literature Review: Translation in Technical Communication*

Chapter 2 presents a literature review that examines the current scholarship in the areas of

technical communication, translation, and user experience. It also describes main implications of

my study in the context of existing literature.

*Chapter 3. Research Methodology*

Chapter 3 presents the study methodology including research questions, theoretical framework,

purpose and method for each part of the study, research design, and outline of data analysis.

Aiming at examining the role of translation in UX, specifically in multilingual UX, this study

methodology undertakes empirical research in two categories (qualitative and usability testing)

to contribute to understanding of nature of multilingual UX. It also describes the implications

and limitations of my study of multilingual user experience.

*Chapter 4. Research Question 1: Findings and Discussion*

Chapter 4 provides results and discussion of the qualitative study to answer research question 1:

How does a multilingual UX research center help navigate multilingual, cross-organizational,

cross-disciplinary, and cross-cultural contexts, through translation as communication practice?

What role does social justice play in these navigational decisions? The chapter describes the

coding scheme, presents data analysis, reports findings in light of the study's research question 1,

and highlights the tendencies that this qualitative research demonstrates.

*Chapter 5. Research Question 2: Findings and Discussion*

Chapter 5 provides results and discussion of the usability testing to answer research question 2:

How does translation play out in a multilingual UX scenario? How is it similar to or different

from localization and internationalization? The chapter describes the coding scheme, presents

data analysis, reports findings in light of the study's research question 2, and highlights the

tendencies that this usability study demonstrates.

*Chapter 6. Expanding the Scope of Multilingual UX*

Chapter 6, using the findings from both studies, addresses research question 3: What is

multilingual user experience? How can a multilingual UX center and its research contribute to

translation and UX theory and practice? In addition, the chapter defines what multilingual UX is

and describes contributions of a UX center to translation and UX theory and practice through its

research by providing strategies and practices that can help guide multilingual UX and design of

effective information products for diverse audiences. This chapter also includes study

conclusions, implications, and suggestions for further research in multilingual UX.

Based on the findings from the qualitative study and usability testing, this dissertation

provides us with a perspective to understand what multilingual UX is, how it works, and what

role translation plays in it. From this research, scholars and practitioners can learn about strategies used by the Multilingual UX Consortium and apply them to enrich existing practices or develop new ideas for UX centers in the settings of their institutions and community organizations. From a theoretical point of view, the findings presented in this dissertation contribute to the definition of multilingual UX, as well as to an understanding its complex nature and place in technical communication and technology design. Considering practical applications of the study, this research provides data and analysis of actual experiences of multilingual users with information products involving translation components during the usability sessions. Taking into account these experiences and practices of multilingual users, this dissertation offers strategies for technical communicators, UX researchers, and content design specialists in industry contexts to help these professionals guide effective design of information products for multilingual users and communities.

# Chapter 2

## Literature Review: Translation in Technical Communication

### 2.1 Introduction

In the introduction, I provided an overview of multilingual user experience. I also described the rationale for choosing the subject of this study, stated the problem, explained study objectives, and outlined the dissertation chapters. In this chapter, I provide an overview of conversations related to technical communication, translation, and user experience. I do so by examining the current scholarship in these areas. I also describe the implications of my study of multilingual user experience in the context of existing scholarly literature.

The idea for this research on multilingual user experience developed out of my encounter with multilingual websites that I, as a native of Ukraine, had to navigate to reach my goals of continuing my education and working outside my country. As a native speaker of Ukrainian and Russian, I used multilingual websites to look for opportunities for professional development in different organizations, to apply for graduate programs at various universities, and to learn visa regulations from government institutions. Often, to clarify the information presented on these sites, I would switch between website versions in three languages – Ukrainian, Russian, and English. Later, working as an instructor of Russian at The University of Texas at El Paso (UTEP), I helped my students navigate the multilingual websites of universities in Russia and Ukraine when they were searching for study abroad options or opportunities to continue their education in those countries. This is when I learned that some higher educational institutions, not having the same resources as corporations and big companies, need assistance with their website content, and the field of user experience - within technical and professional communication - offers ways to improve content through website usability testing and evaluation. Observation of

users attempting to complete a task or set of tasks with an information product during usability testing reveals how users interact with a product and what they experience during this process. Evaluating both positive and challenging experiences provides actual opportunities for product improvements in the areas of its design and content. Thus, my research is at the intersection of technical communication, translation, and user experience.

User experience encompasses a person's perceptions and responses resulting from the use and/or anticipated use of a product, system, or service. User-experience researchers are concerned with understanding how people feel when using a product or service. User experience is closely connected to technical communication as a broad field that includes various forms of communication (Redish & Barnum, 2011). According to the Society for Technical Communication (STC), these forms include communicating "*about technical or specialized topics*, such as computer applications, medical procedures, or environmental regulations"; communicating "*by using technology*, such as web pages, help files, or social media sites"; and providing "*instructions about how to do something*, regardless of how technical the task is or even if technology is used to create or distribute that communication" (Defining Technical Communication section). While this definition focuses on forms and characteristics of technical communication, Johnson-Sheehan (2015) describes technical communication through the key concepts of *process*, *manage*, and *action*: "Technical communication is a process of managing technical information in ways that allow people to take action"; in other words, technical communication "involves learning how to manage the flow of information so you can get things done" (p. 9). This flow of information includes communication in different languages that involves translation of multilingual content (Brown-Hoekstra, 2017, p. 45; Houser, 2017, p. 14).

As a disciplinary field of study, translation has a long history, but it occupies a special, increasingly important place in technical contexts. Due to the advancement of technology and globalization processes affecting industries and businesses around the world, the need for multilingual technical information continues to grow. The work of translation in this context is to make this information useable and accessible in multiple languages. As an approach to create multilingual technical information products, translation is closely connected to localization. Based on the definition provided in ASTM F2575: *Standard Guide for Quality Assurance in Translation*, localization "describes the cross-cultural communication process of preparing locale-specific versions of a product or service, consisting of translation of textual material into the language and textual conventions of the target locale, and adaptation of nontextual materials as well as input, output, and delivery mechanisms to meet the cultural, technical, and regulatory requirements of that locale" (as cited in Batova, 2014, p. 328 ). In this literature review, I am bringing these, sometimes separate, conversations together to identify the main tendencies in scholarship and research in the areas of technical communication, translation, and user experience. These areas converge, overlap, and impact one another during the process of product design aiming at making design effective while developing understanding and meeting users' needs and objectives through product use.

Technical communication scholars put emphasis on studying different aspects and qualities of translation in technical contexts. As a model, translation helps understand multilingualism and its linguistic and communicative diversity (Gonzales, 2018). Also, translation is seen and described as a process in a variety of settings including industry, academic, and community environments (Batova, 2014; Batova, 2015; Mousten et al., 2010; Maylath et al., 2013; Gonzales, 2018). It is also a complex and collaborative activity (Mousten et

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al., 2010; Maylath et al., 2013; Gonzales & Zantjer, 2015) in which a translator plays the role of a negotiator, mediator, and often advocate when working with diverse communities. Since translation requires a number of competencies and skills due to its characteristics, it is important to prepare students for the demands of the current workplaces to do translation work; thus, a number of scholars offer new strategies in translation pedagogy and training in relation to technical communication (Mousten et al., 2010; Maylath et al., 2013; Maylath et al., 2015). This work also needs to include knowledge of rhetorical concerns that guide effective communication (Sun, 2006; Batova & Clark, 2015) because translation is culturally situated; cyclical (not linear but involving multiple instances of negotiation and localization), and creative (Gonzales, 2018). In addition, technical communication scholars argue that translation involves important power relations that should be accounted for in technical communication projects (Batova, 2010; Agboka, 2013). Also, while machine translation studies bring value in error analysis research, some scholars argue for further development of multilingual information access services for information systems that can benefit diverse groups of users (Chen & Bao, 2009). These scholarly conversations on translation qualities lead to my main discussion of the intersections between multilingual user experience and translation in technical contexts that have been reviewed in the technical communication scholarship and research.

Figure 2.1 illustrates the main conversations identified during my review of scholarship and research in the areas where technical communication and translation intersect. Without making these connections visible, we might oversimplify the role of translation. Bringing these connections together in this literature review contributes to a more nuanced, complex, fuller view of translation, and simultaneously, of technical communication. The diagram below emphasizes

the complexity of translation as a concept in technical contexts due to its numerous qualities and

characteristics as well as relations to other disciplines.
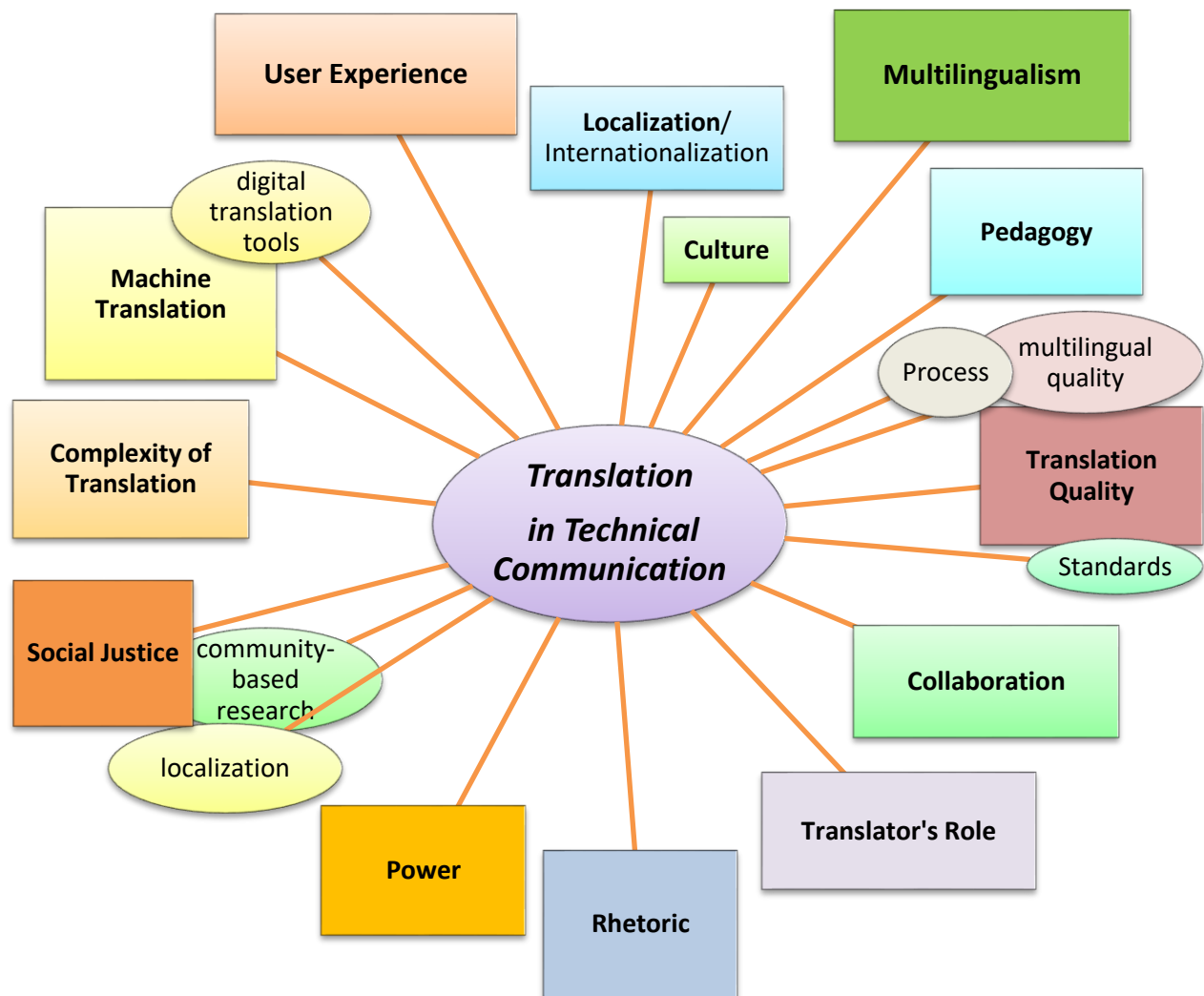


Figure 2.1: Technical Communication and Translation Intersections: Main Conversations

In Figure 2.1, rectangular segments represent some main topics of the research

conversations on technical communication and translation intersections: multilingualism,

rhetoric, collaboration, social justice, power, and others. The oval segments in the diagram

represent subcategories of the topics, such as community-based research and localization in the

conversation about social justice direction in technical communication. Thus, while the diagram shows that the main research topics are addressed by technical communication scholars from multiple perspectives and angles, it emphasizes the importance of translation in technical contexts through its connection to different research areas and disciplines. The vision of translation presented in Figure 1 illuminates the need for viewing translation not as an isolated activity but as a complex and powerful resource that draws on work of multiple stakeholders to serve linguistically and culturally diverse audiences.  In the following sections, I review current scholarship related to technical communication, translation, and user experience and highlight the main conversations that take place in these research areas.

**2.2 Multilingualism**

Discussions of translation should not be separated from conversations about multilingualism. Translation as mediation across languages, cultures, modes (spoken, written, verbal, nonverbal), and discourses is at the core of multilingualism, the use or the ability to use several languages. Multilingualism and translation are connected through the use and exploration of linguistic and cultural abilities when multilinguals employ translation practices to achieve different communicative goals. The research in this area includes language conceptualizations (Fraiberg, 2013), the study of multilingual quality practices (Batova, 2015), and the view of multilingual speakers as technical communicators (Gonzales & Zantjer, 2015; Gonzales & Turner, 2017; Gonzales, 2017; Gonzales, 2018). Highlighting the importance of studying multilingual and multimodal practices in global contexts, Fraiberg (2013) develops a methodological framework that offers "a better understanding of the situated nature of language" (p. 24). His ethnographic research is based on a case study of an Israeli start-up company and the analysis of its workplace multilingual literacy practices. Fraiberg (2013) argues that the work of

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exploring composition in languages other than English calls for "the crossing of disciplinary, geographic, and linguistic borders" with "a shift away from reified, static, and bounded conceptualizations of language and toward one as fluid, dynamic, changing, emergent, and co-constitutive" (p. 24). In other words, language should be viewed as one resource within a complex and dynamic network with tools, objects, technologies, people, and ideologies that shape and are shaped by practices in local and global contexts. In addition, Gonzales and Turner (2017) argue that multilingual communicators need to be included in conversations on translation and technical communication as valuable resources, explaining: "As the field of technical communication (particularly in the U.S.) continues to acknowledge the value of global, multilingual content, it's important that we highlight the expertise and added value of the multilingual communicators who make this work possible and accessible to users across cultures and languages" (p. 31). These scholars believe that the practices of multilingual speakers as communicators should be studied as much as the practices of translators and interpreters. While both groups (multilingual speakers and translators/interpreters) have knowledge of languages, being a multilingual does not mean a person is a translator, since translation requires specific training and expertise. As Gonzales and Zantjer (2015) emphasize, "by better understanding what translation looks like when enacted by multilingual speakers (who are experts in multiple languages but not professional translators or interpreters), we believe that we can devise strategies and models for translation that are useful for technical communicators working across languages and cultures" (p. 272). In brief, though discussing different aspects of multilingualism, all the studies discussed in this section agree on the main point that multilinguals should be viewed as valuable resources in technical communication research, since

they do not only cross linguistic borders in their communication, but also are negotiators across cultures, modes, and discourses.

Negotiating across languages, cultures, modes, and discourses are important skills in technical communication because it serves as a means to convey technical information in a variety of contexts efficiently for the safe and effective use of products and technologies by diverse local and global audiences. Describing multilingual practices, Gonzales (2018) points out that "translation serves as a useful model for understanding multilingualism … in action, as translators make decisions and deliver translations to be used for particular purposes and rhetorical contexts" (p. 44). Taking this point into consideration, it is important to examine different aspects and qualities of translation in technical contexts as discussed in technical communication scholarship. If we acknowledge the value of multilingual communicators, then we should better understand the processes and practices of translating across languages.

## 2.3 Translation Process and Quality

Most importantly, translation in technical communication is a complex and multi-layered process. Scholars describe translation processes in industry (Batova, 2014; Batova, 2015), academia (Mousten et al., 2010; Maylath et al., 2013), and in community settings (Gonzales, 2018). In relation to industry, scholars specify translation, revision, and review stages in the translation process and relate these stages to standard-based approaches to quality in technical communication and localization as part of developed and approved standards guidelines. Standards direct workflow processes in an industry setting, including translation, and offer a number of approaches to quality. Referring to the *European Quality Standard for Translation Service Providers* (EN 15038 - 2006), Batova (2014) explains that quality is seen as a process rather than product:

A quality translation service must include a minimum of translation, during which a qualified translator translates the document and then checks the work once the initial translation is completed, and review, during which a person other than the translator examines a translation for its "suitability for the agreed purpose, and respect for the conventions of the domain to which it belongs" and recommends "corrective measures." (p. 329)

A similar translation process involving multiple steps, including revision, editing, and preparing information for the intended audience, was described in the project on multilateral international collaboration presented by Maylath et al. (2013). This study highlights the complexities of collaborative translation in which students in translation courses in Denmark and Belgium (translators) worked with the US students in an international technical writing course (editors) to produce documents for an English-speaking North American audience. As illustrated in their case study, the authors of the article emphasize that "[w]ork as a translator in a complex multicultural, multilingual project … requires extra sets of competencies" (p. 74). In addition to textual translation, student writers in the case study by Maylath et al. (2013) needed to understand the context of a translation situation, take into account background information, and get engaged in quality control in order to successfully prepare documents for the intended audience. A quality translation procedure included both revision and reviewing stages and mirrored the European standard EN 15038:2006. Thus, translation is a complex process that is regulated by the standard guidelines (EN, ASTM, ISO, CEN, DIN) and approached as such in practical applications in academic collaborative projects (Mousten et al., 2010; Maylath et al., 2013).

Gonzales (2018) highlights other aspects of the translation processes. She argues that translation is a culturally situated (vs. neutral) and cyclical (vs. linear) process: "Just as, due to constantly shifting rhetorical practices, translation is not culturally neutral, (effective) translation is also never a "once and done" event" (p. 59). Translators at the research sites described in Gonzales' (2018) case studies coordinated different resources and moved recursively between digital platforms and material spaces to produce context- and culturally situated quality translation work. In brief, whether identifying different stages in translation or understanding its nature, scholars agree that translation is not a simple act of language transformation but a complex process.

**2.4 The Complexity of Translation: Translation and Collaboration**

In addition to being described as a non-automated process, translation (in technical communication) is also illustrated as a complex and collaborative activity (Mousten et al., 2010; Maylath et al., 2013). More specifically, in an article about the Trans-Atlantic collaborative project which merges translation scholarship and practice with technical communication scholarship and practice, Mousten, Maylath, Vandepitte, and Humbley (2010) emphasize that "… the increased complexity of structures in translation and technology makes it hard to imagine either without effective team collaboration" (p. 409). This view aligns with the change that Snell-Hornby (1999) described as the tendency at the end of the twentieth century "away from strict compartmentalization and towards interdisciplinary cooperation, away from rigid ideology and towards real-life experience" (as cited in Mousten et al., 2010, p. 402). Real-life technical workplaces are highly collaborative with teamwork at different stages of the projects, including translation, and successful collaborative work is not possible without participation in networks inside and outside a company.

In addition to the challenges associated with translation as a collaborative activity, scholars point out managerial complexity related to handling assignments in international collaboration (Maylath et al., 2013), the complexities and problems involved in the translation process (Mousten et al., 2010), and the complexities of translation as intellectual work (Gonzales & Zantjer, 2015). Having analyzed case studies with multilingual users adapting information from their heritage languages into English, Gonzales and Zantjer (2015) argue that translation work is intellectual labor that includes not only the use of various strategies to communicate with the audience but also sequencing physical, visual, and logical descriptions to explain translated concepts. One of the eight translation strategies identified by Gonzales and Zantjer (2015) was storytelling. Participants in Gonzales and Zantjer's (2015) study used real and fictional narratives to convey the meaning of a word in English. For example, to explain the differences between two meanings of the French word *ballot,* a participant in Gonzales and Zantjer's (2015) study, Sarah, told two stories. One of them described a *ballot* as a situation with the disastrous moment at the end when this word is used; the second story described a *ballot* person, good-natured but clumsy and ruining the party by making mistakes (p. 276-277). In addition to storytelling, Sarah used gesturing and intonation strategies while explaining the meaning of the words. This research by Gonzales and Zantjer (2015) demonstrates that "translation practices are accomplished via multiple, layered, and sequenced strategies" (p. 280). Moreover, "the purposeful, rhetorical use and layering of these strategies … exemplify the complex negotiation of history, culture, and language that takes place as users translate words and phrases into English" (p. 280). While researchers whose scholarship is discussed above focus on different aspects of complexities in translation work, they all agree that these

complexities still remain understudied and unresolved. These complexities include collaborative, managerial, and intellectual aspects of translation work.

## 2.5 The Work and Role of a Translator

The complexity of translation is reflected in the work and role of a translator. Technical communication scholars argue that translation goes far beyond word-to-word replacement and requires more work than just producing a different language version of an original text; thus, the translators of the content should not be positioned as "mere processing agents" (Gonzales and Zantjer, 2015). Examining medical interpretation, Gonzales and Bloom-Pojar (2018) describe how a medical interpreter creates and serves as the bridge between patients, physicians, health providers, and other parties in translation spaces while negotiating language difference. In addition to the role of negotiators in this complex process, medical interpreters have the potential to serve as important advocates for patients with limited proficiency in English in the ways that interpreters describe patients' illnesses and discuss their needs. Medical interpreters, with their rich personal histories and experiences, are "the individuals who use multilingual rhetoric to provide access to healthcare in their communities" (Gonzales & Bloom-Pojar, 2018, p. 197).

Similar complex processes take place in translation in educational settings. Observing students' work in cross-cultural virtual teams while communicating with their overseas partners and reflecting on their translations, communication, and learning, Maylath et al. (2013) witnessed "[w]ork as a translator in a complex multicultural, multilingual project" that required a number of extra competencies (p. 74). To do this work, students needed "to identify the usual relevant elements in their translation situation, look for background information on the topic, solve any textual translation problems, and reconcile the competing norms of adequacy

(adherence to the source text) and acceptability (adherence to the target language norms)" (p. 74). The results of the research on international collaboration and professional communication reveal the importance of mediation skills needed in a translation process. They emphasize the need to conceptualize the role of a translator as a mediator transmitting texts from one language to another and at the same time serving as the mediator of knowledge of culture and conventions that are communicated in the other language in a different way (Mousten et al., 2010, p. 410). Maylath et al. (2015) argue that "translating is not (only a matter of language, but of communication" (p. 5). The authors explain, "Translators and other international professional communicators operate as mediators to facilitate understanding across global and local contexts through diverse communication channels" (p. 3). Thus, scholars agree that current discussions of translation in technical communication should include and recognize the role of translators as negotiators, mediators, and even advocates when working with communities and marginalized users.

**2.6 Translation Pedagogy and Training**

Since translation is seen as complex, collaborative, and requiring a number of competencies and skills, preparing students for the demands of the current technical workplaces is vital. Scholars acknowledge the challenges both in preparing students theoretically for this kind of collaboration and also in their teaching of technical writers and technical translators (Mousten et al., 2010; Maylath et al., 2013; Maylath et al., 2015). One way to teach students to accomplish a professional task including translation is to get them involved in collaborative international activity such as the Trans-Atlantic Project (TAP) or Trans-Atlantic & Pacific Project (TAPP), as it was called later. Started in 1999, TAPP developed into "a complex educational network of bilateral *writing-translation* projects, bilateral *translation-*

*editing* projects, and *multilateral* projects" connecting classes in writing, usability testing, and/or translation at universities in twelve countries (TAPP, 2018, para. 2). By pairing technical writing classes in the US and translation classes in Europe, "students [in TAPP] were faced with a learning-by-doing context different from any previous learning situations they had been in" (Maylath et al., 2013, p. 166). Maylath et al. (2013) argue that switching to a different context was beneficial: "On one hand, the focus was no longer on language itself but rather on communication for the task; on the other hand, they [students] were required to contribute their engineering knowledge to an interdisciplinary project involving the integration of different types of competencies …" (p. 166).

In addition, the translation-services standard guidelines developed and adopted by different countries influence the training of the translators. According to the scholars involved in the Trans-Atlantic project, "[i]n relation to the way translation has been perceived and taught for a long time, the EU standard raises new questions and issues in translation studies, rhetorical studies, and process studies. We have to prepare students for jobs that encompass knowledge workers from different fields" (Mousten et al., 2010, p. 410). Emphasizing multidisciplinarity and international collaboration, as well as linking technical writing, usability testing, and translation, facilitates a learning-by-doing context instead of traditional learning situations in technical communication training and translation pedagogy and practice.

## 2.7 Translation and Rhetoric

Collaboration, mediation, and other elements of translation require rhetorical skills. Technical communication as a field has its research and theory in a number of areas including rhetoric, discourse analysis, academic studies of writing, and other disciplines (Redish & Barnum, 2011, p. 93). Scholars in the field of technical communication emphasize that technical

writers must be able "to handle cultures, languages, and rhetorical strategies in documents used in nations and language areas outside their own" (Maylath, King et al., 2013, p. 161). Studying the complexities of globalized content management in information products for global audiences, Batova and Clark (2015) argue that "to derive the most benefit from the new CM [content management] strategies and methodologies and, in many cases, expensive tools, we must have the time and resources to use them critically, focusing on the larger rhetorical concerns that drive effective communication, as well as the cost, time savings, and consistency" (p. 230). In her analysis of text messages as part of the study of cultural usability goals, Sun (2006) uses the concept of "a rhetorical purpose" "to understand local user goals and emerging writing activities" (p. 467). In this study, "a rhetorical purpose is conceived as both a user goal in terms of activity theory and a social motive in terms of genre theory, which could be translated into design functionality in the future" (p. 467). At the same time, there is a lack of attention to rhetoric in teaching translation in some parts of the world. For example, most English Related to Individual Disciplines (ERID) programs in China "focus on the cultivation of the five basic skills in both general and disciplinary English" and "[l]ittle attention is paid to rhetorical principles, rhetorical analytical skills, intercultural communication skills, or ethical issues" (Ding, 2010, p. 311). Changing the narrow disciplinary focuses, ERID could teach students rhetorical strategies and skills that would bring the positive impact on understanding of scientific and technological information by the general public (Ding, 2010, p. 313). In addition to the curriculum changes connecting translation and rhetoric, scholars continue developing theoretical concepts and frameworks that can benefit both fields. For example, the analytical lens of A Revised Rhetoric of Translation framework allows Gonzales (2018) to understand translation moments in the case studies of multilingual communicators. As she argues, "This model can help us understand

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language transformation rhetorically, speaking against traditionally held notions of translation as a static, mechanical activity that is disassociated from cultural and historical motivations…" (p. 57). A Revised Rhetoric of Translation framework helps see translation as a culturally situated (vs. culturally neutral), cyclical (vs. linear) process and a creative (vs. mechanical) act and provides "an orientation through which we can approach our analysis of translation moments in situated contexts" (p. 61). In the cultural aspect, this framework aligns with the current view of culture as fluid (Ferreira, 2017), complex and nuanced (vs. simplistic and static) (Walton, 2016), and as a changing construct (Agboka, 2012). Taking rhetorical aspects into consideration helps technical communicators understand linguistic, cultural, and material aspects that guide effective communication in translation work.

## 2.8 Translation Technology

The previously described aspects and features of translation cannot be discussed without including a conversation about the place and role of technology in translation work. The idea of computer use in translation appeared almost simultaneously with computers themselves. With the development of technology and increasing needs to translate a large number of texts into multiple languages, new translation software and online translation tools come to fulfill some tasks of translation. While machine translation has been studied for over 65 years, recent studies focus on statistical machine translation (SMT) such as Google Translate and analyze translation pairs in different languages (Chen & Bao, 2009; Ghasemi & Hashemian 2016). A study conducted by Ghasemi and Hashemian (2016) uses Keshavarz's (1999) model of error analysis to examine the differences between the raw English-Persian translation and Persian-English translations from Google Translate. The authors believe that the errors revealed as a result of their analysis "may inform the developers and project managers to perceive the strength and

weaknesses of the Google Translate" (pp. 16-17). Another study by Chen and Bao (2009) examines Google Language Tools (GLT), specifically its cross-language search service. The authors describe the problem in the following way: "The "multilinguality" of Web content provides opportunities for users to directly access and use previously incomprehensible sources of Web information; however, Web users find it difficult to take advantage of these opportunities when the online information access systems are monolingual" (Introduction section, para. 1). The authors argue for further development of multilingual information access services for information systems that they find beneficial for different groups of users such as immigrants, patients, business owners, tourists, and others. While both studies (Ghasemi & Hashemian, 2016; Chen & Bao, 2009) analyze online translation tools, specifically Google Translate, Chen and Bao (2009) go beyond linguistic analysis of translated content and focus more on users, their experiences, and accessibility of information to diverse community groups. Studies on the quality of machine translation are important for improving performance of computerized language tools; however, this type of research must not lose the focus on web users. More studies such as Chen and Bao's (2009) are necessary to develop systems that will provide different groups of users with multiple language support tools and allow them to access information that could not be accessible before.

## 2.9 Translation, Power, and Social Justice

When technology is used in the design process, it is possible to focus on information products and overlook diverse audiences involved in the process. The inclusion of different groups and their interests in the process of translation has brought a new focus. Scholars in the field of technical communication point out that "the cultural turn in translation has become the power turn" and "our recognition of the power turn becomes essential in defining contemporary

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problems and processes in virtual networks" (Mousten et al., 2010, p. 410). Emphasizing the importance of social justice for technical communication, Walton and Jones (2013) write, "We believe that one of the major research questions that will drive the field of technical communication during the next 5-10 years is, "How can technical communication scholars navigate increasingly cross-cultural, cross-disciplinary, and cross-organizational contexts to support social justice through better communication?" (p. 31). Walton and Jones (2013) see communication as an integral part of social justice with change at its core: "communication (written, verbal, visual, and technological) is an inextricable part of social justice because change occurs through communication practices" (p. 33). The social justice turn in technical communication includes advocacy for under-resourced and marginalized groups and for transformation of social structures and practices that have permitted injustice to exist, have often made injustice invisible, or have even denied its existence.

Technical communication scholars approach this main direction of social justice in the field from different perspectives. For example, researchers advocate for human-centered design that supports human dignity and human rights (Ding & Savage, 2013; Walton 2016; Agboka, 2018), participatory localization (Agboka, 2013), participatory communication (Ding & Zhang, 2010), user-initiated research (Ding, 2007), and community-based research involving translation (Walton et al., 2015). In addition, Agboka (2014) argues that the field of technical communication needs to address social justice challenges by using decolonial approaches that help focus on "emerging issues of social justice, knowledge investigation and production, ideology, culture, and power … in international research sites, particularly in many post-colonial, unenfranchised/disenfranchised sites" (p. 298). His study reveals that the poor level of translation and localization in documentation accompanying sexuopharmaceuticals (medications and

products designed to improve or maintain sexual function) imported into post-colonial Ghana created usability and health problems (cardiac failures, hypertension, priapism, etc.) for users. Agboka (2014) explains, "Ghanaian users had problems reading and understanding the documentation, and therefore adapting the products for their purposes" (p. 305). As a result, "[p]roblems with lack of or poor translation, and, by extension, effective localization, put the health of users at risk" (p. 316). According to Agboka (2014), implementing decolonial approaches helps researchers study specific research context and understand political, economic, and ideological causes of systemic problems that occur at a research site. In his article, the scholar explains that such issues as the projection of cultural and ideological values of the British society due to the extensive British colonial rule, dependence on Europeans as "the makers of knowledge," and the high illiteracy rate in Ghana contributed to issues with translation and usability of sexuopharmaceutical products (p. 306). Similarly, Batova (2010) discusses writing for participants of international clinical trials and emphasizes that technical writers need to create participant-centered documents to achieve "their ethical task of protecting the interests of participants of clinical trials" (p. 269). According to Agboka (2013), there are a number of significant issues that are overlooked during localization due to the focused attention only to linguacultural factors. Among these important problems are "local knowledge systems, political issues, economic implications, and legal systems prevailing at users' sites during the localization process …" (p. 29). Agboka (2013) believes, "From a social justice perspective, localization can help us address important issues in design, information technology, communication, and usability that are perennial problems, especially in intercultural technical communication and discourse" (p. 29). In brief, while acknowledging the shift in technical communication to the focus on social justice approaches and inclusion, scholars agree that more research is necessary

to study complex issues related to power and ideology that impact engagement with users in particular contexts.

**2.10 Multilingual User Experience**

Due to a constant presence of power relations in the areas of communication, translation should emphasize inclusion and social justice approaches to reach and include diverse audiences in communication processes. Thus, it is important to look at the whole experience of translation, which is what user experience allows us to do through the analysis of the connection that translation as a process has with user experience (UX) and localization. According to a standard from the International Organization for Standardization on ergonomics of human-computer interaction (OSO 9241-210), user experience is "a person's perceptions and responses resulting from the use and/or anticipated use of a product, system or service" (as cited in Rose et al., 2017, Defining User Experience section). User experience is based on a deep understanding of users' needs and intentions in their encounters with products and services. It is seen as an interdisciplinary field that draws its insights from graphic design, psychology, anthropology, computer science, marketing, and other fields. UX has had an intertwined history with technical communication for more than a decade, as these two fields overlap, influence, and mutually complement each other (Redish & Barnum, 2011; Shalamova, 2016). Briefly outlining the history of usability, Redish and Barnum (2011) highlight the advancement from a primary focus on usability testing to a broader approach of user-centered design and finally to UX that focuses "even more broadly on the larger context of use" (p. 94). During this process, technical communication and UX have evolved sharing the three main principles of collaboration, communication, and change/adaptability.

Situated at the intersections of multilingualism, user-experience, and community engagement, Multilingual UX is a framework that is being developed to highlight the value of community-based, multilingual practices and discourses in the design and development of contemporary technologies (Shivers-McNair, Gonzales, & Zhyvotovska, 2019). The Multilingual UX framework allows us to avoid deficit-based models of community engagement that leverage and colonize community knowledge, by repressing and delegitimizing it, for market profit. Instead, the Multilingual UX framework seeks to embrace the multivocality of and possibilities for mutual support in co-designing technologies and co-constructing knowledge with community partners (Grabill, 2013; Rose et al., 2017; Shivers-McNair & San Diego, 2017; Walton, Zraly, & Mugengana, 2015). Multilingual UX focuses on building reciprocal, ongoing collaborations with linguistically and ethnically diverse communities, blurring the boundaries between the roles and definitions of "researchers," "designers," and "users" to develop tools and technologies inherently driven by and for community goals and objectives.

Besides user experience, translation is also closely connected to localization. Both translation and localization are considered "approaches to creating high-quality multilingual technical information products" (Batova, 2014, p. 328) and can be viewed as components of Multilingual UX. In current scholarship, technical communication scholars discuss definitions of translation and localization and identify differences, similarities, and intersections of these two concepts (Redish & Barnum, 2011; Shalamova, 2016; Batova, 2014; Batova, 2015; Batova and Clark, 2015). Batova and Clark (2015) define *translation* as "the interlingual transfer of content without significantly reworking the rhetorical approach of that content for the cultural specifics of the target audiences" (as cited in Batova, 2014, p. 328). As for localization, Batova and Clark (2015) refer to such practices using the term *adaptation*: "… localizing means adapting texts to

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meet the rhetorical expectations of different cultures" (p. 223). Moreover, according to the survey conducted with the participants who represented different industries involved in design and creation process of a wide variety of information products, adaptation needs to be promoted as a user-centered approach to multilingual quality (Batova, 2015). The results of the survey revealed that "[t]op categories of complaints included text inappropriate for a specific region, language style and fluency, unnatural sounding text, no "tuning" to local users, confusing text, low findability, technical inaccuracy, problems with terminology, mismatched text and interface items, and inconsistency" (User Satisfaction with Multilingual Quality section, para. 1). Thus, investing more time and making a more intense focus on adaptation in the identified categories can improve multilingual quality practices and reduce user complaints. In addition, Hoft (1995) defines *localization* as "the process of creating or adapting an information product for use in a specific target country or specific target market" (as cited in Sun, 2006, p. 458). The term *modification* is also used in the reference to localization. Using Gribbons' (1997) definition, Sun (2001) writes, "In the field of technical communication, localization is the act of modifying an information product to make it usable and accommodate the target markets" (p. 95). The fact that a variety of terms are used to refer and define *localization* can support Batova's (2014) position about "a need for another term to describe adaptation and cultural customization of information products in other industries" as opposed to its main association as related to software (p. 329).

In addition to the conversation about definition, scholars discuss the content of localization. While the majority of researchers emphasize linguistic and cultural factors involved in localization (Batova & Clark, 2015; Schaler, 2010 as cited in Jyothirmai, 2015, p. 35), Agboka (2013) argues that "[a]n effective approach to localization needs to understand ideology, power, economics, knowledge, law, and ethics all as dimensions of a locale, not separate from it" (p.

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29). Thus, these scholars agree that localization cannot be separated from contexts and situatedness; specific contexts shape localization through ideological, economic, and legal issues.

Localization goes hand in hand with user experience (UX). Some scholars argue that the quality of localization influences experiences of users (Ferreira, 2017; Agboka, 2013; Nielsen, 2011). Specifically, Ferreira (2017) believes, "The most refined and sophisticated UX can be wrecked by careless localization …" (p. 10). Moreover, he emphasizes the importance of internationalization, which he sees as "a key to a consistent UX in a multilingual product" (p. 10). According to Ferreira (2012), "Internationalization defines the set of processes and techniques that are implicated in making a product capable of adaptation to different cultures. This is where UX implementation is at its trickiest" (p. 10). In his international testing, Nielsen (2011) considers the big picture of international user experience. He uses the term *international usability* that refers to "the effectiveness of user interfaces when used in *any other country* than the one in which they were designed" (para. 2). The study findings suggest that the main usability guidelines remain the same while there are differences in language style, design, and credibility. In addition, the author emphasizes that localization is usually done for "important countries like Australia and China" leaving out plenty of small countries (Should You Have a Local Site section, para. 2). While localization is expensive for even the largest companies, leaving small countries without localized content should be addressed seriously since all communities (big or small) are important and should be treated with accessibility in mind. Localization requires comprehensive and just approaches to produce meaningful content experiences for audiences in different geographical places. This study also reveals contrasting answers in relation to judging credibility. Arab users found international sites more credible that Arabic ones. To the contrary, Australian users strongly preferred local sites to foreign sites since

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foreign sites were not as relevant to their needs, for example, in the usage of measurement units and locally offered products. As the analyzed studies illustrate, localization, including its content and quality, is closely connected with the experience of users.

Although many researchers and practitioners have pointed to the need to make technologies accessible in languages other than English, Multilingual UX goes beyond language-only concerns prompted by capitalist models for designing technologies—models that present linguistic diversity as a design "challenge" to be fixed or overcome or as a feature that should be leveraged to sell products or services (Shivers-McNair, Gonzales, & Zhyvotovska, 2019, p. 44). Instead, Multilingual UX focuses on how technologies can be developed with and for culturally and linguistically diverse communities (Herrera, 2015) in local contexts (Agboka, 2013), resulting in the design and dissemination of multilingual technologies that incorporate the expertise and goals of community members, professionals, and local users. As Haas (2012) cautioned, "Even in the most progressive spaces and places, the colonial rhetorical detritus of racism and ethnocentrism remains, and if these worldviews and rhetorics go unchallenged, they will continue to influence who and what we think of when we consider issues of race and technological literacy and expertise" (p. 287). Thus, in comparison with traditional concepts and applications of UX, the Multilingual UX framework embraces multivocality and inclusion of diverse communities in technology design processes emphasizing collaboration, humanness, and needs of multilingual users through effective translation and localization of multilingual content.

**2.11 User-Experience Research Centers**

A lot of work involving UX, translation, and initiatives for and with the communities happens in UX research centers, spaces with assistance and support systems for emerging technologies, product design, and usability testing. Due to advances in computing technologies

and expansion of the field of user experience, more and more research centers focus on areas of human-computer interaction and a person's perception of product systems. As part of this study, I conducted the analysis of existing UX research centers and their foci. The analysis reveals that user experience centers conduct research in evaluating websites, systems, and online learning objects (the User Research Center at Harvard Library), usability testing (Bentley University User Experience Center), health care system and technology (Usability/ Accessibility Research and Consulting at Michigan State University). They also provide services in design and information architecture, testing and optimizing mobile devices, software, applications while participating in a variety of projects including eye tracking and biometrics, visual impairments, elections and voting system design, 3D experiences, and many others. The majority of such centers work as university units (University of Tennessee, Knoxville; University of Baltimore; University of Miami) and are based or closely connected to the colleges of engineering or departments of psychology and communication. Another group of research centers includes user experience while focusing on the emerging technologies in humanities and digital writing (Writing, Information, and Digital Experience (WIDE) at Michigan State University; Digital Writing and Research Lab at the University of Texas at Austin). Other centers emphasize their services to diverse community cultures. Among such centers, are The Hispanic Center of Western Michigan and the first U.S. Digital Humanities Center for Latino/a Studies at the University of Houston. Thus, UX research centers are initiated and created for a number of purposes and through different frameworks and orientations to provide services to various groups of clients across the U.S.

In addition, the analysis of existing UX research centers and their foci reveals the need in more attention to centering multilingual users and understanding how UX research can inform

and be shaped by linguistic and cultural diversity through technologies and information products including translated content. Moreover, due to the importance of translation for the UX and multilingual quality of information products, scholars highlight the need for research in translation and localization (Sun, 2001; Salazar and Bergstrom, 2014; Batova and Clark, 2015). Specifically, Batova and Clark (2015) point out that "the best practices are needed for creating culture-specific information models that stem from collaborative research on culture, translation and localization, global audience analysis, and content strategy between academics and practitioners in technical communication and technical translation" (p. 225). Addressing specifically website localization, Sun (2001) emphasizes the need for more work to be done "to reach workable heuristics for website localization" (p. 101). She refers to "[r]hetorical explorations of full-encompassing heuristics for website localization" as one of the important research directions to expand the understanding of dimensions of website localization (p. 101). In their study of healthcare websites, Salazar and Bergstrom (2014) identify the need to go further than translation and see the effects of a lack of localization: "Not reflecting cultural values, health beliefs, and linguistic practices in healthcare websites for Spanish-speaking audiences demonstrates the need to move beyond translation alone" (Cross-Cultural Research Process section). Bridging translation and localization can be achieved through future studies that can "develop best practices that work across technical communication and translation–localization" (Batova & Clark, 2015, p. 231). It can be done by studying "how the best organizations do their work and how organizations struggling with global CM can improve their practices while working within their means," attempting to achieve the goal of "producing high-quality information products for global audiences" (p. 231). In brief, while scholars refer to

different aspects that need more research, they agree on the lack of scholarship in relation to localization and translation.

In general, scholars in the field of technical communication emphasize the lack of theorization of translation work. In their article, Gonzales and Zantjer (2015) argue that "translation work, much like early technical communication, is an under-theorized and under-rated intellectual practice within the field of technical communication – one that deserves more careful scrutiny by the technical communication community" (p. 282). Thus, scholars identify the existing gap both in translation theory and practices and call for more research on translation as intellectual work and inclusion of multilingual users in translation processes.

As seen from the analyzed scholarship, while there has been extensive research addressing translation in technical communication and usability practices, considerably less attention has been paid to the role of translation in user experience, specifically in multilingual UX. Since UX research centers are the spaces where UX studies take place and where different contexts intersect, I chose the Multilingual UX Consortium as a site for examining multilingual UX, its practices, and the role of translation within it. At the time of this study, my current institution was developing this center. While the idea of a user experience center as a research lab, in all its different manifestations, was not new, the developing Multilingual User-Experience Research Center at UTEP (https://www.utep.edu/liberalarts/translationux/) brought a distinctive approach to it: it was a non-profit, interdisciplinary, community and university-driven resource that supported local community organizations and student development through services, research projects, and collaboration. Designed as a partnership among community organizations, academic researchers, and technology industry professionals, the Multilingual User-Experience Research Center was envisioned as the place where social-justice oriented organizations could

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seek help in creating and disseminating their bi- or multilingual content (e.g., websites, web applications, information tools) aiming to meet the needs and highlight the assets of linguistically diverse users. The Multilingual User-Experience Research Center was intended to be the first user-experience research organization that placed multilingual content at the center. As a research assistant for and collaborator with this project, I decided to trace the development process for this center in order to learn about how initiatives like this one can be built to support and sustain multilingual user experience research. We started the center at UTEP but later had to adapt due to various circumstances, and as a result of this, the Multilingual UX Center evolved into the Multilingual UX Consortium, not affiliated with any specific institution or organization and not maintained in one space or geographical location. Multilingual UX (https://multilingualux.org/) is "a consortium of technology designers, researchers, organizations, and students committed to meeting the goals and needs of linguistically diverse users in a wide range of contexts" (Home section). Although these changes occurred since I collected my data, this dissertation provides a model for how the framework of Multilingual UX was developed and how it can continue to be applied even beyond a single center. Moreover, the research I did was not just about one center but about the people (scholars, UX researchers, translation practitioners, community organization leaders, and students) who came together to develop Multilingual UX.

Based on existing scholarship in translation and usability studies in technical communication, this dissertation undertakes empirical research (qualitative and usability study) to contribute to an understanding of the nature of multilingual UX through the examination of role and place of translation in UX and in technical communication in general. This research in the area of technical communication, translation, and user experience intersection is valuable,

first, in terms of identifying how a multilingual UX center navigates diverse contexts through translation as communication practice. These strategies can be used by other UX centers to diversify their existing practices and promote inclusion of diverse groups of users and audiences of technical technologies and documents. In addition, this study, grounded in data from the participants, explains the interaction between translation and UX. The findings of the usability study with multilingual users contribute to the definition of multilingual UX and understanding its nature. Based on the study findings, considerations for UX researchers have been developed to guide their work when designing information products for and with multilingual communities.

# Chapter 3

## Research Methodology

### 3.1 Introduction

In Chapter 2, I provided an overview of conversations related to technical communication, translation, and user experience. I did so by examining current scholarship in these areas. I also described the implications of my study of multilingual user experience in the context of existing scholarly literature. In this chapter, I present the study methodology that includes research questions, purpose and method for each part of the study, research design, and outline of data analysis. Aiming at examining the role of translation in UX, specifically in multilingual UX, this study methodology undertakes empirical research in two categories (qualitative and usability testing) to contribute to understanding of nature of multilingual UX.

### 3.2 Research Questions

In order to explore translation practices in relation to UX and to further understand multilingual UX, it is important to examine how multilingual users work with translated content, how they act and react to it, and what they experience during this process. Focusing on the intersections of technical communication, user experience, and translation, this study focuses on the contexts of a UX research center as a site where these intersections occur and also on practices of multilingual users while encountering translated information.

To understand the role of translation in multilingual user experience, this study asks the following questions:

- How does a multilingual UX research center help navigate multilingual, cross-organizational, cross-disciplinary, and cross-cultural contexts, through translation as

communication practice? What role does social justice play in these navigational

decisions?

- How does translation play out in a multilingual UX scenario? How is it similar to or

  different from localization and internationalization?

- What is multilingual user experience? How can a multilingual UX center and its research

  contribute to translation and UX theory and practice?

Based on existing scholarship in translation and usability studies in technical

communication, this dissertation undertakes empirical research (qualitative and usability study)

to expand the definition of multilingual UX and explain understanding of role and place of

translation in UX and in technical communication in general. To answer the research questions,

this dissertation employs qualitative and usability study approaches with the ultimate objective of

theory building and also making practical suggestions for UX researchers and designers of

information products with multilingual content. To answer the first question, I identify the

contexts a UX research center functions in and examine how it navigates these contexts. I do this

by studying the development of a research center previously housed at my University, the

Multilingual User-Experience Research Center, and by interviewing its affiliated researchers. At

the time of the study, I was a research assistant and a collaborator of the project focusing on

building this research center. I decided to trace the development process for this center to learn

how similar initiatives can be implemented to support multilingual users. Started as the

Multilingual UX Center, this research center evolved into the Multilingual UX Consortium. Like

many research centers housed within Universities, the Multilingual UX Research Center evolved

during the course of this study, and it is no longer an established research center at my

University. However, because the affiliated researchers of this center still collaborate and

conduct research on Multilingual UX, tracing the development of this initiative can help me better understand how contemporary researchers and practitioners are connecting conversations across technical communication, translation, and UX.  Next, to answer the second question, I conducted usability studies of a higher educational institution website that has translated content. Working with multilingual participants, I traced how users navigated content in translation throughout their user journeys. Finally, the third research question was answered based on the data and analysis from the studies conducted to answer research questions one and two. Thus, using and threading together the findings from both qualitative and usability studies, I define what multilingual UX is and describe the contributions of a UX center to translation and UX theory and practice.

**3.3 Theoretical Framework**

My theoretical framework, conceptualized as a main theoretical lens behind the research approach, for this project includes scholarship in technical communication, rhetoric, and translation studies:

1.  Community-based approaches in technical communication: social justice in technical communication (Jones, Moore, & Walton, 2016) and community-based user experience (Rose, Racadio, Wong, Nguyen, & Kim, 2017);

2.  Translation theory in technical and professional communication: "translations spaces" (Bloom-Pojar, 2018; Gonzales & Bloom-Pojar, 2018) and "translation moments" (Gonzales, 2018; Gonzales & Bloom-Pojar, 2018);

3.  Practical empathy approach with a focus on understanding users' thinking and perspectives (Young, 2015).

Together, these important theories address and highlight the connections between technical communication, UX, and translation in various settings. They provide frameworks for studying user experience with technical information products in ways that are rhetorically situated in and across communities, languages, and cultures.

First, the importance and relevance of social justice issues to technical and professional communication has been growing since "many aspects of human rights and social justice, including issues of gender, race, age, disability, nationality, sexuality, and class, etc. are increasingly being explored in the technical communication literature and in many facets of curriculum design" (Agboka, 2018, p. 117). To support social justice directions in the field, technical communication scholars have developed community-based approaches to conduct research and address social justice issues in design, information technology, and usability. Community-based approaches are collaborative, interdisciplinary, and inclusive in nature. It is essential to use community-based approaches in technical communication as theoretical frameworks to analyze the data collected in the study on the Multilingual UX Consortium. I examined the role social justice plays in the various contexts the Multilingual UX Consortium navigates. In my data analysis, I also looked for the themes of power, privilege, and positionality, which are the key concepts in a social justice stance in technical communication. Jones, Moore, and Walton (2016) argue for the core narrative of the field of technical and professional communication that embraces social justice and inclusivity (p. 211). This heuristic is based on macrolevel concepts of the 3Ps: positionality, privilege, and power. Jones, Moore, and Walton (2016) explain, "The 3Ps inarguably affect and coconstruct the ways in which people engage with identity markers such as race, ethnicity, gender, sexuality, ableness, religion, and class" (p. 220). Analyzing the themes of positionality, privilege, and power in my data analysis allowed me

to examine how certain groups are overlooked and disempowered in relation to UX and translation work. This analysis contributes to user advocacy thread in technical communication that shifts power towards vulnerable audiences by "creating space for marginalized users' expertise to be recognized as legitimate" (Jones et al., 2016, p. 218). While recognizing that social justice can be defined in a number of ways by different scholars, I find it necessary to describe what social justice means to me. I understand social justice as based on inclusion and listening to voices of communities that are overlooked and marginalized in different contexts. While acknowledgement of these issues, as the first step, is vital, I believe it is more important to create spaces where these communities participate in work and activities to amplify their agency and to promote more just and equitable social practices for all members of the society. Effective multilingual UX design can contribute to social justice practices by creating products with multilingual content in languages users speak and by addressing the needs of linguistically diverse users during the processes of product development and testing. The practices can help deconstruct the existing barriers of exclusion in product design and nature of usability testing.

As technical communicators have become increasingly concerned with the agency of people involved and affected in power relations in technical and professional contexts, Walton (2016) emphasizes human dignity and human rights as "the first principle of communication and the foundational concern" of technical and professional communication (TPC): "not the only principle informing TPC; not always the most prominent; and certainly not enacted in the same way across organizations, communities, and cultures – but the most fundamental" (p. 411). Moreover, Walton (2016) argues, "A discipline that, as its first principle, ascribes to respecting the intrinsic worth of all people is a discipline well-positioned to make a social justice turn, shifting from critical analysis to critical action" (p. 411). Thus, social justice as an overarching

principle of technical communication guides the discipline and its studies, including community-based user experience. The community-based user experience study by Rose et al. (2017) on the evaluation of the usability of health insurance information with immigrant patients provides important implications that can guide similar community-based UX projects. First, community-based UX collaborations have the ability "to leverage and therefore amplify multiple types of expertise," including their domains and extensive knowledge of their audiences or target users; second, UX methods and practices need to be adapted to be appropriate for community-based collaborations with the particular setting and audience; third, while the usability study does not provide the full experience of users, it pinpoints some specific areas to improve through iterative design, which "is central to UX practice and acknowledges that a feedback loop and multiple drafts are required to create a successful design" (Rose et al., 2017, pp. 30-34).

As a researcher, I align with the social justice turn in technical communication, and I position social justice inquiry and action as integral to practicing and teaching technical communication. My understanding of a social justice approach has been informed by the work of social justice scholars in technical communication such as Jones, Moore, and Walton (2016); Walton, Moore and Jones (2019); Hopton and Walton (2019); Haas and Eble (2018); Agboka (2013; 2018); and Rose, Racadio, Wong, Nguyen, and Kim (2017) among others. In my research, I bring social justice into the conversation by analyzing the role it plays in the navigation of diverse contexts in a multilingual UX research center. I also examine the role translation plays in multilingual UX with the objective of understanding connections between technology design, UX, and translation to better serve multilingual communities and support diverse practices for underrepresented and underserved populations. Implementing just access

and inclusive strategies in practicing technical communication contributes to more equitable and more effective technology design and use.

The second overarching theoretical lens for this study is contemporary translation theory that sees translation as a complex, dynamic, negotiating process with two important theoretical frameworks: translation spaces (Bloom-Pojar, 2018; Gonzales & Bloom-Pojar, 2018) and translation moments (Gonzales, 2018; Gonzales & Bloom-Pojar, 2018). These frameworks helped me view translation as an interaction among the groups involved (website translators and users) in the space where communication is negotiated across languages, modes, and discourses. Looking for what are known as translation spaces and translation moments in technical and professional communication, in my data analysis of the users' experiences with the website of V.N. Karazin Kharkiv National University in Ukraine, I focused on potential usability issues that participants encounter in relation to the translated content with linguistic, visual, and cultural aspects.

A translation space is defined as "any space that requires some type of translation work across different forms of meaning making through modes, languages, and discourses" (Bloom-Pojar, 2018, p. 25). The translation-space framework helps to see translation as the integration of textual spaces and considers all the texts and conversations involved in the translation process, since "written and spoken discourses are mediated and texts are transformed through conversation" (Gonzales & Bloom-Pojar, 2018, p. 198). Thus, the concept of translation spaces provides the analytic lens to look at translation as the dynamic interaction among all the participants in this space (translator/interpreter, client, etc.) to negotiate communication across modes, forms, languages/ dialects, and discourses. The concept of translation moments refers to a decision-making point during the translation – a "pause in translation" (Gonzales, 2017). In the

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book *Sites of Translation: What Multilinguals Can Teach Us about Digital Writing and Rhetoric,* Gonzales (2018) defines translation moments as "instances of rhetorical negotiation that can take place at different points throughout the translation process, as translators pause to decide which word to use for a particular audience, which sentence phrasing would be most effective in a particular context, and how to best convey a specific idea in a particular language" (p. 23). The translation-moment framework takes into account the variety of sources used for translation (translators'/interpreters' lived experiences, cultural knowledge, etc.) while translations of specific words and phrases are considered constantly shifting due to language fluidity and the objective of the multilingual communicators to rhetorically contextualize language and "accurately transform information across languages for a specific audience and at a specific moment in time" (Gonzales & Bloom-Pojar, 2018, p. 198).

The third overarching theoretical lens for this study is a practical empathy approach that sees empathy as a mindset with focus on people and purpose to understand their thinking and perspectives (Young, 2015). Gathering, comparing, and analyzing these patterns allows designers to make better decisions about their services and products. This approach helped me view a usability session as a space where a multilingual user produces reactions, formulates reasoning, and takes actions while using a website with multilingual content. Using this framework to analyze the data collected in the study on the Multilingual UX Consortium, I looked for the theme of empathy in relation to users. In the website usability study with multilingual users, this framework helped me focus on users' reasoning, reactions, and actions.

Empathy is defined as "an understanding you develop about another person" (Young, 2015, p. 18). Emphasizing the difference between traditional concept of empathy as "walking in someone else's shoes," Young (2015) explains: "Empathy is built through the willingness to take

time to discover the deep-down thoughts and reactions that make another person tick. It is purposely setting out to comprehend another person's cognitive and emotional states. Empathy then gives you the ability to try on that person's perspective – to think and react as she might in a given scenario" (p. 18). As a communication and design consultant, Young (2015) strongly believes in developing empathy when it comes to a workplace and product design. In her opinion, making business decisions "based on expectations about how others are reasoning, not based on knowledge" about that reasoning can lead to business and design failures (p. 19). The author supports her claim with examples of wasted budgets and missed opportunities in cases with products such as Blackberry, Windows 8, Netflix DVDs and streaming.

While the traditional definition of empathy focuses more on sharing the feelings of warmth and kindness towards people, empathy in Young's (2015) understanding is listening. Listening plays an important role in developing empathy. It would be impossible to understand one's thinking patterns and perspectives without listening intently. Young (2015) recommends listening for three components: reasoning (inner thinking), reactions, and guiding principles (beliefs that a person "uses to decide what action to take, what to choose, how to act, etc.") (p. 56). All three of these components are essential for recognizing and learning about users' thinking patterns during a usability session.

The theoretical framework described above provided the lens through which I analyzed the study findings to answer the research questions. The theoretical framework of the study comprises the theories that embrace social justice and inclusivity as part of the core narrative of the field of technical communication. This inclusivity applies to all diverse communities including multilingual users that work and navigate languages and cultures through translation practices. In relation to data analysis, the theoretical framework allowed me to do the following:

- identify and analyze the themes that included elements from theories and scholarship in technical communication, rhetoric, and translation studies;

- identify and examine translation moments during the usability study;

- observe, describe, and understand a usability session as a translation space;

- recognize a usability session as an inclusive space with empathy and listening as essential and vital strategies.

Thus, the theoretical framework served as a foundation for my research, allowed me to determine aspects to focus on, and guided my data analysis.

## 3.4 Methods

<u>3.4.1 Research Question 1</u>:

- How does a multilingual UX research center help navigate multilingual, cross-organizational, cross-disciplinary, and cross-cultural contexts, through translation as communication practice? What role does social justice play in these navigational decisions?

In order to identify the contexts and examine how a UX research center navigates them, I used an ethnographic approach. Harris (1968) defines ethnography as "a qualitative design in which the researcher describes and interprets the shared and learned patterns of values, behaviors, beliefs, and language of a culture-sharing group" (as cited in Creswell, 2013, p. 90). In this study, under culture I mean the culture of the UX research center setting where researchers, practitioners, and community partners share common goals of the research, values of the user-centered design, and language/s they use to communicate their ideas. An ethnographic approach was apt for addressing my first research question, because it employs methods that allowed me to study and interpret views on UX in the research center setting. By first

understanding how a UX research center works and navigates different contexts, I was able to then analyze the role of translation as a communication practice within this space.

The study was conducted with the affiliated researchers of the Multilingual UX Consortium. Seven affiliated researchers of the consortium enrolled in this study at UTEP and other universities where these participants were working at the time of the study. The involvement consisted of about 20-30 minutes to answer the interview questions through e-mail or phone/Skype interviews. The questions focused on participants' views of the intersections between the areas of translation, user experience, and technology design in theory, their work, and research. For example, some of the main interview questions were the following: "How do you situate your work in relation to the areas of translation, user experience, and technology design? a) Do you situate your work in user-experience research? If so, how do you think issues of language and culture influence user-experience research? b) Do you have experience with translation in your work? If so, do you think translation work fits into user-experience research? How so (or why not)?" The complete list of the interview questions is provided in Appendix A.

The data was collected through the following methods: rhetorical analysis (based on the examination of a rhetorical situation as defined by Bitzer, 1968) of the Multilingual UX Consortium materials, artifacts, event reports, observations, social media platforms (Twitter, Facebook, Storyfi), and interviews with the consortium's affiliated researchers.

The analysis included the examination of the strategies used by the Multilingual UX consortium to navigate the different contexts it operates in. Being contingent on the research question, participants, and data collection, I described these strategies focusing on translation as communication practice. Following Creswell's (2013) framework for qualitative data analysis, I focused on its three core elements:

- coding data (reducing the data into meaningful segments and assigning names for the segments);

- combining the codes into broader categories or themes;

- displaying and making comparisons in the data graphs, tables, and charts (p. 180).

The coding was based on both pre-set and emerging themes. Pre-set themes included elements from the theoretical framework for this study: social justice orientation in technical communication including themes of power, privilege, and positionality; community-based user experience; translation spaces and translation moments; and empathy as an approach to understand users' thinking and perspectives. Coding allowed me to retrieve and organize the data according to patterns or categories. The following figure illustrates a fragment of the analysis of data segments in the theme of community-based UX. The inductive analysis begins with the data consisting of multiple segments of information and then broadens to several specific categories: UX types in relation to community, community types involved in UX, and role of community-based UX.
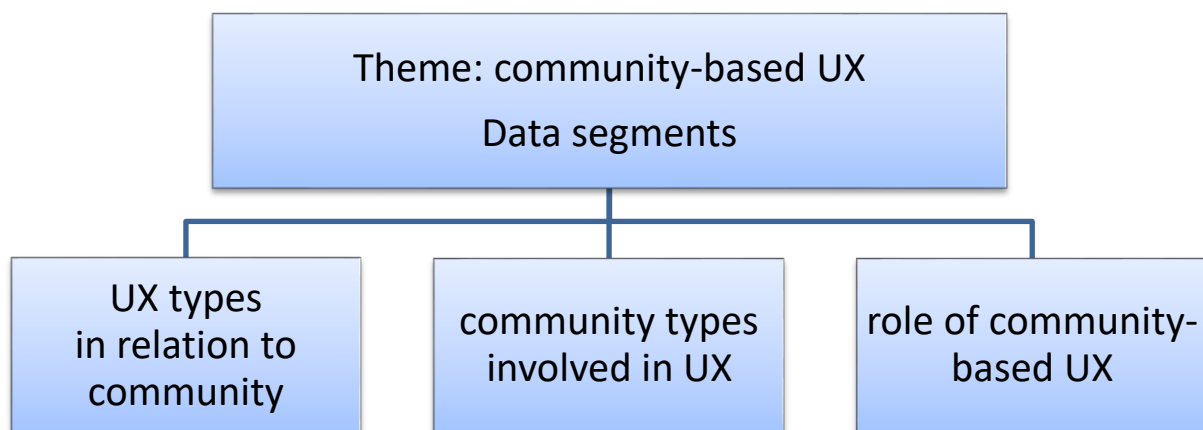
Figure 3.1: Layers of Analysis in the Theme of Community-Based UX

Figure 3.1 visualizes the process of data analysis with one specific theme of community-based UX. The upper box represents the collection of all data segments in this specific theme

found in the interviews with UX researchers. The bottom part of the diagram with three boxes refers to three categories that I identified in relation to the main theme. In other words, in their interviews, UX researchers identified different UX types and various community types involved in UX; they also emphasized the role that community-based UX plays. Thus, Figure 3.1 illustrates the scheme of data interpretation through formation of categories from data segments identified in the study participants' interviews in relation to the main theme.

3.4.2 Research Question 2:

- How does translation play out in a multilingual UX scenario? How is it similar to or different from localization and internationalization?

The goal of this question was to help me understand how translation functions in multilingual UX. This question was answered through a usability testing project conducted in the Consortium UTEP-designated office space. Usability testing is defined as the "process of learning from users about a product's usability by observing them using the product" (Barnum, 2002, p. 9). This method allowed me to create the environment in which participants got engaged with the translated content of the website, to observe participants' performance, and to collect data that revealed potential usability issues that occurred during the process of using translated content.

In this study, the tested product was the translated version of a university/higher educational institution website in Ukraine. I chose the website of V.N. Karazin Kharkiv National University in Ukraine (http://www.univer.kharkov.ua/) that has three language versions in Ukrainian, Russian, and English so I could observe multilingual users work with different language versions of the website during usability sessions. Also, I chose this website because of my knowledge of all three languages that are used by the institution to deliver information

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through the website to its viewers. I was able to analyze the website content in these three versions, to conduct usability sessions with the participants, to identify and examine translation moments that occurred during the process of using translated content by the participants. All of this made this website a good product to analyze for this study.

The purpose of the website V.N. Karazin Kharkiv National University is to inform its viewers about the university's work, structure, research, and enrollment procedures. The target users are current and prospective students, faculty, and research partners. The original version of the website is translated into English to reach worldwide audience. This product provided the opportunity to examine how translation functions in multilingual UX including the elements of localization/internationalization. In addition, Kharkiv National University is a school that values international collaborations and welcomes foreign students. Thus, study participants' involvement in this website usability study serves as valuable experiences of the website external audience in the roles of prospective international students.

In order to test the web usability, I recruited eight participants based on their fulfillment of three criteria. First, participants had to be multilingual with English as one of their languages to be able to use an English-language website. Second, they had to qualify as potential users of a foreign university website who are familiar with higher education. Third, they had to currently reside in the El Paso area to participate in the UX testing and interview. Participants were contacted via e-mail and invited to participate in the study and interviews with subsequent participants recruited through snowball sampling. Snowball sampling is defined as a sampling technique in which existing study participants recommend future subjects who qualify and who are available to participate in a research study from among their acquaintances (Koerber & McMichael, 2008). Snowball sampling was an appropriate method in this study because it

provided an opportunity to identify participants who were similar to the initially recruited ones and who qualified to participate.

For this study, I developed what are known in the field of UX as scenarios. Scenarios are descriptions of the typical tasks given to the participants to perform (Barnum, 2002, p. 199). In other words, scenarios are short stories that provide some context to users about their roles and activities that they are asked to conduct. I chose scenarios as a tool for usability evaluation due to their main purpose. Scenarios are a way "to bring … users to life during product development" (Baxter, Courage, & Caine, 2015, p. 46). In addition, I chose scenarios because the use of this technique was connected to the theoretical framework I used as a main lens for my research and allowed me to answer the research questions of this study. For example, during the usability session, the participants were working on different tasks, some of which were more challenging than others due to inconsistency in accessing translated content on the website or due to the lack of information that the participants were searching for to complete the scenario tasks. Organizing sessions this way, I was able to observe the participants' reactions, varied from negative and neutral to positive, and to apply a listening strategy for empathy during multilingual UX. Also, the use of scenarios gave me an opportunity to observe and capture translation moments when the participants were using translated content to find information and/or answer the questions in the tasks. Finally, through completing scenarios, each study participant was able to reveal a particular persona while using the website and looking for necessary information. The participants' comments, questions, reactions, and behavior allowed me to notice instances of power relations, to acknowledge and recognize power, privilege, and positionality in relation to design, information technology, and usability.

In this study, scenarios included tasks related to the search and comprehension of the university general information, enrollment, international student requirements, and the institution's research collaborations. For example, Task 1 asked participants to get the information about the university and its programs. The scenario that accompanied the task included the description of a user's role and guidance with task activities: "You are a UTEP student interested in continuing your education in Eastern Europe. You heard about Kharkiv National University in Ukraine from one of your professors. You want to research this opportunity online. You think it is important to get as much information as possible about the school and its graduate programs in preparation to discuss this opportunity with your professor." The complete list of tasks and scenarios are included in Appendix B1.

The usability sessions were conducted in the Consortium UTEP-designated office space on the UTEP campus and recorded on video. Each session lasted approximately one hour. First, the participants followed the scenarios and performed the tasks while thinking aloud; second, the participants participated in post-task interview. The interview included two parts: the questions about the linguistic and professional backgrounds of the participants (e.g., "What is your home country, and what is your first/second/third language?") and the questions about the web usability experience (e.g., "In general, how well did this website work for you? Were you able to achieve the objectives presented in the scenarios?"). The complete list of post-task interview questions is provided in Appendix B2.

Data analysis included the examination of the themes emerging from the study to learn how the website was serving users and their needs through its translated content (linguistic, visual, and cultural) as well as the pre-set themes including the elements from the theoretical

framework for this study (translation spaces, translation moments, social justice orientation, and practical empathy approach with a focus on understanding users' thinking and perspectives).

Applying a coding method, I retrieved and organized data segments into categories. The following figure illustrates a fragment of data analysis in the theme of empathy, specifically its component – reactions. Young (2015) defines a reaction as "a response to a situation or stimulus" (p. 55). In this case, I analyzed data segments that described participants' reactions to the website translated content during the usability session. As a result of the analysis, I identified broader categories of reactions: reactions to positive UX experiences (e.g., excitement, contentment, curiosity); reactions to challenging UX experiences (e.g., confusion, anxiety, disappointment); and neutral responses.
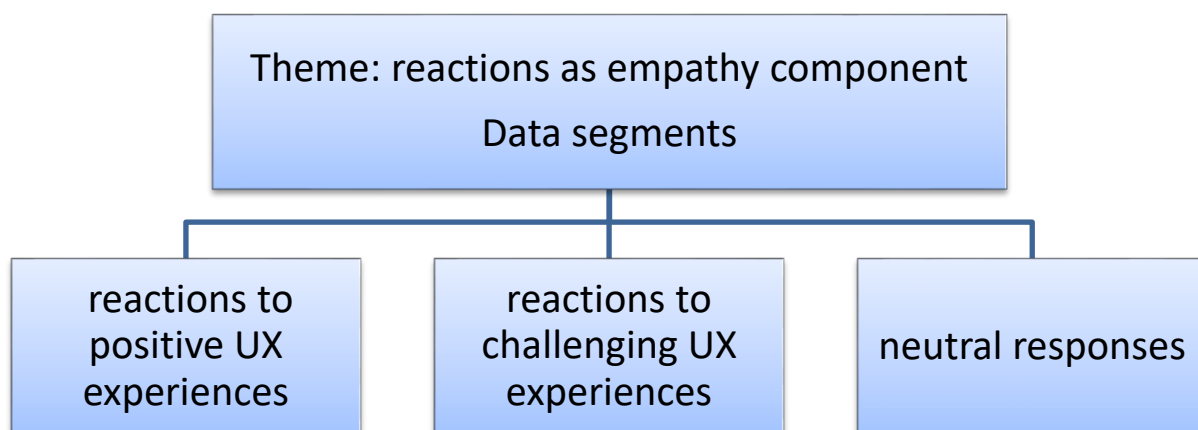


Figure 3.2: Layers of Analysis in the Theme of Reactions as Empathy Component

Figure 3.2 illustrates the analysis of data segments in the theme of reactions. The upper box represents the set of all data segments in this theme identified in the usability sessions and post-task interviews with multilingual users. The three boxes at the bottom of the table refer to broader categories of reactions that I formed from the data segments based on the type of users' reactions to their UX experiences. Thus, by identifying the reactions and analyzing their types, I

was able to organize specific segments into broader categories to interpret the larger meaning of the data.

<u>3.4.3 Research Question 3</u>:

- What is multilingual user experience? How can a multilingual UX center and its research contribute to translation and UX theory and practice?

This research question was answered through my data collection and analysis both for the qualitative research and usability study. Through this research, grounded in data from both groups of the participants, the interaction between translation and UX was conceptualized based on the guiding principles of the theoretical framework. Findings of the usability study with multilingual users contributed to the definition of multilingual UX and understanding its nature. Based on the study findings, I developed considerations for designers and UX researchers to guide their work when designing/testing information products for and with multilingual communities.

**3.5 Study Limitations**

One of the limitations of this study was the small number of participants (8) in usability study. However, this limitation does not affect the findings since the best practices in the usability literature state that five users can find 80-85% of usability problems (Nielsen, 2000; Rose, 2017, p. 14). Another limitation was that the study focused on English-only source (website for English-speaking audience) within a topic that included multilingual communication. While some non-English sources are available, they would provide little help to the participants with a broad range of first languages; thus, English translation of the website was chosen as a language that all the study participants speak. Future studies can take these

limitations into account while examining user experience practices in different languages and settings.

**3.6 Study Implications**

Drawing from my analysis of the role of translation in multilingual UX, I outline the potential impact of the study and implications as the following:

Strategies used by the Multilingual UX Consortium can be applied to develop ideas about organizing new UX centers by the institutions and community organizations. These strategies can also be used by existing UX centers to diversify their practices and promote community-based approaches in their work and inclusion of diverse groups of users, including multilingual communities.

From a theoretical point of view, the findings of the study contribute to the definition of multilingual UX and understanding its complex nature. Considering practical applications of the study, this research provides data and analysis of actual experiences of multilingual users with information products involving translation components during the usability sessions. Since effective products cannot be created without users in mind, experiences of multilingual users should be taken into consideration when designing information products for multilingual audiences. As a result, I formulate these ideas as a list of suggestions for designers and UX researchers working on products for linguistically and culturally diverse audiences.

In the next chapter, I answer research question 1 on how a multilingual UX research center navigates multilingual, cross-organizational, cross-disciplinary, and cross-cultural contexts, through translation as communication practice and what role social justice plays in these navigational decisions. I do so by describing the coding scheme, analyzing data, and discussing the study findings that this qualitative research reveals.

# Chapter 4

## Research Question 1: Findings and Discussion

### 4.1 Introduction

In Chapter 3, I presented the study methodology that included research questions, purpose and method for each part of the study, research design, and outline of data analysis. Aiming at examining the role of translation in UX, specifically in multilingual UX, this study methodology undertook empirical research in two categories (qualitative and usability testing) to contribute to understanding of nature of multilingual UX. In this chapter, I provide results and discussion of the qualitative study. I do so by describing the coding scheme, analyzing data, and reporting findings that allow me to answer research question 1. In the discussion part, I synthesize and discuss the results in light of the study's research question 1 and highlight the tendencies that this qualitative research demonstrates.

Research Question 1: How does a multilingual UX research center help navigate multilingual, cross-organizational, cross-disciplinary, and cross-cultural contexts, through translation as communication practice? What role does social justice play in these navigational decisions?

To answer this question, I identified the contexts a UX research center functions in and examined how it navigates these contents through the study conducted with the affiliated researchers of the Multilingual UX Consortium.

### 4.2 Participants

The participants interviewed for this study were affiliated researchers of the Multilingual UX Consortium. The event that brought these and other UX researchers, scholars, translation

practitioners, and community members together was the Multilingual UX Symposium, which

serves as a first step in planning and building the research center.

As a community-driven experience, the inaugural Multilingual UX Symposium was

organized on November 9-10, 2017 in El Paso, Texas. Figure 4.1 below illustrates the

information and welcoming part of the symposium program and schedule.



Figure 4.1: Multilingual UX Symposium Program and Schedule. Retrieved from
https://drive.google.com/file/d/1MlOme0pHaHmjxYHuyWYNwy3l6CyQuYgQ/view

This symposium was structured around themed conversations and roundtables on multilingual

UX, language, and translation in community contexts, and the work of local organizations

(community centers, small businesses, nonprofits) done for linguistically and culturally diverse

users. Since the symposium played an essential role in supporting the multilingual UX initiative,

I interviewed the UX researchers about the symposium outcomes and research ideas that it

sparked in the attendees. The interviewees described the symposium participants as "this

amazing group of people together who is doing all this inspiring work across so many

institutions, the maker spaces, health research, art, poetry." The symposium attendees got

together to discuss intersections between UX and translation, UX interdisciplinary connections, how to run a nonprofit and provide translation services to help and serve clients, "all those nuts and bolts type of everyday things that shape an entire user experience." In addition to being "a very rewarding experience meeting people from different fields as well as interaction … with people who had similar interests," the symposium offered the opportunity to learn more about multilingual UX, "as well as new methodology and experiences that might be helpful to incorporate into teaching and learning practices." For some participants, this symposium was transformative in terms of including not only the academic perspective but also "having people who were experts in their community and in different domains, the different speakers that presented, and how it wasn't just academic." One of the participants explained that it was "so eye opening to be able to really see the different kinds of work that's being done. … I think the symposium was really transformative because it felt like a very, very different space than other events that I've attended." For another participant, in her words "a monolingual researcher who does a lot of cross-cultural and multilingual research," it was really beneficial to be a part of that experience at the symposium because partnering together with translators is an important part of her work: "it was really enriching to get to learn from the scholars who themselves are multilingual who are not working with external translators as well as to collaborate with people who work as translators but whom I haven't worked with specifically." Other areas that the participants learned about were medical rhetoric and medical UX: "the specific ways of describing conditions that she [a presenter] had to be able to do in multiple languages, not only official words but also common ways of describing." In addition, the symposium was a place to better understand a researcher's positioning and guiding framework. According to one of the symposium attendees, "The Multilingual UX Symposium was one of the most rewarding

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experiences of my professional life! I already had a firm commitment to centering linguistic and cultural difference as part of the UX and technology design process (as opposed to making it an afterthought, as is too often the case). Being at the symposium and learning not only from scholars but also from practitioners was such a wonderful way to nuance and add to my understanding of how to put that commitment into practice."

The researchers I interviewed for this study participated in the symposium and agreed to collaborate as part of the Multilingual UX Consortium. These scholars and practitioners have specific values and goals in their work that are conducive to the social justice research I am interested in studying. At the time of the study, all participants worked at U.S. universities conducting research, teaching undergraduate and graduate courses in technical communication, UX, professional writing, and translation. While each scholar has specific research interests, in general, their work focuses on technical communication, rhetoric, UX, multilingualism, and translation. Their research is situated not only within these areas but also at their intersections. For example, these scholars focus on the intersections of UX, technical communication, and social justice; culture, race, language, and health; literacy studies, technical communication, and mobility studies; technical communication, UX, and content strategy; communication, bilingualism, and translation. The participants' work also includes projects for and with linguistically and culturally diverse communities in the U.S. and abroad (Vietnam, Uganda, Kyrgyzstan, Bolivia, Dominican Republic); they also had experience working as consultants and translators in different industries. Though each scholar focuses on specific research areas, they all study how technologies and design shape our world, emphasize community expertise, address barriers and stigmas in technical communication, and are motivated to a commitment to social justice.

## 4.3 Coding Scheme

Based on both pre-set and emerging themes, coding allowed me to retrieve and organize the data according to patterns or categories. The following table illustrates the coding scheme that was developed through interviews with the study participants. Table 4.1 provides the code, the example how each code was used by a participant, and a quote that illustrates the use of the code during the interview.

Table 4.1: Study 1 Coding Scheme

| Code | Example/s |
|------|-----------|
| Positionality | A participant describes her stance as a UX researcher in relation to the social and political content of the project for the community and a non-profit organization she is currently working with. This project includes creating introductory welcoming videos in different languages for community members.<br><br>Quote: "... the languages ... they're not like a mathematical equation. And so it's important that your process is flexible and how does your process account for a language variety and cultural difference and geopolitical realities and make design decisions sensitive to those within time and resource constrained environments is more than just ... translate something into French." |
| Privilege | A participant describes one of the ways how lack of privilege manifests itself. This experience is based on her work with the non-profit organization that provides services to incoming immigrants and refugees. The lack of knowledge of state regulations prevents this population from having advantages and benefits available for other groups, which leads to exclusion and separation from those who remain in the privileged position.<br><br>Quote: "... they [non-profit organization staff] want ...video content not just written translated content. ... they want to make sure that people have really accurate content for certain key junctures in their experience where like if not knowing the employment rules would make it so you lose your legal status." |
| Power | A participant describes her research interests as finding the ways to continue building technical communication as a more inclusive field that opposes domination and power of one group over another. |

| | Quote: "So the work that I do concerns intersections of technical communication and social justice. And so I'm really interested in looking at the ways that technical documentation and professional documentation and those who craft it can be complicit in oppression, and then looking for alternative procedures, alternative modes, alternative forms, and coalitional approaches that we can use to disrupt that oppression and instead use our, use our field specific expertise to combat oppression and to work towards justice." |
|---|---|
| Empathy | A participant emphasizes the role of human connection in UX and empathy as an essential aspect of attending to people as humans first, not just clients or users of some products.<br><br>Quote: "... language is not just words. It's a way that people connect to other human beings. That's the most obvious statement in the world. But you know it's about actually connecting to others, empathizing with others." |
| Language | A participant explains that translation reveals a lot of political tensions expressed through language use such as regional accents within one country or language variations within a certain language.<br><br>Quote: While working on UX projects, it is necessary to be "fully aware of … the geopolitical conflicts and how language and language ideology are wrapped up in that." |
| Culture | A participant describes the importance of cultural awareness in UX research.<br><br>Quote: "Language and culture influence user-experience research in many ways since the methodology, purpose, and results may vary based on the background, culture and language of each group of study. Therefore, user-experience research has to be adapted accordingly in order to facilitate learning and provide accurate data." |
| Translation | A participant emphasizes the role the human connection plays in translation.<br><br>Quote: "... the human connection of translation is part of the user experience. You can't think of the translation itself as just this like machine technology. That first and foremost it's human technology." |
| User experience (UX) | A participant defines UX as the experience of communication.<br><br>Quote: UX is really important because "UX isn't only about the experience of technology. I think it's about the experience of communication…" |

| UX research center initiatives | A participant describes the role the Multilingual UX Research Center plays in advancing multilingual UX research through its events, projects, and collaboration.<br><br>Quote: "One of the important things the Multilingual UX Research Center is already doing, in establishing its network of affiliated researchers and gathering people for last year's symposium, is bringing visibility and community to the work of centering linguistic and cultural difference in the design of communication and technologies. The Center is already doing important, engaged work in El Paso, and I hope to see affiliate researchers taking up similar projects in their local contexts and sharing their work with us so that we can, again, make that visible and create more opportunities for collaborations among academics and practitioners." |
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The following sections present the analysis of the data and the discussion of the approaches used by the Multilingual UX Consortium to navigate diverse contexts.

## 4.4 Positionality, Privilege, and Power

To examine how certain groups are overlooked and disempowered in relation to UX and translation work, I analyzed the themes of positionality, privilege, and power in the interviews with the affiliated researchers of the Multilingual UX Consortium.

### 4.4.1 Positionality

As UX researchers, the study participants outlined their positionality in UX research as a field and also described the individual positionality as a researcher. This type of positionality is essential for the overall direction of the research including positioning of a researcher in relation to UX, community, and specifically the Multilingual UX Consortium they represent as affiliated researchers. From the interviewees' perspectives, UX research must be sensitive, considerate, and inclusive. One participant described her stance as a UX researcher in relation to social and political contexts of the community project that she is part of. Speaking about the nature of design decisions that include multilingual content, she stands for flexibility and sensitivity. Explaining one of the projects tasks to create introductory welcoming videos in different languages, she emphasized that "it's important that your process is flexible and how does your

process account for a language variety and cultural difference and geopolitical realities and make design decisions sensitive to those within time and resource constrained environments is more than just … translate something into French." In her opinion, to make a product, in this case a video, effective for multilingual users includes much more than just word-for-word translation. Other aspects such as language variety, cultural background, political and social contexts should be taken into consideration. The next example from a study participant illustrates that when such aspects are ignored, community projects might fail. For instance, when some organizations and development agencies from one country try to use methods they are familiar with to reinforce community engagement and involvement in a foreign country, it often does not work. As the researcher explained in the interview, "… a lot of that is because these U.S. organizations are coming in with … mindsets and trying to do community engagement the way that it's done here. It doesn't work so well." Making community work and research considerate and inclusive will allow all stakeholders learn from each other and conduct respectful research to achieve the common objectives in community engagement.

In addition to positionality in research in general, each interviewee talked about the individual positionality as a researcher. For example, one scholar emphasized her research focus as "inclusion in PTW [Professional and Technical Writing], both in academic and in professional and community contexts." Inclusion can be implemented in different ways, so for another UX researcher, it means "engaging people in the design of technology in multiple ways." More specifically, she is interested in "looking at the ways that technologies can actually limit one way or liberate in another way, but like how those technologies are used and taken up by people in ways that can be positive and negative."

While explaining positionality in UX as a field and in their individual research areas, the study participants touched upon the aspects of privilege as unequal opportunities for different community groups. Describing the experience of project work with a non-profit organization, one of the study participants explained implications of lack of privilege among incoming immigrants and refugees who often do not speak English and do not have knowledge of state regulations in different areas including employment. Thus, these groups do not have advantages and benefits available for other groups in the society, which in its turn leads to exclusion and separation of overlooked and marginalized communities from those who remain in the privileged position. Among the examples of privileged positions, the study participants mentioned knowledge of English as a mainstream language in the U.S. and globally. In addition, study abroad as a formative experience, with all its positive outcomes, can be seen as an example of privileged experience due to the language status of English: "I'm just so used to a very privileged standpoint the world being built around English speakers and so even when, you know, I lived in Prague, people either wanted to practice their English with me or they spoke English with me. It just seemed like the norm, you know, that the world bent itself towards English speakers." Looking at study abroad from a different perspective can be seen as an example of privilege since not every student can have the opportunity to study in a foreign country due to a number of reasons and limitations such as financial (it is not cheap), educational (in many cases it requires the knowledge of the local language), emotional (family might not support this idea), and others.

4.4.3 Power

Where there is privilege, there is power; power is part of the positionality/privilege relationship. In the interviews, I examined how UX researchers understand power in the context

of the fields of technical communication and UX and also where they see the intersections of power, communication, language, and translation.

One way power manifests itself is in the marginalization of vulnerable populations such as immigrants and refugees. One of the study participants works with a non-profit organization that is serving these groups. This non-profit organization provides services such as offering language classes, workplace training for incoming immigrants and refugees, and services for victims of domestic violence. They also help with job searches so "people can maintain their legal status or get legal, get their legal status." In this case, through its services, the non-profit organization opposes marginalization and amplifies the agency of these groups. In this example, I could also see how taking into account the rhetorical situation of the project and information products, a UX researcher can empower a non-profit organization, but most importantly the community this organization is serving. Right at the initial stage of the project planning, the participant met with the staff of the organization and explained that before filming the welcoming videos, it was important to figure out where they needed the videos, why they needed them, and how to create a sustainable process so that video production did not depend on just one person because "staff is constantly changing based on employment services especially." Some important consideration was how to translate the videos into about one hundred languages that community members speak and how to structure the videos so the video producers can "swap in and out different pieces of video when all that information gets upgraded or updated which … it's almost by the week." In addition, this project included the issues of power and language that the organization and the UX researcher had to deal with. Regarding translation, the project raised a question about how to deal with language variety. For example, if population speaks different varieties of French, which one should be used in the video? The researcher explained that "it

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brings up lots of difficult decisions about do you include a standardized version, which is usually the one that's most come from the colonizer, or what do you do?" Bringing up the issue of power in standardized language versions leads the researcher to the open questions: "I mean those things are always there; it's just do UX researchers choose to even think about them. Or are people … whose language is not the dominant language so used to just having to put up with whatever they're given?" The conversation about this project and the participant's work in it reveals some of the issues that UX researchers encounter and illustrates how a researcher chooses to act to include multilingual users in the process of product development (in this case introductory and welcoming videos) and what decisions he/she faces in translation to serve users and communities.

The area of research that interests another scholar is rhetoric of health and medicine. Describing her research interests in the interview, the researcher pointed to power in communication between a health practitioner and a patient. Due to the style of conversation and used vocabulary, in some cases communication becomes ineffective, and a patient experiences domination and power in disguised ways. This problem makes the researcher take it seriously and study it so other ways can be offered to the health practitioners to improve communication. The researcher described her focus as studying "experiences of bias and discrimination for patients specifically when they feel like they're being talked down to." As a scholar, she tries to figure out how she can "capture what those moments look like, how to help practitioners better understand when they might have been trying to just speak in a more accessible way to someone but potentially we're talking down to a patient with their own biases or getting in the way of communicating effectively and on the same level as a patient." Thus, by identifying the situations with power relations and researching power dynamics in those specific contexts, the

UX scholars aim at bringing change and resources for communities in need of making their voices heard.

Focusing on the communities that are dominated and overlooked and directing the field of technical communication toward social justice, the interviewed UX researchers emphasized their focus on methods and approaches they use in their work. For example, one researcher explained that in contrast with technology companies where design is often in the center of their interests and production, she is more interested in "community spaces like non-profit communities themselves and settings and scenarios where design or research is not sort of central to the way people do things." In her opinion, "all those communities have ways of designing already." Thus, as a UX researcher, she is interested in the "intersection between these methods and how they can be introduced and adapted and modified in ways that that can have a social justice focus or that can alleviate inequality in some way or just … help communities and people … make things different in the way that they want to make things different for their community."

Another participant describes her research interests as finding the ways to continue building technical communication as a more inclusive field that opposes domination and power of one group over another. Focusing on intersections of technical communication and social justice, she is interested "in looking at the ways that technical documentation and professional documentation and those who craft it can be complicit in oppression, and then looking for alternative procedures, alternative modes, alternative forms, and coalitional approaches that we can use to disrupt that oppression and instead use our … field specific expertise to combat oppression and to work towards justice."

Thus, in the interviews, the researchers expressed necessity for and desire to continue working on making technical communication and UX more inclusive fields building on

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understanding how positionality, privilege, and power affect the areas of technology design and multilingual information products and working on increasing the role social justice plays in these fields and their research.

**4.5 Empathy**

Implementing social justice practices in UX will not be effective without developing empathy toward members of the communities. The main manifestation of empathy is attending to people as humans first, not just clients or users of some products. Seeing language beyond words and meanings creates the atmosphere of empathy and the conditions for appropriate and effective design decisions. In the interview, a UX researcher emphasized humanness in the following way: "That language is not just words. It's a way that people connect to other human beings. That's the most obvious statement in the world. But you know it's about actually connecting to others, empathizing with others." Translation and design decisions bring themselves "into even potentially geopolitical long historical conflicts" and UX researchers are thinking about it working with and for the communities where people come to the U.S., "possibly from war torn areas and then trying to make their home in this new community as a diaspora community." One way that helps create empathy is the experience of living abroad. Through this experience, a person can learn how to navigate everyday life in a place where a different language is used and lifestyle differs from other places. Describing her living abroad experiences, a UX researcher emphasized, "… there's a lot of formative experiences there that helped me at least figure out how to have empathy and want to do projects" with immigrants and refugees who also figure out how to navigate their lives in the new environment.

Moreover, empathy helps build trust in UX work and research. UX researchers believe that this work cannot be done from outside; "it has to be done with and alongside the community

both in terms of trust but also in terms of being able to ethically engage in the work." Trust is also linked to respect that plays its important role in technology design: "[I]n order to have a service and to have clients that want to come, especially a group of people that are special, especially vulnerable because there's people that are coming who are undocumented, you have to build a certain amount of trust by relocalizing the content." Attending to the concerns and needs of the people in relation to technology design through empathy supports strengthening social justice practices in the contexts of power and creates grounds for more inclusive design decisions.

**4.6 Language**

To understand how a UX center navigates multilingual contexts, it was important to examine the UX researchers' views on language in general and the use of language in social and cultural systems. One study participant believes that translation reveals a lot of political tensions expressed through language use such as regional accents within one country or language variations within a certain language. Referring to her work on the project of creating welcoming videos for incoming immigrants and refugees, she explained that using a local accent might not be representative of all the population of a country and might not serve as "a welcoming human face" from that country. Thus, while working on UX projects, it is necessary to be "fully aware of … the geopolitical conflicts and how language and language ideology are wrapped up in that." Researching and taking into consideration the knowledge about local and regional use of languages becomes a starting point in understanding how to approach a UX project and make it inclusive.

Language ideologies as assumptions people have about language in general are linked to people's social experiences. One example is the concerns and beliefs about what good and bad

language is. It becomes a research interest for the UX scholars because "when you're considering what's the right language to use in certain situations, there's interesting conversations about the correct way versus the most meaningful way." During the interview, the researcher explained that in her study she focused on what "U.S. students were thinking about how they learned Spanish in the classroom and then the best Spanish to use with the local community which was much different from what they learned in the classroom and what they thought was correct or professional." This example demonstrates the researcher's concerns about "racism and classism" and how those impact communication in different social environments through the use of translation.

The complexity in relation to language and translation also includes decisions that must be made when UX researchers face the issue of language variations. When discussing the issue of translating videos for immigrants and refugees, for example, in French, people involved in the project assumed "French is French" and did not see what an interviewed UX researcher saw: "Is it Senegalese French? Is it Canadian French? What French are you talking about?" She explains that "it just becomes more complicated when you even think about language variation within a certain language." While the videos cannot be translated "into like forty Frenches," using a standardized version is also problematic due to language ideology: "[I]t just brings up lots of difficult decisions about do you include a standardized version, which is usually the one that's most comes from the colonizer. Or … what do you do?" This is the example addressing complexities due to language variation and design decisions. Thus, in the interviews, the researchers pointed out that translation reveals tensions expressed through the use of language in social and cultural systems, language ideology, and language variations; they also emphasized that these considerations should be addressed when working on translation and UX projects.

**4.7 Culture**

In addition to language, culture can also add a layer of complexity in design decisions. For example, in the case of creating videos for incoming immigrants and refugees discussed earlier, the non-profit organization wanted "video content not just with written translated content," but "they wanted to have like a welcoming face to the organization which they think can be best achieved by having the actual face and voice of someone who is from their country or their culture so they actually feel welcomed." While taking cultural background into consideration reinforces information delivery, works as a way to create inclusive environment, and serves as an expression of empathy, visual representation has a complex nature and raises the question, "Will somebody watching this be offended that it was a woman or an older man?" So the researcher believes that "when you bring in the visual representation of a person from that culture that adds an extra layer of difficulty other than just the language. "

One way to develop cultural knowledge, especially to improve translation skills is "to be immersed in the culture for which you are translating and to spend some time there on a regular basis to kind of know, just have this basic intuition sometimes that something is right and not right." This experience allows translators/interpreters serve their community and users better. While being a language expert is important, translation work cannot be done effectively without taking into account culture. Also, the interviewed UX researchers emphasized that important work done across languages and cultures must be included into university curricula so students taking technical communication and design courses can be aware of this work and have knowledge of cross-cultural considerations in UX, technology design, and translation work. This approach will also help resist the assumption that "you can't design for all those people" which

leads to "normalizing users as opposed to accounting for difference, difference in language and culture."

Linguistic and cultural awareness plays an essential role in UX research. According to one of the interviewed UX scholars, "Language and culture influence user-experience research in many ways since the methodology, purpose, and results may vary based on the background, culture and language of each group of study. Therefore, user-experience research has to be adapted accordingly in order to facilitate learning and provide accurate data." These examples from the interviews with UX scholars illustrate the importance of understanding cultural factors and developing cultural expertise that positively influence the quality of translation and designed products.

## 4.8 Translation

Translation has been a part of the work that the interviewed scholars do. To answer the research question, it was important to understand how they view translation and what perspectives they bring to their research, practice, teaching, and mentoring of others when doing UX work.

### 4.8.1 Translation: Focus and Characteristics

First of all, while acknowledging the strong connection between translation and technology nowadays, the researchers emphasize the humanness of translation and point out that "the human connection of translation is part of the user experience." In spite of advanced use of technology in modern translation, "[y]ou can't think of the translation itself as just this like machine technology. That first and foremost it's human technology." The human connectivity is also present when researchers describe translation as a practice and part of an overall content strategy: "[I]t's not just about the interface of the text itself." Translation includes a bigger

picture with the considerations such as "where people are going to access it and how are they are going to have it when they need it." Taking these considerations into account facilitates understanding "translation as a user-localization process that we all can and should actively design for." More specifically, this perspective encourages "approach[ing] linguistic and cultural differences as assets rather than challenges, to center the perspectives and processes of multilingual users throughout the design process, to honor and make visible the labor of translation, and to employ plain language and other localization strategies to support the work of translation." Personal translation experiences, work, and research taught the participants "what a dynamic, creative, culturally situated, and labor intensive process translation can be" and they bring this perspective in their UX work and projects. The approach of viewing translation as human technology and a user-localization practice guides translation work to accuracy that is especially vital for overlooked and marginalized communities. For example, in the case with translating videos for incoming refugees, it is important "to make sure that people have really accurate content for certain key junctures in their experience where … if not knowing the employment rules would make it so you lose your legal status." Thus, as a result of a translation process with particular characteristics and approaches, multilingual communities get effective translation that empowers them in a particular area of life.

In addition, through personal experiences, work as interpreters, and research, scholars develop concepts that allow them and other researchers understand and improve translation practices. Describing the formulated concept of translation spaces, one of the participants explained the focus on "a macro level looking at what's going on in the space between multiple people rather than from the individual, sort of the pauses and considerations we take for translation." The concept allowed the researcher to analyze cases of medical Spanish translation

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with patient health history forms in the Dominican Republic. To resolve the issues in cases where patients did not understand the language of the forms and foreign doctors and helping students coming into a different context, "they realized that they had to adjust how they were asking certain questions because there was just a different terminology or phrase that was used that wasn't just terminology." This is how the researcher described the example of the use of terminology and translation for 'diabetes' versus 'having sugar':

> … the specific example I talked about in my research is how they were asking literally, "Do you have diabetes?" or "Do you have a history of diabetes?" - "¿Tiene diabetes?" Or "¿Tiene una historia de diabetes?" And people just were giving them blank looks or shrugs or you know it was clear that they were not understanding what they were saying and we're asking them to repeat it. And so it's at a certain point through conversations with local volunteers, they find out that a more common way to say it was literally, "Do you have sugar?" - "¿Tiene azúcar?" Or "¿Sufre de azúcar?" "Do you suffer from sugar?" and as they would ask this, it was like right away. The patient understood this and that. So with that example, they would write that on the sheet and then they would start to ask it just like that and kind of ignore how this sheet was printed out for them, which just was fascinating to me.

This example illustrates one of the issues in a patient health history form related to translation and how it was resolved by "revising that form to better reflect the community discourses of Spanish." The benefits go even beyond the translation practices. Experiences with translation like this one demonstrate students' engagement in the project and in translation process as well as a contribution to making documentation more inclusive and user-friendly.

While describing different translation projects in the interviews, researchers highlighted an important role of a translator and qualities that facilitate translation work. In addition to the knowledge of language necessary for effective communication and translation, a translator is seen as "a cultural insider as well as a linguistic insider" since it is important "to communicate in ways that are clear, yes, but also more importantly I think ways that are appropriate because when you're not clear, you can work together to find a solution, but when you're … engaging inappropriately that impedes you from working together towards a good solution." In addition, there are qualities that are essential for every translator but especially for ones involved in projects focused on social justice for marginalized communities. One of these qualities is commitment to the project's goal: "if your translator feels committed to the purpose of the project, if she feels like it's meaningful and important, then it … just it's night and day difference for how well we can work together." The commitment goes hand-in-hand with the shared value of the project's importance: "if the translator thinks this is a really important project, I'm glad to get to contribute towards something with this mission, then … it's a really great intersection." Thus, the best translator for this kind of project will be someone who is committed, enthusiastic, and passionate about translation and its role as a communication practice in community work. What can also contribute to the effectiveness of translation is guidance and training for translators, especially for the ones with the knowledge of languages who volunteer but are not professional translators. In this case, researchers believe that a translation process needs to be created for each particular project and translators-volunteers need to receive training that will "help them figure out a process to create the translation, test the translation, record it." Researchers see it as a way to train and facilitate valuable qualities for community translation work.

<u>4.8.2 Translation and Technology Design</u>

Due to the significant role technology plays in translation, the interviewed participants expressed a number of concerns and addressed challenges they face in their work in relation to technology design and translation tools. The participants expressed strong assurance in existing connections between translation and technology design. One of the interviewed researchers stated, "I see translation as an integral usability and localization consideration in every step of UX research and technology design." Another participant also supported this kind of connection and explained, "I can identify strong intersections between technology design and translation since the first one can ease learning new technology and software programs and incorporate them into the fields where translation is involved." At the same time, the intersection of translation and technology design is seen as an area that carries certain challenges for those who work with and communicate through translation. Acknowledging language variety ("Spanish is not the same Spanish everywhere") and how important it is "to translate differently depending on the context," one of the participants expressed concerns about insufficient attention to translation as an issue in technology design in general and from the industry's perspective specifically: "It is just the assumption   that the language works like a mathematical problem and you don't have to relocalize at all and it's just somehow you're going to have some sort of universal design that's going to work across all cultures and all languages. And that's what you should try to get to rather than focusing on … localizing things." As the participant explained, in part, it happens due to a strong belief in and reliance on machine learning in the industry. Describing the conversation during the meeting with a manager from one of the leading technology companies in the United States and globally, the participant said, "What was really interesting and disturbing to me was how much she assumed machine learning was going to solve all of the

translation problems." The manager's assumptions were that "if you write in simple enough plain language," translation will not be an issue because "[j]ust machine translation is going to be able to solve all of our problems."  However, the translation projects that the participants work on prove that there is much more than just word-for-word translation in these projects. For example, in the project with creating videos for incoming refugees, there was a number of challenges that needed to be addressed for effective outcomes. The first one was the variety of languages the community members speak and need information in, so the question was "when it's a hundred different languages, how do you provide services for that many people and have the content translated for that many languages." Also, for this particular project the organization wanted video content, not just written translated content: "[T]hey wanted to have like a welcoming face to the organization which they think can be best achieved by having the actual face and voice of someone who is from their country or their culture so they actually feel welcomed, and too they want to make sure that people have really accurate content for certain key junctures in their experience where like if not knowing the employment rules would make it so you lose your legal status." Thus, in addition to translation of written content, the project included creation of multimedia content for specific clients' experiences and developing "a sustainable process for creating these videos in a hundred different languages." In this case, the participant emphasized the importance of translation accuracy due to the effect of the information on people's lives: "you don't want to rely on … Google Translate or something like that. That's really vital for people to keep their legal status." In addition to the accuracy and quality of translated information, creating multilingual multimedia content involves a number of considerations such as "how a user is going to experience a video as a translated piece of text not only linguistically but bodily, contextually." All these aspects must be taken into account by a group of people who

work on the project and make decisions on content, translation, and visual presentation of the information.

4.8.3 Translation and UX

In addition to technology design, the interviewed participants agreed in identifying a strong connection between translation and UX. For instance, one participant explained that "the connection is really important and for me is especially interesting because I'm curious about people's experiences of translation and interpretation, not just what interpreters and translators are doing in these sorts of intermediary roles." With the specific research focus on health care, the scholar's interest is on "the provider's experience of working with an interpreter or a translator or the patient's experience and whether they feel like their experience, their communication is being accurately shown, if even the type of language that's used with them is making them feel supported and comfortable or because as I saw in my research, we could say that somebody was translating from English to Spanish, but there could be a certain kind of Spanish they're using that may seem inaccessible to the patient." Another participant also sees a strong connection between translation and UX. In this case, it is a UX-translation direction that benefits both areas. As the interviewee explained, "Through user-experience research, people in general, can learn more about the translation field and related issues, identify and evaluate the different types of translation services available, and take informed decisions when services are required." The participants support their opinions about strong connections between translation and UX with examples from their industry work and academic research. These experiences help "to design studies … conducted in another language," "evaluate translated material in multiple languages," "think of how we bring UX method into practice," and do "research where people

can speak other languages … through a translation basically, so having a translator engaged in a research project."

Thus, in the interviews the researchers described intersections between translation, technology design, and UX and emphasized that they do not see "how it can work without one another" because "if this is the one without the other, we won't have good results, or it would definitely be not answering the needs of the users." One of the participants described it in the following way, "I feel like it's very, very clear to me that this work like technology design, translation, and UX is like a team sport, so to speak." That is why "[it] needs lots of different kinds of expertise … in order to really do the work in a way that is ethical, that is rigorous, and that's can be effective." In order to work with different populations, research team members need language skills and cultural knowledge, but most importantly the participants believe this work cannot be done from outside: "it has to be done with and alongside the community both in terms of trust but also in terms of being able to ethically engage in the work and actually to actually even do the work that you need to have those skill sets."

In addition to intersection of translation and UX, I analyzed the participants' views on UX in general and in its connection to other fields and disciplines.

**4.9 User Experience (UX)**

4.9.1 UX as a Field and Methodology

To answer the research question how the Multilingual UX Consortium navigates diverse contexts, it was also important to discuss researchers' views on UX as a field. In the interview, the participants described UX as "a field of research but also just specific methodology for doing research in different fields." One of the participants explained that the methodologies that we have are developing really fast, from just basic user testing to … many other methods we have at

this point that we could try." From this perspective, UX methods can be helpful to qualitative researchers' by "having this very solid thorough methodology of how to look at things." UX is connected to a number of different fields, and the participants see these connections as beneficial. In addition to the field of technical communication, UX has interdisciplinary connections with human systems engineering, applied psychology, computer supported cooperative work (CSCW), economics, marketing, and other fields.

Since professionals in many disciplines and fields do UX research, the participants emphasize the importance of positioning or "situating oneself" in UX. For example, discussing "where does user experience belong, what is the home of user experience," a participant with industry work experience believes that a UX specialist is a medium who is advocating for user needs but is also concerned about efficiency as one of the main characteristics of technical communication by "doing things in an efficient way." This researcher explained, "We want to make sure they [users] are fine. But then we also make sure that for the company there is some kind of return of investment. We're there in the middle of making sure there is some kind of sweet point in there. We can be just user advocates but also be advocating for the value of what we're doing, for the benefit to whichever company where we're working for." The other type of spaces where UX takes place is community places such as "non-profit communities themselves and settings and scenarios where design or research is not sort of central to the way people do things" because "all those communities have ways of designing already." That is why it is vital for effective UX in these spaces "to have people at the table who are going to respect and acknowledge and being able to implement technology designs in a way that are going to honor both the language literacy expertise and also the honor the community-based type of research that I think is needed to function." The methods that the participants find important to use in

these spaces are participatory in nature. They involve people in the design process, often from underrepresented, marginalized, or vulnerable communities. Another researcher used a term "coalitional approaches" to explain the objective and the value of inclusive UX methods in community spaces. In the researcher's opinion, three threads – UX, multilingual communication, and technology design - are going toward coalitional approaches that help "move folks from margin to center" and "centralize the perspectives and the expertise and the priorities of folks who have less power in varying ways and let them not only co-design, but also … take the lead or have the most voice in determining what the goal is in the first place, what problem is it we're solving, and then we can work together in different ways to pursue various solutions."

4.9.2 Community-Based UX

Some of the challenges that the UX researchers face in the community-based projects are due to the complexities of studies with multilinguals because of language diversity and involvement of people with different roles and levels of language proficiency. First, very often, the projects include information products for the population that speak a large number of different languages. In this case, UX researchers consider questions such as: "What do you do in that type of situation when your users are so linguistically diverse? What do you have to do? How do you translate? How do you consider the experiences of so many different users because of their languages and cultural backgrounds?" Another concern is the researcher's language (other than English) proficiency limitations. This is how one of the participants explained it: "I speak English and that's the only language I speak, and I have a lack because of my limited language I feel lack in being able to ask the kinds of research questions that I would like to be able to ask for some communities for being able to engage in certain types of research activities in those communities." In addition, the complexities of the UX studies with multilingual

audiences include involvement of translators and the necessary training for doing this kind of work and assumptions of monolingual researchers about the use of technology, methods, and translation effectiveness. Thus, they feel that "there is a lot of work to be done in that area just because it is really, really complex and I think even assuming that this may be underestimated in complexity."

Throughout the interviews, the participants connected their discussion of UX as a field and methodology with the projects they work on or the potential future projects in the areas where improving UX would be vital. For example, one of such areas is healthcare documentation, where patients, pharmacists, and medical professionals express concerns "acknowledging that patient discharge forms and instructions for medications tend to be really difficult for people to understand." Such user experience, not as "engaging as maybe someone who would hope it would be," has implications for whether someone gets healthier or is seen as compliant or non-compliant in the healthcare system or wants to even come back."

The participants believe in the important role of UX and think that conversations about it should not stay in technical communication field but could and should be a part of writing and rhetoric classes. In this regard, the view of UX that can help different fields embrace it emphasizes that "UX isn't only the experience of technology;" "it's about the experience of communication." For example, while conducting a project on professional communication strategies in a non-profit organization and working with communities in a foreign country, the UX team learned about "some of the best ways we were told to communicate technical scientific information like what dioxin does to the body was through dance and singing that was so an experiential way that folks, especially folks who had disabilities, could engage with this material and this information that would make sense to them." This is one of the examples of how

beneficial community-based UX projects are for those populations in their attempts to find solutions to existing issues, to the research teams learning from those projects, and also for other communities and researchers that can use these methods to test and improve UX in other environments, communities, and areas.

**4.10 The Multilingual UX Consortium Initiatives: Focus and Ideas for UX Projects and Collaboration**

Multilingual UX Symposium led to some collaborations UX researchers worked on after the event that served as an inspiration for ideas and projects related to multilingual UX. Among such collaborations, there was a collaborative panel "Social Justice in UX: Centering Marginalized Users" and proceedings for the 2018 Special Interest Group on Design of Communication of the Association for Computing Machinery (ACM SIGDOC) International Conference. Another collaboration was a special issue of *College English* that focused on cross-disciplinary intersections in composition studies and technical/professional communication. According to the interviewed scholar, one of the specific areas they are focusing on is "how UX methods can help not only professionals, but also writing teachers and students, negotiate linguistic and cultural difference in respectful and effective ways." The Multilingual UX Symposium helped with the establishment of a UX research center and brought together social-justice oriented organizations and university researchers, faculty, and students, who collaborate to create and disseminate multilingual content aiming to support and highlight the assets of linguistically diverse users. This mission is reflected in researchers' activities and scholarship. For example, one of the researchers presented on relationship between translation and UX design at a monthly meeting at her university, and "they had also PhD students in Second Language

Acquisition present on translation and plain language in UX design of high-stakes government documents like immigration forms."

According to the participants, one of the important things the Multilingual UX Consortium was already doing was "bringing visibility and community to the work of centering linguistic and cultural difference in the design of communication and technologies" through establishing its network of affiliated researchers and gathering people for the symposium. The participants looked optimistically into the future to create more opportunities for collaborations among academics and practitioners and take up UX projects in local contexts. Among the participants' ideas about possible future projects and collaborations, there was a suggestion "to create some sort of network of volunteers across like multiple languages who would be willing to take on projects." That comes from one of the biggest challenges of doing translations for multilingual communities. Identifying a similar challenge with engaging in multilingual research projects, another researcher suggested creating a resource that could find translation partners not only for the duration of the project but "on either end of the project," the ones who would help scholars do more reciprocal research. For example, these translators could "help translate like a short article or a short take away from our findings back into the language that our partner speaks, so we can share findings back with them in a way that's genuinely helpful. I think one real need that I am aware of is these bookended pieces support in sharing back to communities in their languages." Thus, "[f]iguring out better ways to share back out findings, especially a lot later" is another side of the challenge with finding translation partners. Another networking need and possible project, as the participants identify and describe, is "if the center had a way to connect people who both have those language skills and also UX skills with community organizations to get that right." It includes making UX practices more accessible to community

organizations and working with them to find out how they "implement these methods in a way that would make sense for them" and "to see how when we take these methods out of sort of corporate tech culture, kind of culture that we see in technology companies, and give them to communities, how communities will adopt them and make them their own."

The participants' expressed strong confidence that a community-driven aspect must stay part of the work that the Multilingual UX Consortium is conducting. Moreover, under 'community,' the researchers meant not only local organizations but also "the students as a commune, as part of the local community" as well as a university community. One of the researchers expressed interest in "doing projects that are brought up by issues that students are interested in and experiencing." Providing the example using the local context of El Paso, "of being on the border, of having students from a variety of places," the researcher finds very important to identify "what are these common things that people are experiencing, whether it's how can we help with it or how can we help people better understand these processes better, or need find access to resources, or whatever it might be." However, these ideas are not limited and applicable to only one region. After the symposium, a participant got "curious about starting a similar type of center" at the university where she is currently working: "I actually left there [El Paso] and talked about it with my colleagues here as something that I thought was just fantastic having the idea of having a community driven center that really connected with issues and concerns with local communities."

A number of researchers also expressed interest in health care UX and identified it as a potential area of UX research, such as work with parents of children who are newly diagnosed with cancer and information products they use to fight the disease or improving the usability of health care documentation for patients. Also, they are confident that "the center is well

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positioned to do that individual researchers doing their various projects would not be well-positioned to do is to maybe put together some best practices and some guidance for scholars who are wanting to design and conduct multilingual UX work." The researcher explained that what she learned the hard way, "someone else wouldn't have to learn it by doing it; not the best way." Thus, the research center could have some best practices, for example, how to budget money for research projects, how to report back the findings to the project partners, "just little things like that." She explained, "I think we could do a better job in each of our individual projects by sharing what we've learned and having a cohesive space. The center could even do workshops that would teach people these best practices or just post them online." All these ideas that the participants expressed and shared in the interviews provide good examples of future initiatives that can strengthen collaboration and contribute to the work of UX research centers and development of multilingual UX.

**4.11 Discussion**

The study findings and analysis reveal three primary approaches to how the Multilingual UX Consortium navigates multilingual, cross-organizational, cross-disciplinary, and cross-cultural contexts.

First, the UX researchers identify strong connections between areas of technology design, UX, and translation. These intersections exemplify the complex relationships, negotiations, and considerations when involved in translation and design processes for multilingual audiences, which are often not recognized in current discussions in technical communication. Some of these considerations include making decisions about content, translation, visual presentation of the information in multilingual multimedia information products and the importance of different kinds of expertise to make the projects of this nature effective. The navigation of diverse

contexts is guided by an asset-based approach that helps see linguistic and cultural differences as assets rather than challenges and center the perspectives of multilingual users throughout the design process.

Second, the Multilingual UX Consortium is envisioned as a space supported by diversity and inclusion initiatives such as networking, events, and projects. The findings reveal that an inaugural symposium was an effective starting point for the organization's establishment and network building. This event helped create a space where participants from different disciplinary, organizational and cultural backgrounds were brought together to share their experiences and stories with the goal of more inclusive design, translation, and UX practices.

Third, social justice initiatives are considered a driving force in the Multilingual UX Consortium's navigational decisions. Translation, as a communication practice comprised of complex connections across languages and cultures, is a central factor of social justice work. Translation is approached through a humanistic perspective and is an integral part of community-based work and UX conducted through participatory and coalitional approaches.

As technical communicators, UX researchers, practitioners, and translators aiming toward user-centered multilingual content, it is essential that we identify the intersections between technology design, UX, and translation; develop diverse and inclusive initiatives to conduct user-centered UX; and explore connections between communication practices and social justice to contribute to work and research through methods which are meaningful and respectful across languages, cultures, organizations, and disciplines.

# Chapter 5

## Research Question 2: Findings and Discussion

### 5.1 Introduction

In Chapter 4, I presented the results and discussion of the qualitative study that aimed to answer research question 1 about the approaches and strategies that a multilingual UX research center used to navigate its diverse contexts. In this chapter, I provide results and discussion of the usability testing. I do so by describing the coding scheme, analyzing data, and reporting findings that allow me to answer research question 2. In the discussion part, I synthesize and discuss the results in light of the study's research question 2 and highlight the patterns that this usability study demonstrates.

Research Question 2: How does translation play out in a multilingual UX scenario? How is it similar to or different from localization and internationalization?

To answer this question, I conducted a usability testing project that allowed me to create the environment in which participants got engaged with the translated content of the website. During the usability sessions, I observed participants' performance and collected data that revealed potential usability issues that occurred during the process of using translated content.

### 5.2 Participants

The usability sessions were conducted at the Multilingual UX Consortium UTEP-designated office space on the UTEP campus. The participants walked into a room with a round table, chairs, and a computer. After a welcoming conversation, I gave participants an overview of the session and explained the overall goals.  Each session lasted approximately one hour. After the participants followed the scenarios and performed the tasks while thinking aloud, they participated in a post-task interview. The interview included questions about the linguistic and

professional backgrounds of the participants (e.g., "What is your home country, and what is your first/second/third language?") and questions about the web usability experience (e.g., "In general, how well did this website work for you? Were you able to achieve the objectives presented in the scenarios?").

All eight participants were multilingual with English as one of their languages. In the interviews, participants shared a range of languages to describe their linguistic abilities. The other languages participants spoke included Spanish, French, German, Chinese, Russian, Ukrainian, Hebrew, Nepali, and Indian languages such as Bengali. At the time of the study, all participants were students, and fifty percent of them had study-abroad experience in the UK, New Zealand, and Russia. During sessions, participants illustrated diverse interests in the programs of study that they potentially wanted to pursue in V.N. Karazin Kharkiv National University in Ukraine: biology, education, languages and literature, tourism, history, archeology, and philosophy. All participants were actively engaged and showed enthusiasm in making decisions and taking actions in information search and their responses to the scenarios. As some participants stated in the interviews, sessions were also a learning experience for them ("I am sure I learned something today. So I thought that was pretty cool."). For me as a UX researcher and UX session moderator, it was important to know that participants were leaving the research site with benefits for their knowledge and learning experiences.

## 5.3 Coding Scheme

Based on both pre-set and emerging themes, coding allowed me to retrieve and organize the data according to patterns or categories. The following table illustrates the coding scheme that was developed through the usability sessions and post-task interviews with the study participants. Table 5.1 provides the code, the example of the context in which the code was

identified, and a quote that illustrates the code context during the usability session and/or a post-task interview.

Table 5.1: Study 2 Coding Scheme

| Code | Example/s |
|---|---|
| Inner thinking/ Reasoning | A participant asks and answers the questions herself while looking for and making a decision about a program of her interest on the website. <br><br> Quote: "The Biology one? – Yeah, I think the Biology one." |
| Reactions | A participant expresses positive reactions to the information about the university. <br><br> Quote: "They have twenty-one schools. It's amazing. Because we don't have that many. Let's see twenty-four departments. It's impressive." |
| Challenging points | A participant describes an obstacle while using the website: inconsistency in accessing content in one language throughout all the website pages. <br><br> Quote: "I wonder if there is an option to just like automatically … keep it in English, but you just constantly have to click." |
| Assisting points | A participant finds helpful that the website provides cultural information about the country and the city where the university is located. <br><br> Quote: "Yeah, I like how they actually give information … what's it like living in Ukraine. You know like people who probably have never or are not familiar with Ukraine, they have information about that. Same thing with Kharkiv." |
| Actions | A participant asks for the clarification of the word meaning. <br><br> Quote: "What is attestation?" |
| UX strategies | A participant relates the experiences during the usability session to the real-life experiences when applying to a university. <br><br> Quote: "I know that sometimes when you … enroll, like when I was enrolling for … California's San Diego State or whatever, they asked for … certain like writings, like papers and stuff … that you had to do." |

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| Translation moments | A participant interprets a translated phrase and clarifies its meaning through context. |
| --- | --- |
| | Quote: "I've never heard the word. I'm guessing that it's like when you fail or something unsatisfied. The final semester. So the final grade you get. And if you fail, it's an academic arrear, I guess. I mean I can kind of like put everything together…" |

The following sections present the analysis of the data and the discussion of the findings by highlighting the patterns that the usability study demonstrates.

**5.4 Inner Thinking or Reasoning**

Applying the approach of active listening, I focused on the participants' patterns of inner thinking or reasoning during the usability sessions and examined them to understand what was going through their minds when working with the translated content, what was the reasoning behind the actions they took, decisions they made, and comments they expressed.

Following a think-aloud protocol, the participants spoke what they were thinking as they were completing tasks described in the scenarios. The analysis of cases of the participants' inner thinking as they navigated the website reveals the use of inner dialogue with a question-answer pattern. For example, participant B. asked and answered the questions herself while looking for and making a decision about a program of her interest on the website: "The Biology one? – Yeah, I think the Biology one." During this inner dialogue, the participant also asked questions that identified some missing and incomplete information. For example, when reading about volunteering opportunities and not finding enough specific information, the participant asked, "They're volunteering to do what?" Participant H. took this approach further and asked a series of questions that, if taken into considerations by the website content specialists and translators, could considerably improve the content quality for the website users: "So they're informing me of their responsibility, my responsibility, how they're going to proceed, and how I have to

proceed. But I still don't get provided with what do you need. What are my requirements? How my paper has to be? My sample? Do I need any other tests? Do I need any shots?"

In addition, using inner dialogue during the thinking process allowed the participants to progress with their tasks and overcome the difficulties while using the website. For example, one of such obstacles was the use of abbreviations F and P with the reference to the type of students' academic load. Participant D. came to the right answer through inner thinking and reasoning: "F and P. Full time, part time? I guess it's just because of the F; there's like an F and P. I was thinking: Is it based off on like classification? Or is it based on the full time/ part time?" Through inner thinking, the participants were also able to clarify the meaning of the unfamiliar words from the context. One of such words was "arrears" and this is how the participant tried to clarify the meaning in the document that addressed the university policies for international students: "So I've never heard the word. I mean, I am guessing that it's like when you fail or something unsatisfied. The final semester. So the final grade you get. And if you fail, it's an academic arrear, I guess. I mean I can kind of like put everything together, but it's a little like … I don't know. It's not really explained very well." Empathetic listening through inner dialogue also provides an opportunity to "hear" the participants' thoughts and reasoning when providing the evaluation of and explanation about the product. In the following example, participant C. described the opinion about the website's feature with animated images covering the information and through reasoning explained the personal preferences of getting information through visual presentation first: "I think it is good because I tend to … always look at pictures first and then I read, so that's good because the picture kind of like … what is that and then …Does that make sense? Well, that's just me. … So that's why I like that because I look at pictures before I read."

Thus, during the usability sessions, the participants expressed their inner thinking through a question-answer pattern to achieve their task objectives. They used inner dialogue to make decisions, identify missing or incomplete information, clarify meaning of unfamiliar vocabulary, overcome challenges in information search, evaluate the website, and express ideas how to improve content quality for the website users. Through the analysis of the participants' inner thinking, I got an understanding of what was going through their minds during the sessions and how having an inner dialogue helped the participants achieve their objectives in finding and comprehending the information in the website's translated content.

## 5.5 Reactions

In usability sessions, a reaction is a response to a specific situation a person is facing when using a translated content of the website. Reactions are important to identify because they reveal the emotions a person feels when looking for and comprehending information. Also, reactions include opinions about a used product and accompany a person's reasoning for actions; reactions reveal a person's behavior that is a part of a user's story unfolding during the usability session.

### 5.5.1 Neutral Reactions

Neutral reactions accompanied the participants' inner thinking and reasoning while using the website and comprehending its translated content during the usability sessions. Thinking, reflection, hesitation, and processing is an integral part of the work that the participants did trying to find information and accomplish the scenarios' tasks. To express reflection the participants used the interjection *hmm* that accompanied their thinking processes. For example, participant A. used this interjection 22 times during the session to take time to process information as well as when something was not clear, when the participant could not find the

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information he was looking for, and when hesitating about which step to take next. For instance, looking for the information for international students and having difficulty locating it, the participant said, "Hmm. Administration. Probably to get that info, I would contact them." Sometimes in addition to the interjection *hmm*, the participant expressed the need to think for a moment by saying, "Let me see" or "Let me read," which illustrates that working with the translated content is a complex process that includes navigation of the website as a technical product and also its content.

During the sessions, the participants also often expressed uncertainty through the use of such words and phrases like *maybe*, *I guess*, and *I'm not sure*. The most common reaction was *maybe* used 7 times by participant B. and 12 times by participant C. Those cases included uncertainty about the actions to take ("Maybe I can go back and do the search."), choices to make ("Maybe I can go Home, to Home button. Maybe here to Postgraduate programs."), predicting a more effective result ("Maybe I will try a different one. Maybe it won't change."), offering options for information clarification ("Maybe tuition?" or "Maybe the conferences?"), and doubting personal contribution ("Or maybe it's just me and I don't pay attention"). Among the neutral reactions, there were expressions of surprise ("What? So this is in their language?"); this was expected as the participants were working with the website's translated content and did not have any previous knowledge of the institution that they researched during the usability sessions. The analysis of the participants' responses when using the website and its translated content revealed that reactions, such as reflection, hesitation, and surprise, are tied in with inner thinking. These reactions were important to identify because they provided the insights in the work the participants did attempting to find, comprehend, and process information on the website.

5.5.2 Positive Reactions and Assisting Points

Positive reactions are closely connected to the users' opinions about different aspects of the website's translated content. The participants reacted positively when they came across information that they could relate to through their interests such as study programs, language choices, and opportunities and options provided for university students. The common adjectives that the participants used to express those reactions included the following words: *good*, *cool*, *interesting*, *amazing*, *impressive*, *great*, *clear*, *correct*, *fine*, and *well-written*. For example, participant C. expressed positive reactions when searching for the programs and realizing that there were options offered by the university: "They are giving me … other options, like other educational programs I can apply for, which is good, so I have like different ideas." In other examples, the participants reacted to the quality of translation saying, "… the translations are fine" and "I mean they're pretty good translations. I understand everything." In these cases, the participants evaluated and described their opinions about the product, in this case, translation, that are important to understand how the users felt while using the translated content.

Among positive reactions, there were also emotional responses that expressed curiosity, fascination, and an "enticing feeling." For example, in the post-task interview, participant A. described what attracted his attention on the website: "I think that something that did attract like the flags, the emblems, their affiliations, the last names of the people because … of course we don't see that kind of last names. For me just seeing that last name as -enko, -shenko, Shevchenko … just put a name like that feeling is enticing to me. Yeah, to me and other people." Another participant H. expressed fascination about the existence of the Ukrainian-Israeli Center at the university explaining the reason, "… since I took Hebrew for my Jewish Studies, I thought wow, Israeli, let's click on that …" Later this participant reacted expressing fascination about the

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information she found in the section on research collaborations that included the description of one of the projects based on biopsychosocial approach in medicine.

Positive reactions were also closely connected to 'supporting points', that is the information that was easy to find on the website. These aspects included easy access to contact information such as addresses, phone and fax numbers, emails, use of supportive images, and inclusion of cultural information about the country, city, university and its extracurricular activities. For example, participant D. commented on the cultural information about the country provided on the website: "Yeah, I like how they actually give information … what's it like living in Ukraine. You know like people who probably have never or are not familiar with Ukraine, they have information about that. Same thing with Kharkiv." Another example illustrates how visual content assisted participant A. in locating and comprehending the verbal information on the website: "I think it was very easy to find, to understand the visual content and especially helped me a lot when I was looking for the levels that actually had a graph of bachelors, masters, and aspirantura. So just by looking at the graph, I was able to find the section for masters … degrees." Thus, the analysis of the participants' responses during the usability sessions revealed a strong connection between positive reactions and assisting points that the participants came across while conducting the tasks in the scenarios.

5.5.3 Negative Reactions and Challenging Points

Similar to positive reactions, negative reactions were also often expressed through the users' opinions about different aspects of the website translated content. The participants reacted negatively when they did not understand information, when they could not find enough information to fulfill the tasks, when the information was not clear enough, and when they came across inconsistencies in technical and organizational aspects of the content use. The common

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words and phrases used to express those reactions included the following: *lost*, *overwhelming*, *confusing*, *difficult*, *I don't know*, *I don't understand*, *not clear to me*. For example, participant B. expressed feeling lost when looking for specific information for international students in the document describing the admission requirements for foreign citizens. The participant commented, "But it's really not giving me a lot of information, way broad, like they're not telling me a lot of stuff. I would hope for it to take me maybe to another page or to open another window and talk to me about the processes, the forms, all the requirements, yeah, the deadlines. Again, the deadlines are here. Not later than November 1st. Yeah, but they don't tell where or what to send. I don't know. I think it is very broad. Kind of lost in here." In general, this participant experienced difficulties with different aspects of the website content, which was reflected in the reactions with "I don't know" phrase 13 times during the usability session. In other examples, the study participants expressed being overwhelmed due to the amount of information ("it's a lot of, a lot of information," "it's a little overwhelming") or due to navigation difficulties ("So it'd be better if it was easier to maneuver because this way I would … email them, but I would go to the office of International Affairs here first … because honestly I'm a little overwhelmed right now.")

Among negative reactions, there were also emotional responses that expressed confusion and frustration. For example, a majority of the participants wanted to choose a study-abroad or graduate program that was close to the majors they pursue in their current institution. However, due to a number of reasons, it was not always possible. Trying to find the program close to her major in education, participant C. checked language programs, psychology, and others and not finding at that point anything closer to her interests expressed how she felt with "I am a little confused." Other participants also expressed confusion when they could not find the information

they were looking for or when they came across navigation issues. Another emotional response that the participants experienced was frustration; it occurred while searching for information. For example, in the following situation, frustration was due to both – difficulties in the search and navigation, especially with staying on the translated pages: "I still don't find the graduate school. About. History. Current Students. Research. News. Home. English. Let's go back. How do I go back? Where are you, English? Where do we find the graduate program? I found international partners." This example illustrates that negative reactions were also closely connected to challenging or pain points, which are obstacles the participants experienced when using the website. Such problems often urge users to search for solution while using the product, in this case translated content of the website. In the study, challenging aspects included issues due to lack of information, missing information, information organization, inconsistency in navigation, non-clickable links or absence of content, and use of translation items such as abbreviations and point system that the participants were not familiar with. For example, one of the challenging points in the website navigation was inconsistency in accessing content in one language throughout all the website pages. Though the participants chose English version among the offered three language options (Ukrainian, Russian, English), changing the pages led to a different language option. Participant H. described it in her session comments: "I wonder if there is an option to just like automatically just keep it in English, but you just constantly have to click." Also, "There wasn't much information for the graduate program, and you constantly have to click on the link because it automatically goes back to Russian." This was a really challenging point and an important issue for the participant; thus, she addressed it also in the post-task interview: "Well, first it went straight to Russian and I couldn't find the English option because it was really tiny at the top or I don't know where it was at the first time, but it took a few tries to

go and find the English icon, and then every time you click on a page, you constantly have to

click English first, and then after that if ever you kept clicking, the English icon shifted to the

left. … So that was a bit confusing and would have been better if you would just ask me translate

"translate text" – "Yes" and then it would just stay for all of them."

Another challenging point was missing or lack of information. For example, participant

D. commented on the difficulties she experienced during the session related to missing or lack of

information:

> When it comes to like finding information as a potential international student, I would
>
> say that it was actually hard for me to find where the information is because I had to go to
>
> so many loops and try to find it. So … it could be up to like maybe their web master or
>
> somebody who's actually designing this website to make it more user friendly in terms of
>
> having it easier for international students to find the information because the information
>
> that I wanted to find was not able to be clickable. And I had to really go back to the very
>
> first page just to find what I was looking for. And so …, but as far as like information on
>
> the application process, I think I would have to probably ask everything because it still
>
> wasn't clear as far as like what they were asking in terms of application process. They
>
> automatically had a link where it says OK go ahead and start with your application
>
> process, but they don't tell you exactly what is required. Do you have to … Do you need
>
> to have a CV? Obviously, you would need like recommendations, but how many
>
> recommendations? Do the recommendations, can they be from a professional, like your
>
> boss, you know, supervisor? Do they have to be academic, you know, letters of
>
> recommendation? … I did not find the information in regards like the enrollment process.

Thus, the analysis of the participants' responses during the usability sessions revealed not only their reactions but also pointed out challenging points that website specialists and translators should take into consideration to improve the quality of information products with translated content. In addition, identifying pain points and understanding what users are thinking in order to achieve their objectives in website use can help delve deeper into what users as prospective international students are really looking for and how this information can be incorporated to improve the website content and assist future students with a complex process they have to go through when applying to a university outside their countries. Analyzing the users' reactions and how they interact with individual pages or with the site as a whole is a source of valuable knowledge, which becomes even more useful when it is connected to an understanding of why users are taking the actions they take while using the website.

**5.6 Actions**

To understand how multilingual UX functions, it was important to analyze not only the participants' reactions but also what actions they took that helped them in achieving objectives in the scenarios. Among the patterns identified through the analysis of the usability sessions, there were actions such as reading aloud the website information and documents, applying a dialogue approach through asking and answering questions in inner dialogue with oneself and outer dialogue with me as a session coordinator and a researcher, apologizing when obstacles occurred, watching videos to get more information about the school the participants were researching, and suggesting improvements for the website quality and content.

Approaching the usability session as a conversation and a dialogue between the participant and the researcher was one of the most common patterns. During the sessions, the participants used question-answer format to ask for the following:

- clarification of a word/phrase meaning ("Tuition Fee. Let's go there. What is this?" or "What is attestation?")

- action confirmation ("This is what I'm doing. Right?")

- researcher's opinion ("I've never heard of this. Have you?")

- permission ("Can I Google?"/ "Can I Google it again?"/"So since I can't find it, I am just going to Google it. Can I do that?")

- direction with the actions ("Do we take a virtual tour?")

- questions about additional information ("How many schools? Twenty-one. How many does UTEP have?")

Both instances of inner dialogue as a part of inner thinking and outer dialogues with the researcher showed the participants' engagement in the usability sessions; moreover, engaging the users in dialogue sessions enables them to move beyond product evaluation to the engagement in design possibilities. Such engagement in design and content possibilities happened when the study participants suggested improvements that could make the website a stronger product with more effective usability and accessibility. The participants' suggestions for improvement had a wide range of ideas from improving the website design to language use in its content. To improve the website design, the participants suggested revising language accessibility on the pages ("if a student decides to click on something, whatever page should pop out should be at least the language that they started"), increasing the font size, and improving the design principle of grouping through effective use of headings. For example, addressing these issues, participant E. commented,

> I think it might be good if they had like sections of what you're reading. Yes, because I
> mean this looks like a lot to read for one. This might be helpful. I think you know how

there's like over here the title for the page, it will be good if you have that title here too. Well, it's here, but maybe bigger so they can actually see. I think this could be a little bit bigger font too. … I would really like to stress the headings and subheadings, and then you could make if you had a heading like someone here on top then… Here of you click on it, then it would go to the bottom of the page where the heading was. Something like that.

Participant C. also made a suggestion to improve the font size but explained that using lists would help users with processing the information: "… for sure make the text bigger or like include a lot of, not a lot, but like maybe list more because that's what I look for when I'm looking for stuff. Like for requirements, I would look for a list like that can check everything off so it's easier."

As for the content, the participants wanted to see more content in some sections, for example, adding content in Research section: "maybe include the actual programs that they've done or progress projects that they did …" Careful reading and evaluation of the documents presented on the website allowed the participants to offer improvements by repurposing the content. For example, commenting on the "Guidelines for International Students" document, participant D. suggested, "And a lot of these … guidelines could also be applied to their own regular students; and for international students, it's like warning them, like if they don't abide by the guidelines, you know, they will be faced with strict consequences of sorts." Also, this participant suggested adding a glossary or providing the information on the meaning of some words that "not everybody would understand" as well as providing more information on some cultural elements used on the website. In a number of cases, the participants not just critiqued the product, but offered very specific suggestions to improve website effectiveness through

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providing questions to consider when revising content ("…how many letters of recommendation do you need? How long does your paper have to be? Do you have to take the GRE? Do you have to know Russian, French?") and even offering options for more common and clear use of vocabulary (for example, using *plagiarism* instead of *malpractice*).

Thus, the data analysis showed that the study participants were engaged in the design possibilities for the product they worked with through their actions and comments during the usability sessions.

**5.7 UX Strategies**

During the study, the UX sessions provided an opportunity to see how the website translated content worked for and how it was perceived by multilingual users. Also, through the use of a user-dialogue strategy, the usability session often served as a window into a participant's personal story, life, and personality traits revealing mechanisms to cope with pressure. For example, while researching and looking for the information on the Kharkiv University website, participant C. related to her enrollment experiences in San Diego State University. Thinking about possible questions about the enrollment she wanted to clarify, the participant explained, "I know that sometimes when you … enroll, like when I was enrolling for … California's San Diego or whatever, they asked for … certain like writings, like papers and stuff … that you had to do. … I mean they said that you have to be interviewed but that's for another thing, I think. But maybe ask them like, "Oh, is there certain like papers or like essays that I have to turn in" – for like to see if they want to take me or whatever. So that would be a good question because I said I'm not really great at writing, so I would be more prepared for that." Also, during the session this participant made connections to UTEP, the current university she is at, when researching different university colleges ("How many schools? Twenty-one. How many does

UTEP have?") and reading about the residential policies, such as residents' obligations and curfews in the dorms ("That's kind of like what UTEP has in a way."). The participants also related to the website content through personal interests, even though it was not a part of the scenario task. For example, looking for the information on the admission policies for international students, participant H. saw some reference to Hebrew, so she decided to check it because of her interests: "since I took Hebrew for my Jewish studies, I thought, wow, Israeli, let's click on that…" After explaining her action, the participant also shared the story of learning Hebrew and her interests in other languages such as Russian and German.

In addition, user dialogue provided insights into users' practice, skills, and self-evaluation. Through dialogue, the participants revealed some vulnerabilities or areas where, in their opinions, they lack some skills and expertise. For some participants, it was the use of an Apple computer instead of a PC ("I am not good with Mac"; "you can tell how technology advanced I am"; "I don't use Apple that much"). In some cases, the participants made references to poor eyesight, like in the following example: "If I were looking for like collaborations, I'd probably look for a list of the people who they cooperate with. And since there isn't a list, I'm kind of like I don't want to read it. … Lazy of me but at the same time I can't see." Among other examples, there were references to writing skills ("I am not really great at writing.") and information presentation preferences ("I am more of a visual person.").

Since the participants felt vulnerable in some cases and experienced certain difficulties in obtaining the information from the website, they used tools and media to research the information and fulfill the scenario tasks. For example, watching a virtual tour of the university helped with learning more about the school through a different medium and clarifying the decision to apply or not to apply to it. The tool that the participants used during the sessions was

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Google. Two study participants used Google search within the website looking for requirements for international students and checking the content of the section International Student Training. One participant used Google search for the phrase *academic arrears*, found the definition, and checked the meaning in the context of the document. Also, one of the participants decided to organize her ideas that she expressed during the session in the form of notes and outline illustrating the session content visually. Figure 5.1 presents the image of the participant's notes made during the session. The visual includes sections (marked in different colors) on website design, translation, PDF document with guidelines, and topic related content such as admissions and housing.
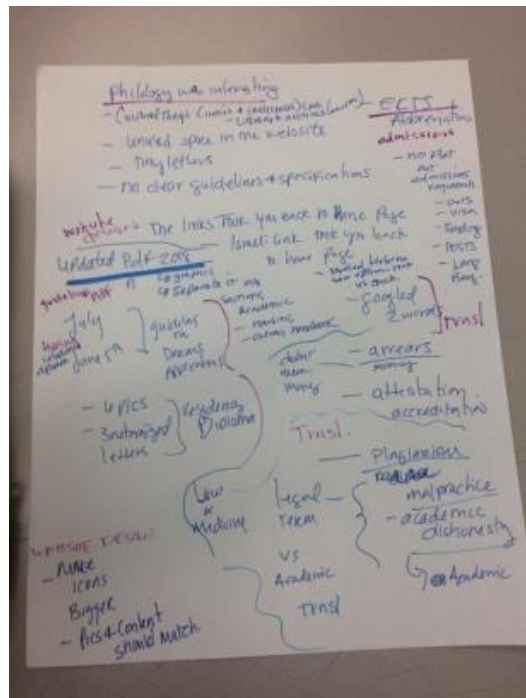


Figure 5.1: The Participant's Notes with Ideas and Observations on Website Usability

Thus, the usability session was not just usability testing often seen as a way to obtain data on the use of a product. Using user dialogue helped to facilitate unfolding users' personal stories, interests, skills, and connections they make between their user experience and real lives.

**5.8 Translation Moments**

During the usability sessions, participants used the website translated content performing rhetorical work of understanding information that was translated and intended for audiences from various linguistic and cultural backgrounds. Thus, translation moments in this study are the instances where multilingual users make meaning of translated information. During translation moments as defined in this study, participants pause to think, discuss, comment, or clarify the meaning of a word, phrase, or other vocabulary segment. The data analysis revealed the following groups of translated vocabulary units that the study participants came across and interpreted to make meaning: abbreviations; words and phrases; and culture-specific items.

First, among the abbreviations that the participants had translation moments with were those related to the educational system and national currency in Ukraine. The following table presents these abbreviations, provides their meanings and explanations, and describes participants' reactions when they came across them in the usability sessions.

Table 5.2: Interpreting Abbreviations by Participants during Usability Sessions

| Abbreviation | Meaning | Explanation | Participant's Reaction |
|---|---|---|---|
| UAH | Ukrainian Hryvnia | abbreviation for Ukrainian national currency | "What is this abbreviation for?" |
| F/P | Full time/Part time | abbreviation to refer to full-time and part-time mode of studying | "I am not sure what F and P stand for." |
| ECTS | European Credit Transfer and Accumulation System | abbreviation to refer to a standard system for comparing academic credits for higher education across European Union and other collaborating European countries | "What is ECTS? I wonder what ECTS credits are." |

The participants' reactions showed that abbreviations were vocabulary units that participants

had difficulty with trying to understand the meaning. Since there were no explanations in the text

and no specific cues in the context, participants asked me, as a session organizer, to clarify the

meaning of an abbreviation for them.

The second group of vocabulary units that participants had translation moments with

included words and phrases. In this case, participants applied different approaches to get to the

meaning by using context for clarification as the most common strategy. The following Table 5.3

includes vocabulary segments the users had difficulties understanding as well as meanings of the

segments, used approach/tool to interpret, and participants' reactions.

Table 5.3: Interpreting Translated Words and Phrases by Participants during Usability Sessions

| Vocabulary Segment | Meaning | Approach/Tool | Participant's Reaction |
|---|---|---|---|
| academic arrears | failed assignments, tests, exams | context | "I've never heard the word. I'm guessing that it's like when you fail or something unsatisfied. The final semester. So the final grade you get. And if you fail, it's an academic arrear, I guess. I mean I can kind of like put everything together…" |
| mode of study | a student's study/course load: full-time or part-time | context | "Even like with the mode of study is like what kind of mode or how do they define mode because especially here in the States they would usually say for part-time students or for full-time students. But mode of study is like what is the mode? Linguistics. And it's easy to see like with full time and part time: if it's faded, that means a part time is not applicable here, and it's only for full-time students." |

| attestation | confirmation about the level of knowledge and skills of a student at certain points in the semester, usually through grades | Google | "What is attestation?" Reading from Google, "An attestation is a declaration by a witness that an instrument has been executed in his or her presence according to the formalities required by law." "It is not the same as an acknowledgement. A statement by the maker of a document that verifies its authenticity." "Ahhh." |
|---|---|---|---|
| re-sit the semester exam | re-take an exam | context | "Resit. I mean it makes sense, but I wouldn't use it that way. Just be like re-take." |
| academic malpractice | academic dishonesty | context | "Academic malpractice. Yeah, this is academic dishonesty. OK. Yeah, academic dishonesty. …So this one is backed up by the context… I mean it would be nice if they added plagiarism so that people would be more aware that's plagiarism. I think it's a word we all know when most of us understand that, it would be easier for them to reach more people if more common words were used – plagiarism. Malpractice - we still understand." |
| secondary, vocational, and vocational training | high school, two-year college, and vocational education equivalent | asking a researcher and context | "What is this secondary, vocational, and vocational training issued?" "Like when they ask you, "Did you attend any prior schools?" Oh, El Paso Community College or Western Tech or … college. OK." |
| state building | creating structure and institutions necessary to support social, economic, and political development of a country | context | "OK, focus areas. Historical Roots; State and Culture; State Building at the present Stage. What is that? Volunteer Movement; Ukrainian Language in Education. I don't know what it said. State building. I don't know. Politics?" |

As seen from the data analysis of participants' reactions, the study participants had some difficulties understanding the translated words and phrases; however, it did not create considerable issues since the participants used context as the word or phrase surrounding that helped them clarify the meaning, used Google to check the word definition, asked the researcher, or used mixed methods.

Third, among culture-specific items related to the educational system, the participants found it challenging to understand the point system referred to in "Guidelines for International Students" document. When participant H. read about the instances described in the document when students scored less than 50 points, she expressed her confusion, "… so I guess the point process is also confusing because we're used to hours and credits." Furthermore, she provided examples of required hours for master's and doctoral degrees in History while the point system referred to grade percentage in the courses. In the participant's opinion, providing some information about the point system "would be a bit more accommodating for us because I don't understand the point system."

Another translation moment was observed in relation to the name format including the word *sciences*. While in English the name for academic disciplines studying aspects of human society and culture is called Humanities, in Ukrainian and Russian languages it is *гуманітарні науки/гуманитарные науки*, which is literally translates as *humanitarian sciences*. Similarly, the word *sciences* is used with philological sciences, which are studies of language and literature. Thus, while in participants' understanding humanities and sciences represent dissimilar disciplines, seeing the word *sciences* in a translated content led to the perception that Kharkiv National University focuses on sciences while when analyzed, humanities and sciences are represented equally among the disciplines and majors at this university.

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In addition to translation moments with vocabulary segments, translation occurred during the usability session with participant A. This participant speaks five languages, including Ukrainian and Russian. Thus, from the very beginning of the session, he decided to use all three website versions in English, Ukrainian, and Russian. This is how he commented on his strategy to start the session, "So I go to the website and it takes me to the English page, but since I studied Ukrainian and Russian, I am going to try first to look for the information in Ukrainian." When he noticed that some information was presented in the Ukrainian version but not in the English one, he explained his choice, "You know I don't think there is one. No. That's why I looked in Ukrainian first because it is always more complete in Ukrainian than English." Moreover, for this participant, "it was easy to find the information especially because you have the option to switch between languages." Thus, using the original versions of the website first (Ukrainian and Russian) and then later the versions in all three languages was effective and allowed the participant to accomplish scenario tasks and evaluate his progress as positive in the post-task interview:

> So I think it worked well because I know that, for example, a website in the original language is going to have much more information, it's going to be more complete. That's why … when I was first looking for the programs … I first looked for the information in Ukrainian because I was looking for a program in Ukrainian. And usually if you're looking for a program, and once I went to the English, English section, there was a section aimed at international students because I know that international students look for the info in English. So I think that switching the languages was, was key for each scenario.

During the session, the participant was using all three languages in his thinking-aloud comments and was also switching between them. He used English, Ukrainian, and Russian while searching for the program he was interested in:

So I want something that is Ukrainian literature. Французька мова, французька мова і література, переклад, українська мова і література. Good. So I found the program that I like. It is called українська мова і література. So they have Master's program. 1 year 4 months. Ok. Програма подготовка. Description of the program. Good. Ok. I found the contact info. Great.

Also, translation was part of this participant's session since he was translating from Ukrainian to English while searching and reading the section headings: "Ah, educational programs. Yey, I found them. Освітні. Освіта. Гуманитарные науки. Ok, I found it because it is my interest. Humanities. Гуманитарные науки." In some cases, when the participant had doubts about the translation, he asked questions to confirm ("Приемная like admission. Right?") or clarify the meaning of the translated information ("Ok. I go to the website. What does it say? - *Институт международного образования.* - International students … Ok.").

Using all three languages was connected to the participant's objective and focus of the research conducted on the website. In the post-task interview, the participant explained how he used languages during the session: "I think that in Ukrainian I understand the key concepts like titles, but … if I went more into detail, I would think I would have a hard time. In English I mean it wasn't difficult; there were just some words translated from European English and it makes me wonder if it means the same." As a result of the session, the participant was satisfied with the information he found about the university and its programs, gave a positive feedback about translation ("It was a quality translation."), and commented on his decision to apply for the

university: "Actually, yeah, I would realistically consider a degree in Ukrainian literature and language. And the reason why is because I think that's so … something so unique, yeah, something that you just find there."

Thus, the data analysis of the translation moments, during which participants made meaning of the translated information, revealed that multilingual users came across and interpreted vocabulary segments such as abbreviations; words and phrases; and culture-specific items. Participants' reactions showed that abbreviations were vocabulary units that study participants had most difficulty with because they could not find explanations in the text or no specific cues in the context. In contrast, context played an important role in understanding some translated words and phrases, so comprehending these vocabulary units was not as challenging as interpreting abbreviations. During this work with the groups of vocabulary segments, participants used strategies to overcome challenges by asking me to clarify the meaning, checking a word definition in Google, or using a combination of these methods. In addition, translation moments during the usability sessions included the use of multiple languages in the information search, the website versions in those languages, and in thinking-aloud comments. Observing participants' work with the translated content during usability sessions provided an opportunity to see what occurred during translation moments, what strategies multilingual users used to comprehend translated information, and how translation plays out in multilingual UX.

## 5.9 Discussion

The usability study findings reveal how translation and UX converge in communicating multilingual content to users through an information product such as website and how users manage and interpret this content to achieve their objectives.

First, the research demonstrates translation as interaction among the groups involved (website content specialists/translators and users) in the space where communication was negotiated across languages, modes, and discourses. In this case, a UX session was a translation space where participants worked with translated content, expressed their reactions, and participated in different types of interactions including asking questions to clarify meaning, providing suggestions for improvement, sharing personal history, and using tools to comprehend translated information. Analyzing a UX session with multilingual users and translated content allowed me to look at translation as a component of complex systems; these systems include multiple counterparts (texts and people) and dynamic interaction between them in the space of a UX session.

Second, the usability study results also demonstrate close connections between translation and localization and internalization as approaches to creating multilingual information products such as websites. First of all, through internalization as a set of processes and techniques, a product becomes capable of reaching diverse international audiences. In the case of the Kharkiv University website, internationalization was a key in a multilingual product with the application that supports multiple languages (Ukrainian, Russian, and English). Among some examples of internationalization, there was a virtual tour, a nine-minute YouTube video in English that presents the university to international audiences. Also, including specific content, such as international collaborations with countries around the world, contributes to the effectiveness of the website as an information product. The fact that the study participants as representatives of an international audience were able to comprehend the website's content and fulfill the scenarios tasks contributes to that as well. As for localization, the study demonstrated that it was not as widely used as internationalization due to the purpose of the institution to reach

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as many diverse audiences in the world as possible to attract prospective students instead of focusing on adaptation to meet rhetorical expectations of a certain culture. Some elements of localization were identified including instances of British English vocabulary ('preparatory schools') and abbreviations and references to the European educational system due to the geographical position of Ukraine in Eastern Europe and requirements for following European educational standards as part of common educational system. In general, elements of internalization definitely prevailed in the website's translated content which suggests that reaching wide international audiences is the preference in comparison with meeting expectations of a specific locale.

Third, a UX session provides an opportunity to see how translated content works and how it is perceived. It is also a window into a participant's personal story, life, personality traits, and mechanisms/strategies to cope with pressure while using multilingual content. The users' reactions were highly contextual and depended on specific search of information; they were a mix of emotions in a range from negative to positive in one session. Thus, empathy is necessary due to vulnerability and revealing of personal challenges/"weaknesses" of multilingual users demonstrated during the sessions. The participants opened themselves in a way that a story can be written about them, their personal experiences, values through their UX, reasoning, actions, and reactions. The more we know about users the better we can incorporate their needs in created products. Personal narrative is important and should matter in UX. For example, without embracing a multilingual UX approach with empathy, UX researchers might assume that a participant's difficulties navigating a website are based on translation issues alone; instead, these issues might be attributed to previous experiences that users have had navigating translated

content, where users have perceived over time that these translated websites were not properly localized or made accessible in a particular language.

Thus, the analysis argues for the view on multilingual UX as a complex system with different processes, people, languages, texts, and tools involved. Multilingual UX is more than just about how an information product is used; it is a means for users to tell a personal story (unintentionally), to relate to personal values and interests, and even share ideas to improve products they use in their everyday life.

# Chapter 6

## Expanding the Scope of Multilingual UX

### 6.1 Introduction

In chapter 5, I provided results and discussion of the usability testing during which participants engaged with the translated content of the Kharkiv National University website. I did so by describing the coding scheme, analyzing data, and reporting findings that allowed me to answer research question 2. In the discussion part, I synthesized and discussed the results in light of the study's research question 2 and highlighted patterns that the usability study demonstrated. In this chapter, using the findings of both studies, I answer Research Question 3: What is multilingual user experience? How can a multilingual UX center and its research contribute to translation and UX theory and practice? I will begin by defining what multilingual UX is and describe contributions of a UX center to translation and UX theory and practice through its research. I do so by providing strategies and practices that can help guide multilingual UX and design of effective information products for diverse audiences. Then, I provide study conclusions, implications, and suggestions for further research in multilingual UX.

### 6.2 Research Question 3: Findings and Discussion

With the results from the qualitative research and usability testing, this study illustrated how multilingual user experience works, what role translation plays in it, and how UX centers can contribute to design practices through their projects for and with multilingual communities.

First, I identified strong connections between the areas of technology design, UX, and translation, both through the study with UX researchers and the usability testing with multilingual users. The intersections of these areas illustrate complex relationships, negotiations, and considerations when involved in translation and design processes for multilingual audiences.

The navigation of diverse contexts is proposed by the interviewed scholars to be guided by asset-based, participatory, and coalitional approaches that help see linguistic and cultural differences as assets rather than challenges and center perspectives of multilingual users during design process through co-participation or co-designing.

In addition, my research revealed that multilingual UX is a complex system with different groups involved (website content specialists, translators, and users) in the space where communication was negotiated across languages, modes, and discourses through translated content. A UX session with multilingual users was a translation space where participants engaged with the website's translated content, and it also served as a window into participants' personal stories, lives, and mechanisms/strategies to cope with pressure while using multilingual context. A UX session was also a space where multilingual users provided their evaluations of the information product they used and offered suggestions for its improvement. If taken into account, these suggestions contribute to a deeper understanding of multilingual users and, as a consequence, to higher quality and effectiveness of product design.

Second, a multilingual UX center can be a space for social justice-driven work for and with diverse communities that are often overlooked and marginalized in various contexts. A multilingual UX center and its research can contribute to UX theory and practice through the following: (1) its events, including UX symposiums, conferences, webinars, roundtables, workshops, and virtual tours of UX centers; (2) projects with multilingual users from local communities including social-justice initiatives; and (3) collaboration within the UX research community maintaining strong networking and exchange of the information on UX practices. According to the UX researchers interviewed in the first study, such contributions can include (1) revision, expansion, and creation of new research methods for UX work with multilingual

users; (2) deeper understanding the stance or positioning of the research in relation to study contexts; (3) development of UX field "specific expertise to combat oppression and to work toward justice." Since UX methodologies are developing fast, a multilingual UX center can be a space where UX scholars and practitioners can share and reflect on their research to develop and conceptualize UX methodology. These conversations can be situated in the larger discussion of conducting usability research with multilingual users and a unique environment in which organizations create communication products designed to serve diverse multilingual audiences. This direction of a multilingual UX center can include activities to help researchers understand positioning of UX research in relation to study contexts and the nature of UX work and practices. Since UX researchers have to balance knowledge and application of best practices for conducting usability studies, the needs of community organizations they are partnering with, and the research relationship with study participants, a multilingual UX center can serve as a space and resource to discuss these choices and direct the research towards more just and inclusive user experience.

In addition to UX, a multilingual UX center can contribute to translation theory and practice through its research on translation as a part of user experience, as human technology and a user-localization practice, the quality of which is closely connected to and affects the lives of people in linguistically and culturally diverse communities in the areas of health, employment, and lifestyle. Multilingual UX work calls for translation viewed through a humanistic perspective and considered an integral part of community-based research and UX conducted through participatory and coalitional approaches. Also, further research in multilingual UX can help with facing and finding effective solutions for a number of concerns and challenges in

relation to technology design and translation tools that study participants experienced in their work and described in their interviews.

Thus, based on the findings both from the qualitative study and usability testing, an expanded vision of multilingual UX is proposed as below:

Multilingual UX is the users' experience with multilingual products that include information in multiple languages and translated content. It includes efforts from design and translation through use. The process starts from the developer's side where design, content, and translation specialists create an information product usable for diverse audiences. On the user side, users use their linguistic expertise to comprehend information as well as develop strategies and concrete individual experiences while using the product to achieve personal objectives. With this vision, multilingual user experience is the experience of communication with translation as its integral part; it is not limited only to the experience of technology. It includes users' communication with the information through emotions, perceptions, reactions, actions, and personal history before the use, transformed history due to learning experiences during the use, and considered future actions after the use of a product.

I developed this definition based on my observations of how technology design, UX, and translation connect, intersect, and influence each other when multilingual users engage with translated content during the usability study I conducted and also through research narratives of the UX scholars. With a focus on how multilingual users employ their linguistic and rhetorical expertise to communicate with translated content, this view of multilingual UX regards usability as a communication process, incorporates users' participation in it using factors from immediate context (reactions, actions, emotions) and background factors (connection to personal history), and situates user experience in the dynamic interaction by connecting information products and

their users through translated content.

With this understanding of multilingual UX, design strategies should look for ways of taking into account complexities of the UX processes for audiences using multilingual products and building a support system that will minimize the amount of pain points and will help repair possible breakdowns in contexts of use. This approach will not only improve user experience but will contribute to a more effective and highly usable information product.

**6.3 Suggested Practices and Considerations for Technical Communication, Multilingual UX, and Multilingual Content Design**

To apply the study findings to technical communication in industry contexts, technical communicators, UX researchers, and content design specialists could consider the following strategies and practices, as they can help guide effective design of information products for multilingual communities and users.

*Suggested Practice 1: Work to understand complexity of multilingual UX as a process and communication.*

Understanding multilingual UX as a complex process and communication that multilingual users experience affords technical communicators a viewpoint not frequently presented as such, but one with excellent value. During the process of multilingual UX, users engage with an information product including its design, translated content, and visual presentation and communicate with it through making decisions, taking actions, and revealing reactions, perceptions, and emotions. For instance, understanding the importance of consistency in accessing content in one language throughout all webpages of a site can help specialists effectively design webpages and organize web content so its information is easily accessible in a language a multilingual user chooses. It is important to create a clear language selection menu on

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the home page and make tabs with language selection options big enough in size for easy visibility. In addition, it is beneficial for navigation to include tabs with language selection options on all pages because users do not necessary access a site through its home page when they use a search engine and also because they change pages to find information they are looking for. Not being able to see and read information in the language of their choice leads to confusion, anxiety, and desire to quit information searches on a website. Since navigation is a means to signal the information structure of a website and to guide users to and through the information, developing a navigation system that guides multilingual users through a website in the language of their choice can improve their user experience and contribute to efficiency of an information product.

*Suggested Practice 2: Work to understand the role of translation as an integral part of multilingual UX.*

Translation should be approached as an essential part of multilingual UX, not as an isolated process or product. In multilingual UX, translation works together with technical aspects of information products and users' preferences, emotions, responses, beliefs, perceptions, and behaviors expressed through users' comments and narratives during usability sessions. Thus, in addition to gathering information about potential users during the entire translation process, testing multilingual products with multilingual users will help design and revise translations while taking needs of the diverse audiences into consideration and enhancing usability of translated content. For example, to support users with different levels of expertise, translators should use words and phrases which are familiar to the users, provide complete names for abbreviations, and add a glossary for terms and vocabulary that might be problematic for comprehension by multilingual users. Also, users will be able to use a multilingual product

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effectively, efficiently, and to their satisfaction when, no matter what language they choose, information in translated content is complete and has the same content. In this case, translators as members of design and content teams can help multilingual users create a full and effective user experience.

*Suggested Practice 3: Practice a variety of active listening techniques, including empathetic ones, to develop a deeper understanding of multilingual users and their UX practices.*

By listening empathetically, technical communicators and designers can work to understand personal beliefs, viewpoints, emotions, and ideas of multilingual users and how these concepts influence user interaction with an information product and its translated content. Empathetic listening is a way to develop understanding of multilingual users through dialogue and analysis of their reasoning, reactions and beliefs that they employ to decide how to act, what actions to choose while using a product. Empathetic listening allows design teams and translators to hear a user's story and see how a product influences a user as a whole person through knowledge a user gains and decisions a user makes as a result of product use and user experience. As highlighted in recommendations for intersectional technofeminist technology innovation, storytelling is a starting point for technology innovation, and it is important to center "storytelling specifically from and by culturally diverse communities as a primary component of technology design" (Shivers-McNair, Gonzales, & Zhyvotovska, 2019, p. 51). In multilingual UX, active listening techniques allow professionals participating in this process to hear users' voices through storytelling and understand multiple connections and complex contexts. This, in its turn, will lead to developing empathy, recognizing needs of multilingual users, and promoting more just and equitable experiences in technology design and use. Users' stories, dialogues, and

narratives help understand multilingual UX as a concept and a process, which leads to making UX smarter, more equitable, and more effective.

**6.4 Study Conclusions**

Based on the existing scholarship in translation and usability studies in technical communication, this dissertation undertook empirical research, including qualitative and usability studies, to develop a deeper understanding of multilingual UX as well as role and place of translation in UX and in technical communication in general.

Throughout this work, I have sought to answer the following research questions:

- How does a multilingual UX research center help navigate multilingual, cross-organizational, cross-disciplinary, and cross-cultural contexts, through translation as communication practice? What role does social justice play in these navigational decisions?

- How does translation play out in a multilingual UX scenario? How is it similar to or different from localization and internationalization?

- What is multilingual user experience? How can a multilingual UX center and its research contribute to translation and UX theory and practice?

To answer the research questions, this dissertation employed qualitative and usability study approaches with the ultimate objective of advancing theory by expanding the scope of multilingual UX and also making practical suggestions for UX researchers and designers of information products with multilingual content. To answer the first question, I identified the contexts a UX research center functions in and examined how it navigates these contents through the study conducted with the affiliated researchers of the Multilingual UX Consortium. To answer the second question, I designed and conducted the usability study of a higher educational

institution website that has translated content. Finally, using the findings of these studies, I defined what multilingual UX is and described the contributions of a UX center to translation and UX theory and practice through its research.

Research Question 1:

The interviewed UX researchers identified strong connections between areas of technology design, UX, and translation. These intersections exemplify complex relationships, negotiations, and considerations including making decisions about content, translation, visual presentation of information in multilingual products and importance of having different kinds of expertise to design effective products for linguistically and culturally diverse communities. The navigation of diverse contents in a multilingual UX research center is guided by coalitional and asset-based approaches that include participatory design/co-design and view linguistic and cultural differences as assets rather than challenges. A multilingual UX center is envisioned as a space where this type of research can be conducted for and with the communities supported by diversity and inclusion initiatives such as networking, collaborative events, and projects. Translation, as a communication practice comprised of complex connections across languages and cultures, is a central factor of social justice work that affords to reflect preferences and meet the needs of the diverse communities in the use of multilingual information products. The data analysis demonstrated that translation should be approached through a humanistic perspective and considered an integral part of community-based work and UX conducted through participatory and coalitional approaches.

Research Question 2:

The usability testing and analysis of the conducted UX sessions with multilingual users and translated content revealed that translation is a component of complex systems which include

multiple counterparts (texts and people) and dynamic interaction between them in the space of a UX session. A UX session served as a translation space where participants worked with translated content, expressed their reactions, and participated in different types of interactions including asking questions to clarify meaning, providing suggestions for improvement, sharing personal history, and using tools to comprehend translated information. The usability study results also demonstrated close connections between translation and localization and internalization as approaches to creating multilingual information products such as websites. In general, elements of internalization prevailed in the website's translated content which suggests that reaching wide international audiences is the preference in comparison with meeting expectations of a specific locale. In addition, analysis of UX sessions allowed me to see how translated content worked and how it was perceived. During UX sessions, participants opened themselves in an unfolding story that revealed their personal experiences and values through their user experience, reasoning, actions, and reactions. Users' reactions were highly contextual, depended on specific search of information, and were expressed through a mix of emotions ranging from negative to positive ones. Thus, empathy should be an important aspect of multilingual UX due to vulnerability and revealing of personal challenges/"weaknesses" of multilingual users demonstrated during the sessions.

Research Question 3:

Multilingual UX is the users' experience with multilingual products that include information in multiple languages and translated content. Users employ their linguistic expertise to comprehend information as well as develop strategies and concrete individual experiences while using the product to achieve personal objectives. Based on the findings both from the qualitative study and usability testing, an expanded vision of multilingual UX presents it as the experience of

communication with translation as its integral part; it is not limited only to the experience of technology. It includes users' communication with the information through emotions, perceptions, reactions, actions, and personal history before the use, transformed history due to learning experiences during the use, and considered future actions after the use of a product.

A multilingual UX center can be a space for social justice-driven work for and with diverse communities that are often overlooked and marginalized in various contexts. A multilingual UX center and its research can contribute to UX theory and practice through its events, projects with multilingual users from local communities including social-justice initiatives, and collaboration within the UX research community maintaining strong networking and exchange of the information on UX practices. In addition to UX, a multilingual UX center can contribute to translation theory and practice through its research on translation as a part of user experience, as human technology and a user-localization practice, the quality of which is closely connected to and affects the lives of people in linguistically and culturally diverse communities in the areas of health, employment, and lifestyle. Multilingual UX work calls for translation viewed through a humanistic perspective and considered an integral part of community-based research and UX conducted through participatory and coalitional approaches.

The study findings, both from the qualitative research and usability testing, helped me develop a set of recommendation for professionals working in the areas of technical communication, multilingual UX, and multilingual content design. These practices include working to understand complexity of multilingual UX as a process and communication, working to understand the role of translation as an integral part of multilingual UX, and practicing a variety of active listening techniques, including empathetic, to develop a deeper understanding of multilingual users and their UX practices.

**6.5 Multilingual Technologies and Multilingual UX: Study Implications and Further Research**

This study of the role of translation in multilingual user experience presents implications for theory, research, and practice in the fields of technical communication, UX, and translation.

First, strategies used by the Multilingual UX Consortium can be applied to develop ideas about organizing new UX centers by the institutions and community organizations. These strategies can be also used by existing UX centers to diversify their practices and promote community-based approaches in their work and inclusion of diverse groups of users, including multilingual communities.

Second, from a theoretical point of view, findings of the study contribute to the definition of multilingual UX and understanding its complex nature. This study enriches current understanding of multilingual UX by emphasizing its nature as the experience of communication with translation as its integral part. Further research should focus not only on user experience as technology use but also study various processes and relationships that shape user experience with multilingual products by multilingual users.

Third, considering practical applications of the study, this research provides data and analysis of actual experiences of multilingual users with information products involving translation components during the usability sessions. Since effective products cannot be created without users in mind, experiences of multilingual users should be taken into consideration when designing information products for multilingual audiences. As a result, I formulate these ideas as a list of suggestions for designers, content specialists, and UX researchers working on products for linguistically and culturally diverse audiences.

Fourth, considering practical applications of the usability study, this research presents low-cost options to conduct usability testing. UX research is expensive; large companies and corporations use high-cost user research and spend a lot of money on usability testing (Annikov, 2016; Podmajersky, 2019). In addition, "[u]sability is highly cherished by companies building products and services where profits are driven by user experience such as social media and e-commerce" (Rose & Racadio, 2017, p. 5). Thus, for organizations that lack financial and technical resources needed to conduct user research, think aloud and listening techniques combined with the analysis of user actions are labor efficient UX evaluation methods that provide valuable information about what users, want, need, or would like in their experience with a product. Educational institutions and community organizations can benefit from using these techniques when developing or improving their information products such as websites. These organizations can invite their current or potential members to participate in usability testing through individual sessions and/or focus groups and offer them gift card or other type of incentives for their feedback. Thus, in addition to the benefits from a low-cost UX approach and product improvements based on usability evaluation, including organization or community members supports their engagement with the organization, provides an opportunity to have their voices and needs heard through their user experience, and positions participants as valuable resource in technology design processes.

Further research in multilingual UX can help find effective solutions for a number of concerns and challenges in relation to technology design and translation tools that multilingual users experience when using multilingual products with translated content. Future multilingual user experience research should be envisioned as collaboration between technology specialists,

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translators, and users that will lead to building information products and platforms localized to audience needs and grounded in just and inclusive values.

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# Appendices

## Appendix A

### Research Question 1: Interview Protocol

As an affiliated researcher of the UX research center, please respond to the following questions regarding your work, the work of the research center, and translation practices.

**Interview Questions:**

1. Can you tell me about the work you are doing?

2. After attending the Multilingual UX Symposium, where do you see intersections between the areas of translation, user experience, and technology design?

3. How do you situate your work in relation to the areas described above?

   a. Do you situate your work in user-experience research? If so, how do you think issues of language and culture influence user-experience research?

   b. Do you have experience with translation in your work? If so, do you think translation work fits into user-experience research? How so (or why not)?

4. Can you tell me a little bit about your experience meeting people from different fields and areas at the Multilingual UX Symposium? Did any questions or ideas spark up for you? Did you see any possibility for cross-disciplinary collaboration in the attendees?

5. What kinds of questions, issues, and projects do you think would be useful for the UX research center to take up?

**Appendix B.1**

**Research Question 2: Study Tasks and Scenarios**

- You will use the four scenarios below to research the university abroad where you would like to continue your education.

- Please stop after completing each scenario. Let me know when you have finished.

**Task 1:** Getting the information about the school and the program

**Scenario**

You are a UTEP student interested in continuing your education in Eastern Europe. You heard about Kharkiv National University in Ukraine from one of your professors. You want to research this opportunity online. You think it is important to get as much information as possible about the school and its graduate programs in preparation to discuss this opportunity with your professor.

**Task 2:** Getting the information about the enrollment process

**Scenario**

As a prospective student, you want to learn about the enrollment process in this university. After carefully reading the process description on the university website, you find important to clarify some points by asking 2-3 questions addressed to the university enrollment department via e-mail.

**Task 3:** Getting the information about the requirements for international students

**Scenario**

As a prospective international student, you want to learn about the requirements for this group of graduate students. Based on the provided information on the website, determine what aspects you need to clarify and/or request more information about.

**Task 4:** Getting the information about the school's international research collaborations

**Scenario**

For you as a prospective graduate student, it is important to find out if this university participates in international research collaborations. Find as much as possible information about it on the website. Determine if this information contributes or not to your decision about choosing this university as a place for getting your graduate degree.

**Appendix B.2**

**Research Question 2: Post-Task Interview Protocol**

This interview is designed to tell the researcher more about your experience using the website today.

**Interview Questions:**

1. What is your home country and what is your first/second/third language?

2. Do you have study-abroad experience? If yes, in which country, program and in what capacity?

3. Today you were asked to use a translated website of a university in a foreign country to find the information. In general, how well did this website work for you? Were you able to achieve the objectives presented in the scenarios?

4. How easy or difficult was it to comprehend the website content in general?

5. How easy or difficult was it to comprehend the website linguistic content?

6. How easy or difficult was it to comprehend the website visual content?

7. How easy or difficult was it to comprehend the website cultural content?

8. What one thing would you tell the designers/translators to change about the website?

9. After visiting the website, would you consider applying to this institution for a study-abroad or degree program? Please explain the reason for your answer.

10. Based on the questions I have asked you, do you have any other comments about this website and its accessibility/usefulness or otherwise?

# Curriculum Vita

Tetyana Zhyvotovska earned her Bachelor and Master of Arts Degrees in English Philology (English Language and Literature) and in Translation/Interpretation from Odesa State Mechnikov University in Odesa, Ukraine in 1987 and her Master of Arts Degree in Linguistics from The University of Texas at El Paso (UTEP) in 2007. Tetyana's research and teaching interests are situated at the intersection of technical communication, user experience, and multilingualism. Her work was published in the journal *Computers and Composition*, in published proceedings of the Special Interest Group on Design of Communication (ACM SIGDOC) and American Society for Engineering Education (ASEE), and in the edited collection *Remaking the Library Makerspace: Critical Theories, Reflections, and Practices* (Chapter 11). Tetyana presented at numerous international conferences including 2018 and 2019 Conference on College Composition and Communication (CCCC); 2019 Association of Teachers of Technical Writing (ATTW); 2018 and 2019 College English Association (CEA), 2018 Association of Business Communication (ABC); 2017 Engineering and Liberal Education Symposium, and others. Her activities in collaborative projects include participation in the Multilingual User Experience Consortium and Women of Color in Computing Collaborative.

While pursuing her Ph.D. degree in Rhetoric and Composition at the Department of English at UTEP, Tetyana worked as an assistant instructor in Rhetoric and Writing Studies program teaching first-year writing (Rhetoric and Composition I and II), technical writing, workplace writing, and editing. Tetyana is the recipient of a number of awards, scholarships, and fellowships. She received the Outstanding Lecturer Award in the College of Liberal Arts at The University of Texas in El Paso in 2013. She was also a recipient of Dr. Diana S. Natalicio Doctoral Fellowship at UTEP in 2015. Her contact email address is tandyzh@gmail.com.