Smartphones As The Tools For South Asian International Students To Navigate Academic And Non-Academic Sites In The U.S.

Suresh Lohani
*The University of Texas at El Paso*

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SMARTPHONES AS THE TOOLS FOR SOUTH ASIAN INTERNATIONAL STUDENTS TO NAVIGATE ACADEMIC AND NON-ACADEMIC SITES IN THE U.S.

SURESH LOHANI

Doctoral Program in Rhetoric and Composition

APPROVED:

Beth Brunk–Chavez, Ph.D., Chair

Lucia Dura, Ph.D.

Carina Heckert, Ph. D.

Stephen Crites, Ph.D.
Dean of the Graduate School
SMARTPHONES AS THE TOOLS FOR SOUTH ASIAN INTERNATIONAL STUDENTS TO
NAVIGATE ACADEMIC AND NON-ACADEMIC SITES IN THE U.S.

by

SURESH LOHANI, MA, MPhil

DISSERTATION

Presented to the Faculty of the Graduate School of
The University of Texas at El Paso
in Partial Fulfillment
of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

Department of English
THE UNIVERSITY OF TEXAS AT EL PASO
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Abstract

My dissertation is invested in investigating how south Asian students from a Hispanic serving institution situated on a U.S. Mexico border use smartphone technologies to enhance their navigation of everyday sites in the U.S. This would primarily look at how South Asian international students from Nepal, India, Bangladesh, and Bhutan make use of smartphones to navigate different physical and virtual spaces, both academic and non-academic, to grapple with various complexities of their U.S. lives. The dissertation examines their user experiences and localization practices as they strive to acclimate to the U.S. setting, which to them is both physically and culturally different from their home countries. I conducted a focus group discussion and artifact-based interviews with two students from Bhutan, India, and Nepal, and three from Bangladesh. Based on those, I analyzed their user experience and localization practices to investigate how they use mobile technologies to meet their personal, educational, and professional needs and how, in the process, they adapted/tweaked the features and apps of the smartphones to accomplish their tasks and settle in. I used convenience and snowball samplings to collect my research participants. My research leans on Huatong Sun’s theoretical framework based on user localization and user experience frameworks. I used affinity diagramming and card sorting method of user journey experience to analyze my data. My research stresses that U.S. classrooms need to be more research-friendly, and academia should further invest in training both instructors and students so that they can harness maximum benefits from this technology. Next, it also emphasizes the designers of mobile technology should focus on equipping smartphones with apps and features that cater to the needs of international minority students in the U.S., among other users. This calls for embracing universal design so that users from various multicultural backgrounds can relate to this technology. Also, given the role the smartphones played in facilitating online classes during
the COVID-19 and helped ensure social justice, more should be done by academia to integrate pedagogy into this technology better. My research also presses for the need for collaboration between students, designers, and instructors so that smartphone technologies can be adapted to best serve the interests of South Asian international students in the U.S.
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Chapter 1: Introduction

1.1 The Rationale for Choosing the Subject of Study

My experience as an international multilingual student at UTEP is largely shaped by the mobile phone I have been using to navigate personal and professional requirements right from the day I landed in the USA. However, it would be inaccurate to say that I remained aloof from mobile technology back in Nepal. When I was a graduate student and instructor in Nepal, I would amply use a smartphone, a term I use interchangeably with a mobile phone, to come to terms with my individual and professional needs. That admitted nonetheless, mobile phone technology has been of greater importance to me here in the U.S., and as I converse with other international students like me, especially those from South Asian countries such as India, Bhutan, Bangladesh, and Nepal, I find that they too share similar experiences. With South Asia now emerging as the next global economic powerhouse, a large number of students from the region are going abroad to study, with the U.S. being one of their prime destinations. In this paper, I define a smartphone as a mobile phone, more like a diminutive version of a computer. This device is equipped with applications and features, capable of performing various functions beyond merely making phone calls and sending text messages. These functions include sending emails, creating different multimodal documents, such as videos and infographics, and accessing and surfing the internet.

Whether it is helping address academic concerns or grappling with everyday affairs beyond the university, it simply would be unfair to discount the significance of smartphones in the lives of the multilingual international students in the U.S. Hence, I picked this topic for my dissertation since smartphones have profoundly impacted many dimensions of my life in the U.S. In this dissertation, I sought to understand the role that mobile technologies play in the everyday lives of South Asian international students from Nepal, India, Bangladesh, and Bhutan, who are studying
at different levels and programs and working at the University of Texas at El Paso (UTEP) at the same time. My paper draws significantly from the Nepalese contexts due to my positionality. However, because of the commonalities that these countries share in terms of socio-economic and cultural aspects, Nepal could represent the experiences of international students from the other South Asian countries that this dissertation discusses.

Hence, as a Nepalese graduate student instructor at a Hispanic student serving institution on the US-Mexico border, I have witnessed how technologies, such as smartphones, are drastically influencing technical communication practices of international students across physical and cultural locations. For example, during my initial days in the US, I used my mobile phone to track the university shuttle, navigate Blackboard, and access information about locations and directions of important offices to international students, such as the Social Security Office. Further, in the absence of my means of transport, I was also able to profit from the best buying deals offered by different stores through online shopping using my mobile phone. So, my own experience blended with that of other fellow South Asian students at UTEP motivated me to advance this research project.

In the next section, I will discuss how smartphones are used to get various things done in different sectors in Nepal since that shapes the context of my picking this topic for the dissertation and shines a light on the relevance of the continued significance of smartphones for South Asian students in the U.S.

1.2 Context overview: The Increasing Influence of Smartphones in the Nepalese Society

The contribution of mobile technology in positively affecting the lives of the Nepalese in various sectors merits recognition. In addition to serving the primary purpose of communication, smartphones have proved instrumental in aiding people at times of natural disasters, helped in
making online payments to different services used, and attracted a greater number of people to become a part of modern banking systems. Mobile phone use has also promoted an online shopping culture and supported the education system in various ways by adopting different teaching-learning practices.

To begin, smartphones have helped people in Nepal during times of natural disasters, particularly in the aftermath of the devastating earthquake that rocked the nation in 2015. When people had to flee their homes and could not use their landline telephones, smartphones were the most reliable means of disaster communication and even helped a great deal in the rescue operations. An article in *The Washington Post* (2017) quotes Gianluca Bruni, the head of the World Food Programme’s (WFP's) emergency I.T., in which he says that "people [in Nepal] gathered around hospitals during the aftermath of the earthquake — they had emergency generators and could charge their mobile phones" (Bryenson, 2016). Bruni further holds that "the ability to communicate is essential for people, and we hope at some point it'll be recognized as a humanitarian need at the same level as receiving food, medicine and anything else" (n.p). Next, Mattia Bryneson (2015), Country Director for Plan International in Nepal, underscores the importance of mobile technology and acknowledges how "technology has allowed us to react more swiftly and strategically. Through mobile phones, information can be transmitted and updated faster than ever before" (n.p.).

On a different note, Community Engagement Manager for Plan International in Nepal, Krishna Kumar Shrestha (2015), posits that traditional approaches to receiving written feedback are quite confusing or difficult as not all respondents may read and write. This is where smartphones can come in handy. Expanding on how smartphones are more effective in this kind of situation, Shrestha says that "we can now collect feedback on our phones through a simple
"conversation" (n.p). So, in countries like Nepal, smartphones have even begun to simplify the data collection process in the aftermath of natural disasters and better contribute to research projects.

Different mobile apps have also come to help the Nepalese ease their day-to-day affairs. Apps like E-Sewa, a payment service provider allowing users to make online payments, pay utility bills, receive money or set up merchant accounts, have helped people pay their bills. Similarly, other apps such as muncha.com and thamel.com, both of which are online shopping and money transfer sites that can be used to send gifts and money to people in Nepal, have promoted online shopping experiences. Apps such as WorldRemit, which can be easily downloaded onto Mobile phones, have already begun sending remittances to Nepal. Similarly, entertainment apps such as Voice of Nepal and Respect and Rise are helping boost the Nepalese music industry. Some of the most popular music reality shows running on popular T.V. networks have directly involved their audience in their programs through these apps, which can be easily installed on any smartphone. Other communication apps such as Messenger and Skype have revolutionized the communication sector and brought Nepalese from across the world closer like never before.

Nepalese students in the U.S. continue to use smartphones to help them negotiate with various intricacies of their life within and beyond academia. However, because this shift of location also connects to the change in socio-cultural space, even their user localization practices have changed. For example, when in Nepal, users may have largely used their cell phones for academic and entertainment purposes. In the U.S., they also use it to navigate places, do online shopping, and use apps that help them compare prices and access news updates. The many ways in which Nepalese students use technology can be understood as an example of what Huatong Sun (2012) posits as user localization-integrating technology into one’s everyday life affairs. International students, for example, use smartphones to check emails from professors or navigate
Blackboard to keep abreast of their assignment needs. Apps such as Outlook and Blackboard help in the easy facilitation of these processes. They also use cell phones to get weather updates, visit different places, and avail information about the deals they can enjoy at different shopping stores.

1.3 UX and Technical Communication

When the issue of mobile technology comes up, almost inseparably associated with it is the user experience design. This is important to my area of study because I am looking at how international students interact with mobile technology to get things done and talk about their experience as they engage with the designs and features of mobile technology for their personal and professional accomplishments. User experience design (UXD) enhances user satisfaction with a product by improving the usability, accessibility, and pleasure provided in the interaction with the product. Garrett’s (2010) definition of UCD extends the definition offered by technical communication scholar Michael Salvo (2001), who wrote that “User-centered design is a process of collecting data from users, creating feedback in the form of information, and then delivering that information to designers” (p. 286). User experience, as per the International Organization for Standardization on ergonomics of human-computer interaction (OSO 9241-210), is “a person’s perceptions and responses resulting from the use and/or anticipated use of a product, system or service” (n.p). User experience (UX) is founded on a deep understanding of users’ needs and intentions in their encounters with digital products and services. UX has had a close association with technical communication for well over a decade: 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). This larger context of use calls
for the UX to incorporate the expectations of the users based on their cultural and geographical situatedness, so no user or potential user as such feels excluded.

Technical communication operates in a variety of workplace settings such as business, health, and technology and is invested in providing complex information to the target audiences clearly and accurately. Technical writing plays an important role in forming a certain UX strategy product design and connects with a broad range of user experience issues. Both of these subfields, and their shared values, are important since my research is primarily focused on user experience and user localization of cell phones.

UX writing, despite sharing with technical communication the emphasis on clarity, consistency, self-awareness, revision and the consideration of the context and the audience, is more centered on the practice of crafting User interface (U.I.) copy that guides users within a product and helps them interact with it. Liza Sanchez (2017) says UX writing is “the practice of designing the words people see when they interact with software. It’s about designing the conversation between a product and its user” (n.p). Thus, the primary aim of UX writing is to facilitate communication between a digital product and its users. Since UX writing exists in the context of software, it is more specialized and, thus, more constrained. Sanchez (2017) stresses that professionals with backgrounds in human factors and psychology sometimes emphasize their statistics and experimental design skills and see those skills lacking in technical communicators. Although technical writing plays an important role in forming a certain UX strategy, product design and deeply correlates with a broad range of user experience, many UX teams treat technical writers as afterthoughts (Barnum & Redish, 2011). Its implications could be that UX professionals, by downplaying the role of technical communicators in the design process, may be tacitly or overtly involved in minimizing the product’s affordance, which may result in discounted user
satisfaction. My project is situated within technical communication and UX since I am studying the ways in which international students localize their cell phones to grapple with various complexities of life within and beyond the university and share ideas about their cell phone use experience; these are addressed by technical communication and UX.

Technical writing and communication involve communicating complex information with clarity and accuracy to specific audiences. Similarly, UX writing is the practice of crafting U.I. copy that guides users within a product and helps them interact with it. The primary aim of UX writing is to settle communication between users and a digital product. Since in my project, I am looking at how technical writing and UX writing affect user experience and user localization and examining how these writing practices impact the way technology is adopted by the users, technical writing and UX writing are important to my conversations.

1.4 Localization

Related to user experience is the issue of localization. Simply put, localization is the process of making something local or confining it to a particular place. 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). Sun (2001), using Gribbons’ (1997) definition, says that “localization is the act of modifying an information product to make it usable and accommodate the target markets” (p. 95). This thus posits how modification so strongly connects to localization. Sun uses the notion of user localization to explain how local users creatively adopt technologies and socially and emotionally integrate them into their lives. However, Sun maintains that this process “often happens in spite of, rather than because of, cultural understanding or usability-driven design choices on the developer’s end” (p. 40). Arguing that the designers do not often pay attention to the adaptability of the users across locales, she says,
“Professionals design for operational convenience without careful consideration of how to support meaningful activity [emphasis added] in a local context for social affordance” (p. 7). Sun carefully examines text messaging practices of case study participants Sophie, Brian, and Emma (Americans) and Lili and Mei (Chinese); for them, these practices are a routine part of work and social lives. For example, one of Sun’s participants, Brian, uses text messaging for coordinating with friends and co-experiencing and sharing everyday details of his busy life. Another participant, Lili, basically used text messaging to stay in contact with friends and relatives for the purpose of sharing information and used it as a combined function of instant messaging and email. Participant Mei would communicate with friends about the sports shows on T.V. and used text messaging for “expressing, co-experiencing, and informing. However, she sent more messages for instructing” (p. 171-173). Through her analysis of these participants’ cell phone use, Sun thus posits that the users of text-messaging technology are not interchangeable, and the cultural backgrounds of the users largely govern the way they adapt technology into their lives. Sun offers detailed background information of her research participants to reinforce the larger premise of her work. All these people who hail from different socio-cultural settings use and adapt their text-messaging tools to meet their work, school, relational, and social goals. Thus, it is important that when designing mobile technology, designers should work with communities to design tools based on community members’ needs and activities. However, I sense that this does not happen as often as needed. Its implication would be that certain user groups of the product would not be able to own it or will be left alienated from the product as it fails to adapt content and address their cultural specialties, adversely affecting customer satisfaction.

Sun advances a methodology for analysis and design across cross-cultural contexts, Culturally Localized User Experience (CLUE). The CLUE approach highlights the praxis of use,
i.e., user localization that makes a usable technology meaningful to an individual. My participants use mobile phones to complete different tasks and adapt this technology to suit their personal or professional needs as international students in the U.S. so localization at the users’ end is particularly relevant to my project.

1.5 Mobile Phone Assisted Learning

Smartphones also assist in the educational enhancement of the students. Jubien (2014) states that "smartphones and other mobile technologies are multifunction tools, not single-function tools like hammers" (p.9). These tools and applications help both students and instructors "reconstruct the virtual and mobile spaces" and make possible "online conferencing calls and academic databases and reference sources such as a dictionary and thesaurus" (p.3). These features would be very useful to international students as the translation apps, and other apps help deal with language and culture issues. Ifeany and Chukwuere (2018) from North-West University, South Africa, citing Mokoena (2012), mention that "one of the most important features of the ever-evolving features of the smartphone is its small or rather portable size and its ability to be used not only in the classroom, but also outside the classroom" (p. 293). They believe that "this offers an edge over the traditional platform for learning and teaching, which deals with books and chalk/marker boards behind the four walls of education institutions" (p. 293). Thus, mobile technology helps push teaching learning beyond traditional teaching practices. Similarly, Prithivi Shrestha (2011), in "The Potential of Mobile Technologies for (English) Language Learning in Nepal," focuses more on the language learning aspect of mobile technologies and asserts that "unlike computer assisted language learning, mobile technologies offer learners more flexibility and mobility with regard to accessing language learning resources" (p.108). So, even in a country
where technology is yet to impact people's lives significantly, mobile technology has already perceptibly shaped language learning practices.

1.6 Study Gaps and Research Takeaways

1.6.1 Academia

Although quite a bit has been said about how mobile phones are put to different uses by multinational students, there has been a gap with regard to how students from South Asia are primarily invested in using mobile technology. These students use mobile phones to wrestle with various demands of their individual and academic lives amidst the misconception that people from South Asia are economically backward or that they lag behind when it comes to using technology. Many popular Hollywood movies such as *Slumdog Millionaire, and Caravan*, among others, have largely painted an economically bleak picture of India and Nepal, respectively. This may make the Western audience, or audience in other corners of the world, feel that people in these countries are not adept at using technology since often technology comes bundled with wealth. However, India, Pakistan, and Nepal now have 800,151 and 38.3 million smartphone users, respectively, strongly challenge this (potential) misconception. Often the people in U.S. academia make a lot of negative assumptions about South Asian international students, and since this population is an important part of students in the U.S., it is important that we know more about how they actually use technology to upgrade themselves in various fronts of life. Therefore, understanding the many ways in which international students from South Asia use and localize mobile phone technologies in the U.S. can help developers, teachers, and researchers to continue developing products, practices, and pedagogies to support these students.
1.6.2 Designers

Technical designers have a takeaway from my project in that this informs them about different aspects of design they have to think about when it comes to developing their products. This could entail considering why it is pertinent to adopt user-centered design, which aligns with localization, and hold a socially just view of technology that addresses the aspirations of different audiences, important from cultural, academic, and scholarly perspectives. It will also be important to the writing instructors as they become informed of the apps and functions these students use and localize to meet their academic needs. This, in turn, will help the instructors tailor the pedagogical practices that are supported by the mobile technologies these students use. Similarly, the project will also be useful to the students who participated in my study general as the research will assist them to figure out how they too can localize mobile technologies to navigate their professional and academic lives in the U.S. and optimize the user experience through the selection of the smartphone sets coupled with suitable applications. Thus, my research is also about what technical communication scholars, researchers, and practitioners can learn from the experiences of international South Asian students. This is the gap my dissertation fills in terms of the scholarly conversation.

1.7 Chapter Outlines

Based on focus group and artifact-based interviews with South Asian international students at UTEP, my dissertation explores how these students use mobile technology to grapple with various complexities of their academic and personal undertakings in the U.S. It mainly focuses on how, in these processes, they engage in acts of user-localization. As academic institutions across the globe switch from face-to-face sessions to technology-assisted online classes, thanks to the COVID-19 outbreak, accompanied by a growing number of students and instructors using mobile
technology for academic purposes, the relevance of my research has gained further prominence. Based on user experiences and user localization practices, my research findings show that students have been making extensive use of mobile technology to access their course content and use it strategically for research and different assignments. It can also make academics think through how technology can be aptly incorporated into pedagogy, and designers can further delve into maximizing user experience and localization at the users' end. To encapsulate, my positionality as a Nepalese graduate student instructor with different linguistic, cultural, and technological experiences provides me a unique analytical lens, helping me understand seemingly commonplace activities often overlooked by U.S.-based researchers.

This chapter provided an overview of the issue I am researching. I furnished the rationale for choosing the subject of study, provided the study objectives, and offered some research takeaways to different stakeholders. I also outlined the selection criteria of my research participants, theoretical framework, methods I employed for data collection and touched upon the issues of localization, usability, and user experience; the ensuing chapters, lit review, methods, discussions, and conclusion will engage with more detailed discussions of these areas.

1.7.1 Chapter Two: Literature Review

This chapter presents a literature review that examines the main conversations in the areas of mobile phone technology and multilingual learning. This chapter analyzes scholarship in technical communication, mainly focusing on smartphone technology. By incorporating the contributions scholars have made exploring various issues related to technology, this chapter helps establish the pertinence of the project by informing the readers about various issues that relate to the topic and offering the scholarship on which the study largely draws on. The chapter mainly
comprises discussions surrounding manifold aspects of mobile technology as its users localize it to meet their academic and personal necessities in different physical and virtual spaces.

1.7.2 Chapter Three: Methods

This chapter elaborates on my data collection considerations along with user localization and user experience frameworks I used to analyze the data. It discusses focus group and artifact-based interviews along accompanied by card sorting, journey mapping, and affinity diagrams. I used for discussion and data analysis. The chapter also furnishes the rationale behind my research participants selection as I attempted to better understand how South Asian international students at UTEP used smartphones to wrestle with various intricacies of their personal and academic lives in the U.S. settings, both virtual and physical. This chapter, by carefully focusing on my theoretical framework and research methods, illustrates the approaches I adopted to attain that understanding. In the process, keeping in mind the need for national, gender, level, and program inclusivity, I chose nine participants from four South Asian Countries, India, Nepal, Bangladesh, and Bhutan, for the focus group and further short-listed five participants from this pool for artifact-based interviews.

1.7.3 Chapter Four: Focus Group and Discussion

In this chapter, I offer details on how I conducted the focus group and connect it with my theoretical framework for this project, which mainly rests on Huatong Sun's User Experience and User Localization frameworks. This chapter mainly deals with the focus group interview findings on general uses of smartphones which revolve around user experiences and localization practices shared by the participants. The chapter discusses the focus group interview with nine research participants from South Asia, who hailed from different gender and disciplinary backgrounds. I then transcribed the interview and, using card sorting, affinity diagram, and journey mapping
techniques, grouped the ideas shared by the participants under five broad thematic categories, entertainment, banking, education, translation, and navigation. which I investigate further in the artifact-based interviews that follow in the ensuing paragraphs. Since this chapter discusses how South Asian international students at the University of Texas at El Paso (UTEP) use their smartphones to tackle different difficulties, localizing their apps and features in the process, and their experiences connected to their usage, these chapters directly relate to my theoretical framework. This chapter will first discuss the focus group and then proceed to artifact-based interviews.

1.7.4 Chapter Five: Artifact-based interviews: Entertainment and Education

This chapter discusses two of the five broader themes arrived at after the focus group discussion: entertainment and banking. This section, in which the participants delve deeper into specific uses of smartphones in the proximity of their smartphones, for views of the participants engages with the views of Sonam, from Bhutan, who mainly uses smartphones for entertainment, and Mukesh, from India, who uses smartphones for banking purposes. I chose the participants for the focus group based on the views they shared using smartphones for some purposes more than others and their willingness to speak more on these themes.

1.7.5 Chapter Six: Artifact-based interviews: Education, Translation, and Navigation

This chapter digs deeper into the views expressed by Anil and Sameer, from Nepal, and Aalam, from Bangladesh for the remaining three themes I derived based on the focus group interview: education, translation, and navigation. This chapter discusses experiences of these participants using mobile technologies to maximally reap the benefits of education, translation, and navigation through the use of smartphones. During the interviews, these participants showed
on their devices how they used certain apps and features to attain specific goals, reinforcing the views they shared about the uses of smartphones, localizing them along the process.

The collected data from chapters 4 through 6 help inform the role of user experience in multicultural academic setting and locations beyond academia and argue for some theoretical concept/s and framework/s.

1.7.6 Chapter Seven: Conclusion

This final chapter concludes the study findings and describes its implications by providing suggestions for future research in the area of mobile phone technology and its connection to the academic and personal enhancement of multilingual students. This chapter restates some takeaways for academia, designers, and smartphone producers, which are aimed at having different stakeholders pay attention to their respective fields that are perceptibly impacted by increasing smartphone usage. This chapter sums up the main findings of the research and stresses the need for students, mainly minority students, to have more liberty with the use of their smartphones as they go about using this technology for attainment of their academic and non-academic purposes. The chapter also calls for greater investment in mobile technology by its stakeholders.

To sum up, my dissertation is invested in investigating how south Asian students from a Hispanic serving institution situated on a US-Mexico border campus use digital technologies to enhance their exploration of everyday physical and virtual sites, within and beyond academia, in the US through the examination of their user experiences and localization practices as they strive to acclimate to the new physical and cultural space. The chapters to follow examine these practices and present the implications of the study and offer recommendations to all the parties that are concerned with the topic.
Chapter 2: Literature Review

2.1 Main Conversations in the Areas of Mobile Phone Technology

Mobile technology, simply put, is the technology used for cellular communication. It has not only perceptibly changed traditional patterns of communication, but also considerably influenced the ways people navigate various dimensions of their personal and academic lives. Mobile phone technology is one of the most popular technologies today, and its popularity can only be expected to increase. Whether it is in some South Asian countries, such as India, Nepal, Bangladesh, and India, still considered developing countries or, most technologically advanced countries, such as the USA, expansive use of smartphone technology is a fact that cannot be ignored. In light of this, South Asian students in the US, who hail from the above-mentioned countries, have engaged with broader use of this popular smartphone technology to manage their routine activities here. According to Global mobile phone internet user penetration (2019), in 2020, the number of smartphone users worldwide is projected to reach 2.87 billion, up from 2.1 billion in 2016(n.d.). With the proliferation of smartphone users, the uses and applications of smartphones have also increased significantly.

No longer are smartphones mere tools of communication (Mukherjee, 2019). Smartphones have become dependable substitutes for cameras, audio and video recorders, and even emerged as reliable sources of entertainment. Whether it is through the songs and movies that now can be easily accessed on these devices or the exciting online games that they offer users, smartphones have changed traditional entertainment practices. Entertainment apps are also helping promote artists and the entertainment industry as a whole. For example, in Nepal, apps like Voice of Nepal, and Respect and Rise are helping boost the entertainment industry by helping increase the number of viewers who can directly participate in these shows. Some of the most popular music reality
shows running on popular T.V. networks have been able to directly link their programs with their audience through these apps that can be installed on any smartphone without any hassle. Like in the U.S., social networking platforms such as Instagram and Twitter promote celebrities and the entertainment industry overall. Bollywood movie stars such as Shraddha Kapoor have 46.1 million followers on Instagram. In addition, apps like Smule and Tiktok have even helped some “ordinary” mobile phone users shoot to fame from within the comfort of their homes. According to Setopati (2020), Abhinav Bastakoti, a twenty-year-old teenager from Nepal who lives in North Carolina, USA, who uses Curtis Waters as a pseudonym, has become a TikTok star with his 15-second video, Stunnin’, being used by over 40 million TikTok users and viewed on YouTube 4 million times. Although his six TikTok videos of the song, which he shot in different locations, failed to attract viewers, the seventh was met with an overwhelming success; it received more than two hundred thousand views within twenty-four hours. Since then, there has been no looking back for him. Today, Bastakoti is a global TikTok sensation, which would not have been possible without smartphones.

Smartphones have also reconfigured many of our everyday affairs. For example, they have influenced the way people keep themselves informed on current affairs. They have already affected the volume and pattern of traditional news circulation. Morton-Standish (2014), in "Using online media to write extended persuasive text," states that "handheld electronic devices are competing with newspapers in mass transit system. Smartphones are competing with conversations at the dinner table" (p.419). Although it is often argued that the use of smartphones at the dinner table negatively affects quality family time, a study shows otherwise. Leaning on the findings of the study published in the Journal of Marriage and Family, Bar (2019), in The Independent, reports that children are spending more time at home with their parents than they were in 2000; “however,
the amount of time children and parents spend together doing shared activities such as eating meals or watching television remains largely unchanged” (n.p.). The use of smartphones has perceptibly redesigned the very dynamic of our lives, not even sparing the dinner conversations that are now being punctuated by the keys and buttons of smartphones. This also speaks to Bar et al.’s (2016) idea of appropriation. Bar et al. (2016) define appropriation as "the process through which technology users go beyond mere adoption to make technology their own and embed it within their social, economic and political practices" (617). The smartphone users have thus been able to adapt mobile technology to come to terms with various requirements of their day-to-day life, and in the process, they have localized it, so it serves to the best of their interests. The idea of appropriation connects to Sun's notion of user-localization. Sun (2012) refers to user-localization as integrating technology into a user’s everyday life after adoption, socially and emotionally (p.40). This integration of technology can be seen with the Indian farmers who have now begun to embrace technology to cater to their professional needs. Farmers in India are now using the Mobile Harvest app to enhance their agriculture production. According to Al Jazeera (2013), this app developed by Sachin Gaur helps farmers, both literate and illiterate, to communicate with each other and exchange knowledge about seeds, fertilizers, and pesticides. They can also share information on what pests and diseases are affecting their crops and what yields and prices they should expect. Therefore, in addition to using smartphones for their “prime communicative purposes,” the users, from all (different) walks of life, also use it to cater to their varied needs.

In Bangladesh and Bhutan, too, mobile phones have benefitted people from different social strata. In Bangladesh, for example, women engaged in farming and livestock benefit from the use of mobile phones. According to Stillman (2018), "mobile phones have allowed [these] women to dial in a world of information. They receive SMS weather alerts, for instance, and might be warned
to move their livestock if heavy rain is forecast” (n.p.). Next in Bhutan, according to Limbu (2014), mobile phones have provided a voice to people to criticize the government. Through social media apps that these smartphones support, people have begun to express their disapproval of unjust government policies openly. On a different note, Limbu (2014) holds that these social platforms supported by smartphones have also made it easy for the Bhutanese youths to share knowledge on sexual and reproductive health. These remained a taboo in a conservative Bhutanese society until a decade ago. Further, smartphones have also positively influenced the Bhutanese education sector. According to Novotny (2014), students register online for their courses using their smartphones.

The use of smartphones has also proved beneficial to Bhutan in the time of the ongoing COVID-19 crisis. In light of the situation, according to the World Bank (2020), the Bhutan government "is also working with the telecom service providers to facilitate data access for eLearning for students across the country. The main source for accessing the internet is through mobile phones in Bhutan” (n.p.). Therefore, in addition to using smartphones for their “prime communicative purposes,” the users from different locations and walks of life also use it to cater to their varied needs.

Further, smartphones have also considerably modified people’s shopping experiences. Fuentes, Bäckström, and Svingstedt (2017), in "Smartphones and the reconfiguration of retailscapes: Stores, shopping, and digitalization," did research on consumer behavior at shopping stores. Based on the research, they posit how “consumers reported using their smartphones for a number of information-related purposes, such as price comparisons, checking product availability, and reading online reviews” (p.273). The smartphones have hence provided agency to shoppers and helped them reduce their dependence on store staff, allowing the shoppers more autonomous shopping experience. Put differently, in this scenario, enhanced buyer agency in a way comes at the cost of discounted role and authority of the retail staff. The authors, elaborating on consumer
behavior, state that "they [consumers] also seem to be used to avoid interaction with store staff. Consumers report that they prefer, in many cases, to find things on their own rather than ask store staff" (p.273). Spaid and Flint (2014), in “The meaning of shopping experiences augmented by mobile internet devices,” also talk about shifting shopping practices due to smartphones' involvement. They, discussing the popularity of mobile internet device (MID) in shopping experiences, also state how consumers and sales staff are becoming increasingly distanced from each other. They posit that

in-store MID use also has the potential to seriously erode the already weakened relationships between the shoppers and sales staff. Many participants in this study turned to MIDs because they did not trust the information they received from the sales staff or in-store displays. (p.87)

However, this is not the only valid account of shoppers’ sales-staff relationship, and that the agency of the sales staff is not subject to complete elimination. Burke (2002), in “Technology and the customer interface: what consumers want in the physical and virtual store,” mentions that "when shopping in the physical retail store, consumers felt that it is essential for the store to provide knowledgeable, helpful sale assistants. If there is a question or problem, shoppers wanted to be able to speak to a live customer service representative..." (p.416). Thus, it would be no fabrication to say technological tools, whether internet connected computers or smartphones, which Reyes (2016) states "are virtually pocket computers with Internet access (cited in Fuentes et al., p.273)," have remodeled shopping to a large extent. However, it would still be immature to conclude that on-site shopping, coupled with interaction with sales staff, has lost its charm altogether.

Next, smartphones have also demystified otherwise stressful banking experiences, particularly for people from underdeveloped countries such as India and Nepal. With the internet
connected smartphones no longer being a sole province of the economically advantaged section of the society, mobile banking is gaining momentum in the grassroots, too. Mishra and Bisht (2013) in “Mobile banking in a developing economy: A customer-centric model for policy formulation” state that “as observed in various Afro-Asian countries, mobile technology can be an excellent tool for ensuring that majority of the population has access to banking facility” (p. 513). For example, different mobile apps have come to assist the Nepalese in simplifying their day-to-day monetary affairs. Many banks have already started mobile banking and apps like E-Sewa, a payment service provider allowing users to make online payments, pay utility bills, receive money, or set up merchant accounts. Other apps, such as muncha.com and thamel.com, both of which are online shopping and money transfer sites that can be used to send gifts and money to people in Nepal, have promoted online sales business. Apps such as WorldRemit, which can be easily downloaded onto Mobile phones, have begun facilitating the process of sending remittances to Nepal from locations across the world like never before. India has also advanced a lot in terms of using technology to enhance its banking and other commercial activities, and making mobile banking accessible to the grassroots. The prime minister of India, Narendra Modi, has advanced the vision of "Digital India" aimed at incorporating the maximum number of Indians in the digital loop with a view to “ensuring demonetization, e-government, online delivery of banking documents, and net banking” for average Indians. Mukharjee (2019) in “Imagining Cellular India” states that

with a majority of Indian citizens accessing Internet (only) through their mobile phones, the smartphone is a crucial device to make it possible for ordinary citizens to utilize these services. In such a governmental vision of India, the mobile phone, simply put, is the most crucial tool of governmentality. (p.91)
Therefore, smartphones have already changed the banking scenario of many countries, including many developing countries from Asia.

2.2 Mobile Technology and Learning

2.2.1 Education

In addition to information, entertainment, and commercial sectors, mobile technology's role is gaining prominence in the education sector as well. Martin and Ertzberger (2013) argue that “the proliferation of mobile technology provides a myriad of opportunities to support learning and performance both inside and outside the classroom” (n.p). The notions of traditional learning practices with teachers as the only credible sources of knowledge and classrooms as only learning sites have been challenged by mobile phone technology. Citing Bromley, Douglas, Ha & Fang, and Mitchell, Morton-Standish (2014), in "Using online media to write extended persuasive text," states that "reading on-screen devices such as eReaders, mobile phones, and tablets is competing with reading in traditional print form" (p.419). Students today enjoy the liberty of knowledge acquisition within and beyond classrooms, both in the presence and absence of instructors, and the lion's share of credit for this goes to the smartphones that are now easily accessible to people across socio-economic strata.

The use of smartphones in writing classrooms could also be advantageous to academic institutions in several ways. Mcfarlane et al. (2006) state that handheld technologies, in principle, could enable schools to address these three concerns; they can act as tools that are available to the individual learner to be managed and personalized by them, and they are portable, supporting access to information and resources in all lessons and all educational and domestic environments regardless of the availability of desktop computers. (p.1)
Encouraging mobile technology use in classrooms can also prove to be economically viable to schools since they may now be able to manage with reduced investment in technology. The fund set aside for technological enhancement can be used for infrastructure, teacher training, and curriculum development programs.

Students from academic institutions worldwide seem to have a growing preference for mobile phones over other technologies. Bachore (2015), in “Language learning through mobile technologies: an opportunity for language learners and teachers,” discusses the Japanese educational context and reports how “one survey into the use of mobile phones revealed that Japanese learners preferred their mobile phones over desktop P.C.s or PDAs for exchanging emails” (p.50). Next, Fuente (2014), in “Learners' attention to input during focus on form listening tasks: the role of mobile technology in the second language classroom, Computer Assisted Language Learning," talks about Mobile Assisted Language Learning (MALL) in university EFL courses in Japan. The text presents the data of more than 97% of the Japanese students owning cell phones. The writer asserts that "this situation and the development of the ubiquitous learning platform have encouraged universities to create mobile phone MALL opportunities” (p. 262). This is just one example of how the usability of mobile phones has been taken seriously by the university and leaning on a survey by Thornton and Houser, the text attests that "a survey of Japanese university students showed that a majority of students preferred to receive study materials on mobile phones rather than on P.C.s. The students said the mobile phones were easy to use, and they believed it was an effective learning method" (pp. 262-63). However, it would not be correct to assert that students' inclination towards smartphone technology is just the story of schools in developed countries.
Even in countries deemed to be economically backward, such as Nepal, a growing number of students, especially in the urban areas, have begun using mobile technology to foster their academic endeavors. This is particularly observed in language learning. Shrestha (2011) points out that “given the rapid growth of users of mobile devices such as mobile phones and media players in developing countries such as Nepal, the prospect of mobile technologies for language learning has increased over the last ten years” (p.108). He suggests that learners can be sent vocabulary via SMS. This may take the form of one word or expression a day/ week and its use in a context (e.g., sentence). For example, if it is in a formal education context, the teacher can send the words taught the previous day/ week as revision. (p.109)

Shrestha also suggests that the recording facility on mobile phones can help teachers to record their own or their learners’ voice in English, and this could offer new learning materials for the students. K.P. Parajuli (2016) points to the benefits of mobile learning as inexpensive, and that it also reduces the load of having to carry bulky books. He also feels that mobile technology can bridge the digital divide by offering alternative technology for learning. He states that "mobile devices might be an alternative technology to integrate information and communication technologies in Nepalese education" (p.44). In this regard, he provides an example of a visually impaired student to whom the audiobooks he has downloaded on his mobile phone are a real blessing. Thus, the Nepalese academia, along with education institutions in many other parts of the world, is beginning to recognize the important role that mobile phones can play in enhancing teaching-learning activities. This has become only more evident during the ongoing COVID-19 pandemic.
The features like portability and hassle-free connection to the internet make language learning easy on mobile phones. Bachore (2015) states that "the advantages of mobile-based language learning are derived from the two main characteristics of mobile devices: portability and connectivity" (p.51). It would be no overstatement to say the mobile phones can revolutionize teaching-learning practices in the days to come. Mobile phones have also offered a great deal of flexibility in enhancing teaching-learning processes by liberating academic engagements from within the walls of classrooms equipped with personal computers. Baran (2014), in “A Review of Research on Mobile Learning in Teacher Education," argues that "the greatest added value of mobile learning vis-a-vis P.C. learning lies in the aspects that extend classroom interaction to other locations via communication networks" (p.18). This offers the learners with the advantage of distance. That is, despite remaining physically far from the classroom, they can still stay informed of classroom interactions without paying any price for their physical absence from the class.

As we begin to embrace technology more openly, we also need to make certain adjustments to ensure it works aptly for us. Clark (2010) holds that "as the technology changes, so too does society and necessarily, the classroom" (p.29). This can simply be understood as the process where the learners and the society in large have to adapt to the altering functions of technology. This will call for all the stakeholders to make necessary changes in terms of curricula design, classroom ecology, and pedagogy revision so all can reap the benefits of technology-enhanced education. Citing Kukulska-Hulme et al., Hashemi et al. (2011), in "What is mobile learning? Challenges and capabilities," emphasize that widespread ownership of mobile phones and the increasing availability of other portable and wireless devices have been changing the landscape of technology-supported learning. The use of these technologies turns out to be well aligned with strategic educational goals.
such as improving student retention and achievement, supporting differentiation of learning needs, and reaching learners who would not otherwise have the opportunity to participate in education. (p. 2477)

Azizan and Azmani (2013) state that "mobile learning is a learning method that provides learners with capabilities to get instant learning content just by the tips of their fingers. The ubiquitous feature of mobile devices which distinguish them from other learning tools has made mobile learning to be increasingly recognized in educational institutions" (p.37). Thus, despite having to make some adjustments, mobile-assisted learning does appear to be advantageous, not only to the learners but also to the faculty and educational institutions.

However, Hawisher & Selfe (2012), apart from talking about the merits of technology-enhanced learning, also make it a point to say to the readers the demerits of electronic spaces for students. They cite Foucault in their work (2012), who holds that "the 'architecture' of such electronic spaces is a highly political act. Like the traditional classroom, the architecture of electronic spaces can put some students at a disadvantage, thwarting rather than encouraging learning" (p.60). With the acceptance of mobile technology greatly assisting teaching-learning practices, it is also pertinent to consider how the very technology can prove to be counterproductive if all factors associated with it are not carefully considered. For example, the learners who do not have access to mobile phones that support different apps required for learning will be at a significant disadvantage, and this may further widen the schism of the digital divide. Next, many may not be able to use mobile technology effectively to harness the educational benefits in terms of being technically adept. Mobile phones also prove to be a source of other forms of "distractions" like music and social networking, which may impede learning. Similarly, mobile phone assisted learning may also create a distance between teachers and students. Hashemi et al. (2011) state that
mobile technology takes learning out of the classroom, often beyond the teacher's reach.

This can be perceived as a threat, so the challenge is to develop designs that clearly identify what is best learned in the classroom, what should be learned outside, and the ways in which connections between these settings will be made. (p. 2481)

The texts referred to in this paragraph were published a decade ago. Today, arguably, the accessibility of smartphones to users from across socio-economic spectrums has perceptibly expanded. However, the ideas posited by the scholars still hold relevance in current classroom contexts in terms of issues such as the digital divide, isolation, and distractions that come blended with smartphone usage. Thus, care should be taken to ensure that in the name of enjoying the liberty of learning, students are not completely detached from the social and collaborative aspects of learning that thrive in classroom settings.

The apt use of mobile technology in teaching-learning activities will also merit special attention in terms of curricula design and assessment practices. Levy and Stockewell (2006), in “Effective use of CALL technologies: Finding the right balance,” talk about pedagogy and technology and maintain that “it is also crucial to recognize that many of the technologies now being considered for use in the classroom are already widely used by our learners in everyday life. Those who design tasks for pedagogical purposes must take that fact into consideration” (p.16). This fittingly applies in the case of language instructors who now need to be aware of the immensely expanding mobile technology that students are skilled at and consider tailoring the assignments and activities to fit with the applications of this popular technology.

The role which smartphones played in making my research participants' lives much easier was more remarkably visible during the COVID-19 pandemic. To some of my participants with underlying health conditions, smartphones were a real boon in that they helped them resort to
seamless online purchases for everything they required. Further, not only did this digital technology help them stay in constant touch with their loved ones back home, but it also helped them play different virtual games with their friends from the university and beyond. Banskota et al. (2020) suggest that "digital technology can enhance well-being and improve social connectedness by improving social support and engagement in activities" (p.514). In alignment with this idea, the South Asian students at UTEP were able to harness this technology to keep alive their social lives. Next, the smartphones, in addition to helping them teach and take online classes, also assisted them considerably by facilitating communication with their peers and professors.

Some scholars have recently published works on the use of smartphones by students during the COVID-19 period. Sage et al. (2021), based on their study about technology use in college students during the COVID-19 era, share: "Students noted using the Internet more often on their smartphones than laptops. Students mentioned such reasons as convenience and portability, while noting the benefit of smartphones for instant communication with teachers and classroom peers" (p.5). Hence, smartphones kept my participants’ academic and social engagements vibrant despite the restriction of physical mobility to the university and the barrier it created for in-person interactions.

Smartphones are also serving as useful learning tools in Nepal as the country, like most other countries of the world, was forced to discontinue its face-to-face classes due to the COVID-19 pandemic. After Nepal officially shut all educational institutions to contain COVID-19 effective from March 9, she has pursued remote and e-learning opportunities to offset school closures, through a program called Radio schools. This program has been best supported by smartphones since most households in Nepal now have smartphones. According to Radhakrishnan-Nair et al. (2020), “Mobile phone penetration is high—more than four in five households in Nepal have these
devices, a number consistent across provinces—making it possible for children to use phones to connect to local radio that’s broadcasting learning programs” (n.p). The next example of how smartphones are helping the Nepalese education sector in the current crisis is the “Teach for Nepal” (TFN) program initiated by young Nepalese volunteers who want to contribute to the Nepalese education sector, mainly serving the disadvantaged populace. According to TFN (2020), after the lockdown started, the volunteers of the program reached out to their students primarily through the mobile phone, and even through social networking sites such as Facebook, and the radio to ensure that students from economically disadvantaged section would still be able to continue remote learning during the pandemic.

2.2.2 Translingualism and Multimodal Practice

Smartphones' digital platforms can be used to resist monolingual hegemony by fostering translingualism that bands with multimodal writing practices. Kress (2009) describes multimodality as “a socially and culturally shaped resource for making meaning. Image, writing, layout, speech, moving images are examples of different modes (p. 79). So, it can be said that multimodality provides students with ample opportunities to incorporate their social and cultural values into their projects. These may manifest in the form of color, text, music, font, and template choices. Next, talking about non-native students regarding writing practices, Canagarajah (2009) states how “they are able to transition so well because they bring strategies of engaging with multilingual and multimodal literacies from social media sites and other contact zones” (p. 431). The involvement of students with different social networking sites in which they are exposed to varied communication practices suffused with multimodal features such as Graphic Interchange Formats (GIFs) and other images and icons inspire them to incorporate those multimodal features into their writing practices. In other words, multimodal texts that students are exposed to on
smartphones help them acknowledge cultural and linguistic variations as strengths instead of deficiencies. Even in the context of multimodal writing assignments, smartphones, through their numerous features, have reduced the dependency of students on computers to an extent. Tillman et al. (2012) state that “many tasks that used to require a large computer are now feasible on smaller devices. Even the tiniest smartphones are always connected to the cloud and have great email reading and internet surfing capabilities” (p. 2). Many easy video editing software such as iMovie easily supported on iPhone, for example, can help students produce multimodal documents, such as infographics and video, allowing them the liberty to draw on their cultural and linguistic contexts in terms of selecting template designs and audio-visual components. Further, when smartphones are used for multimodal compositions, multiple actors, both human and non-human, are involved in trafficking different ideas across spatio-temporal sites. Leander & Vasudevan (2009) state that “newly popular communicative forms, such as mobile text messaging and video blogging, promote hybridization of modes and illustrate the movement of texts across space and time” (pp. 129-30). It can thus even be argued that such circulations of mixed modes of alphabetic texts and other audio-visual modalities are also empowering from a social justice perspective since they help bridge language dichotomies among students from diverse physical and linguistic backgrounds. Therefore, by helping to incorporate translingual elements that are inherently multimodal, smartphones assist minority students in challenging the conventions of monolithic English.

One of the ways students promote multimodality in composing practices on smartphones is through the ample use of emoticons. This practice has refashioned the communication model, instigating a sharp rise in the use and popularity of multimodal texts. No longer does one need to compose grammatically complete messages when greeting friends and loved ones. Next, to
exchange pleasantries, for example, the Nepalese students can use “Namaste” emoji in place of formal alphabetic text. Similarly, sentence fragments supplemented with emoticons that fittingly express sentiments when responding to varied emotional contexts have relaxed language barriers for communicators, especially non-native speakers. Morgan (2018) states that “the emoji adds an element that’s missing from text-based communication. It is best likened to the social cues that we get when we communicate in spoken language. Those are non-linguistic” (n. p). The abundant use of emojis on smartphone communications not only accords brevity in communication but also glamorizes its style. Further, it is also now quite common to see on smartphone communication practices alphabetic texts supplanted by different audio-visual components. The varied modes of non-alphabetic communicative performances of students on smartphones help challenge one of the heaviest impositions of standard language ideology: the compulsion to construct “grammatically correct” sentences.

Communications practices over smartphones have also fostered negotiation in the meaning-making process amongst the interlocutors. This digital space seems to be a contact zone where monolinguals, bilinguals, and multilinguals bring in the flavors of their English vernaculars, enjoying their share of space and effect and openly practicing multimodality. It may start with some discomfort on the part of the monolinguals, compelling them to compromise with the practitioners of other variants of English in the meaning-making process in regards to accents and syntax. Canagarajah (2013), in “Negotiating Translingual Literacy: An Enactment,” argues that an understanding of writing as translingual requires a shift to a different orientation to literacy—i.e., from autonomous and situated to negotiated. He asserts that “such an orientation treats the text as co-constructed in time and space—with parity for readers and writers in shaping the meaning and form—and thus performed rather than pre-constructed, making the multimodal and
multisensory dimensions of the text fully functional” (p.40). Canagarajah elaborates on the multimodal features employed by students from different linguistic backgrounds, and that it is the performative negotiation between them through which meaning-making is accomplished. This version speaks to what Gonzales (2015) says in “Multimodality, Translingualism, and Rhetorical Genre Studies.” In the article, Gonzales posits a link between translingualism, multimodality, and rhetorical genre studies. She states that

as composition studies moves beyond a single language/ single modality approach to writing by combining RGS, multimodality, and translingualism, we might learn from the experiences and strategies of L2 students who are already crossing and combining languages and modes to convey meaning in their daily communication. (p.4)

Thus, the international L2 students, when playing around with the features of smartphones, are shuttling between their heritage linguistic repertoires and those practiced in the U.S. and engage in fusing linguistic features whether in their academic projects or other communicative acts. In smartphones, this practice is particularly visible in social networking apps such as WhatsApp and Messengers, where conversations occur between students of different linguistic orientations.

Next, many smartphones today come with default translation features and easily support translation apps such as Google Translate. According to Racoma (2019), “Aside from languages used in Western countries, most smartphone manufacturers today are pre-installing Asian languages as well” (n.p.). The translation features on smartphones, which many international students use, have helped not only in multi-directional traffic of ideas but also in discerning grammatical, mechanical, and cultural aspects of languages. Talking about translation, Gonzales (2018) argues that “while the grammatical, technical, and alphabetic elements of translation continue to hold critical value, the embodied and cultural underpinnings of translation work are
just as important" (p. 3). However, mobile translation apps often seem to exclude mechanical and cultural aspects, giving birth to new linguistic features that stem from cultural fusions of participating languages in the technology-mediated translation process.

The ease of transitioning between songs and movies of different languages on smartphones has also fostered translingualism. This promotes translingualism as features of one linguistic repertoire seep into other linguistic heritages. "Sunday Morning Love You....," a song by Bhim Niraula, a Nepali British singer, is an example of how the melodies and lyrics from different languages can come together to produce music that is not only unique to listen to but also filled with translingual features. (Niraula, 2013). Seven years later, with the same song, Niraula made it past the first round of "Britain's Got Talent," with the audience and the judges swaying to the melody that is a fusion of Nepali folk composition and English lyrics. Millions of videos uploaded to YouTube by users from across diverse linguistic backgrounds have also additionally contributed to translingual practices. Different English vernaculars now enjoy equal chances of sharing such digital spaces where cultural features of languages travel back and forth. Students from different backgrounds, particularly taking first year composition, can effectively adapt this model in their multimodal assignments.

2.3 Mobile Technology, Composition, and Design

Next, as students engage in mobile-assisted composing practices, they also learn to question the neutrality of technology and localize it to serve their needs. This converts them from passive acceptors of technology to its questioners and reflectors. This is evident when my participants tailored the templates and audio-visual components on their smartphones to their cultural identities in place of simply making use of the default features, which will come up in the discussions later in the dissertation. This conversion from mere acceptors to critiques enables
students to challenge the predominantly monolingual clout of writing and paves the way for translingualism. This goes in line with the functional, critical, and rhetorical literacies advanced by Selber (2004). Although Selber's view is more related to questioning computer technology, it also fits the smartphone context since smartphones are being accepted as "miniature versions" of computers by many. Tillman et al. (2012) state that “in fact, in many cases, incredibly powerful and easy-to-use smartphones are going to be the first and, in less developed countries, possibly the only computing devices that virtually all people will own” (p.2). However, in line with Selber's (2004) view, only accepting technology at face value should be rejected as it comes colored with particular ideological promotion. In light of this, Selber contends that "in order to function most effectively as agents of change, students must also become reflective producers of technology, a role that involves a combination of functional and critical abilities" (p.182).

My dissertation inspects the ways the South Asian students at The University of Texas (UTEP) use smartphones for different purposes, both on campus and beyond. Based on this study, I make recommendations on how South Asian students can benefit by effectively harnessing this technology. The South Asian students at UTEP, for example, can adapt mobile technology to assert their cultural values in place of unquestioningly endorsing this artifact for its face value. They can learn to question the neutrality of this digital technology and use its features and applications rhetorically to generate "products" that challenge monolingual norms. This ties to Pigg's (2014) view that "writing with mobile technologies is enabled not only by servers, cables, Wi-Fi networks, and histories of development and labor but also by how users make places for devices in everyday practice" (p.252). South Asian students can use smartphones to cater to their everyday academic and linguistic requisites in geographically and culturally different settings. This is relatable to Sun’s (2012) view that "a technological product is not used in a vacuum, but a real context. The
surrounding sociocultural contexts provide a setting for interactions, influence user decisions, and are ultimately immersed into user experience" (p. 26). The physical and cultural space in which these South Asian students are positioned may govern their user experiences and localization in terms of academic and other concerns. In the process of optimizing mobile technology usage to address their concerns, international South Asian students may engage in appropriation. Selfe and Selfe (1994), like Bar et al., as referenced earlier, posit that “appropriation is a negotiation about power and control over the configuration of technology, its uses, and the distribution of its benefits” (p.617).

Thus, the designers have an obligation to design products incorporating the cultural and linguistic heritages of the target users across physical and cultural sites so that the users feel that they own the product and can connect to it. This goes in line with Sun’s (2012) view that “tech designers should consider social justice and accessibility” (p.17). The designers, it seems, have started paying attention to this aspect. According to Pinner (2016), “There are simply thousands of apps for education, and a large proportion of these are dedicated to learners who use multiple languages” (n.p.) Mulberg (2009) also stresses that designers should be aware of how designing blanket technology may not serve all equally since what is deemed right by some may be perceived differently by others. This looks particularly relevant, especially in trying times like these, when technology-assisted learning is strongly emerging as an alternative to face to face learning, with mobile technology looking as the most viable alternative.

2.4 Mobile Technology and South Asian International Students at UTEP

Mobile phone technology has significantly impacted the lives of international students from South Asian countries such as India, Bhutan, Bangladesh, and Nepal. Owing to their cultural and geographical proximity, their experiences with smartphones are similar to a large extent. With
South Asia now emerging as the next global economic powerhouse with countries such as India, Bangladesh, and Nepal enjoying GDP of 6, 8 and 7% respectively when the same for most of the Western countries remained around 3% (Asian Development Bank, 2017). With an aggregate forecast growth rate of 6.2%, the South Asian region looks pretty well equipped to emerge as the next business hub in the global arena (Stillman, 2018). With the economy going robust, an increasing number of students from the region are going abroad for higher studies, with the U.S. being one of their prime destinations. For example, currently, 211,000 Indian students study in different universities in the USA (Pti, 2018). Even the number of Nepalese students studying in the U.S. reached a record high of 13,270 in 2018. Nepal now ranks 10th among the top 25 for undergraduate students in the U.S. (U.S. Embassy Kathmandu, 2018). Thus, as the burgeoning number of South Asian international students come to the U.S. for higher studies, it becomes imperative for them to employ the handiest and most affordable technology to acclimate to this alien site, and mobile technologies prove to be the best option. Whether it is helping address academic concerns, or navigating everyday affairs beyond the university, it would be unfair to discount the significance of smartphones in the lives of the multilingual South Asian international students in the U.S.

In this chapter, I put to conversations various ideas surrounding the use of technology, mainly mobile technology, in terms of user experience, design, and academic and other uses. These conversations help inform the ensuing chapters on methods, discussions and analysis, and conclusion chapters of my dissertation. The scholarship contributed by various scholars brings to the fore how technology can be instrumental in helping users from across physical and cultural contexts accomplish various academic and professional requisites along with concerns associated with the use of technology. The next chapter, Methods, will discuss user localization and user
experiences frameworks, which dictates my dissertation and elaborates on participation selection, interviews, and data analysis.
Chapter 3: Method

In the earlier literature review chapter, I discussed some of the main conversations centered on the use of smartphones by people from different walks of life to help address their personal, professional, and academic complexities. Although that chapter, in general, discussed how users from various parts of the world use smartphones to meet different requirements, many references were drawn from the South Asian context because my dissertation deals with user localization and user experience aspects of smartphone usage of the South Asian international students at the University of Texas at El Paso (UTEP), U.S.A.

In this chapter, I discuss the theoretical framework I will use for this project, the data collection process, research biases, and ethical concerns associated with the research process. Through a focus group and artifact-based interviews, I attempted to understand better how South Asian international students at UTEP used smartphones to grapple with various complexities of their personal and academic lives in U.S. settings.

3.1 Research Questions

My dissertation engages with the following questions to understand the contribution mobile phone technology has made in enhancing the learning and other needs of South Asian international students at the University of Texas at El Paso (UTEP):

· How do international multilingual students at UTEP localize mobile technologies in academic and non-academic settings in the U.S.?

· What can we learn from the ways the multilingual students from South Asia at UTEP use their mobile phones to navigate academic and non-academic contexts?

All questions asked in the focus group and one-on-one interviews were channeled towards receiving responses related to these two overarching research questions.
Learning answers to my questions will help understand the many ways in which international students from South Asia use and localize mobile phone technologies in the U.S. This will help developers, teachers, and researchers to continue developing products, practices, and pedagogies to support these students. The field of technical communication will have a take away from my analysis in that my study will explicate different localization and user experiences of smartphones that influence technical communication. For example, it will inform the field of technical communication by providing new insights on how technical communication practices are evolving amongst different student groups in the US and that these practices merits attention in discourses surrounding technical communication in terms of localization and user experience. Similarly, it will inform designers of different aspects of design they have to think about when it comes to developing their products. This could entail considering why it is pertinent to adopt user-centered design and hold a socially just view of technology that addresses different audiences' aspirations, important from cultural, academic, and scholarly perspectives. It will also be important to writing instructors as they become informed of the mobile apps and functions these students localize to meet their academic needs. This, in turn, will help instructors tailor the pedagogical practices that are supported by mobile technologies. How South Asian students at UTEP localize smartphones should also be of interest to other scholars since these localization practices will offer a glimpse of how a growing body of international bilingual students are resorting to mobile technology in nurturing their academic endeavors and hence this technology may have pedagogical implications that may merit further research.

3.2 Theoretical Framework

My theoretical framework, conceptualized as a primary theoretical lens behind a research approach, for this project mainly rests on Huatong Sun's User Experience and User Localization
frameworks. The user experience (UX or UE) comprises the interaction a user has with a product and experiences in terms of its service. According to Law et al. (2009), user experience is “a person's perceptions and responses that result from the use or anticipated use of a product, system or service. These can be tools, knowledge systems, or entertainment services” (p. 727). Borrowing from User Experience Network (2008), Sun (2012), states that “user experience is the quality of experience a person has when interacting with a specific design. This can range from a specific artifact, such as a cup, toy, or website, up to larger, integrated experiences such as museum or an airport” (p. 43). The accumulation of user experiences helps designers think through user experience design, which is aimed at enhancing user satisfaction with a product and enhancing the interaction with the product through improving usability, accessibility and pleasure in the process. Sun (2012), asserts that “User experience also brings more design considerations to the table, including branding, identity, emotions, and pleasure. Web designers and information architects found that user experience provided a way of describing various design factors” (p. 43). Hence, user experience also has implications for technological product designers.

According to Sun (2012), "The dynamic user efforts of incorporating a technology into one's life are called user localization" (p.40). The term modification is also used in reference to localization. Borrowing 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). Next, citing Sun (2009b), Sun (2012) says that "user localization refers to integrating a technology “into user's everyday life after adoption, socially and emotionally” (p.249). She then maintains how “this represents a methodological move of investigating beyond mere technology use for technology design, which explores the possibility of how to make a technology both usable and meaningful” (p.40). According to Gonzales &
Zantjer (2015), “User-localization focuses on the specific activities and strategies users employ when communicating to meet their culturally-situated needs. Understanding user-localization, in turn, can help developers design and adapt technologies to meet the needs of users in localized contexts” (p.272). Similarly, Taylor (1992) claims localization as "the process of infusing a specific cultural context into an I.T. product" (as cited in Sun, 2006, p.459). Next, Norman (2004) states that "users are designers, who are actively redesigning, or—more accurately—localizing, an available technology to fit into their local contexts... Users might not be able to articulate those cultural and contextual factors well, but they know what works in their own contexts" (as cited in Sun, 2006, p.458).

Leaning on notions of localization advanced by these scholars, I posit that user localization manifests in how participants adapt technology, mobile technology in the context of my analysis, to make sense of their academic, communication, and other needs. I also observe these students' transnational digital practices as they localize mobile technology to go about with their everyday affairs. In so doing, they affect their cultural practices in the product used. For example, many Nepalese students at UTEP use G.P.S. on their smartphones to navigate locations while driving by placing it on their thighs. Next, science major graduate students take pictures of their assignments or notes using smartphones and share them with their peers. They also frequently use smartphones to make sense of their academic needs. For example, they use smartphones to attain online classes through Blackboard Collaborate and Zoom apps, create multimodal assignments, and do other assignments using smartphones. This is worth a deep study since these are not necessarily what they would use their smartphones for in their home countries. Instead, this is an adaptive practice that would not make sense in the context of their home countries.
Based on these practices, I seek to learn more about user experiences and localization practices of South Asian international students, using user localization theory, as they use smartphones to engage in their academic and personal lives. Hence, studying how South Asian international students in the US use technology to resolve different intricacies related to culture and technology is significant to my research as it focuses on how these students embrace this technology to navigate academic and other complexities of the U.S. For example, based on my initial focus group in which my participants shared their accounts of smartphone usage, I learned that they localized their phone usage for entertainment, education, navigation, banking, and translation purposes. The artifact-based interviews allowed me to better understand how localization played a role in students' navigation practices in the U.S. The localization of smartphone technology is using its features to help address needs in different cultural contexts. For example, in this project, user localization theory would help understand how South Asian international students adapt the features of their smartphones to assist them in navigating different personal and professional venues, which would help them engage in everyday social and academic activities in the U.S. I identify my participants’ adaptation of mobile technology as instances of user localization. My research also has pedagogical implications since I analyzed their user experience and user localization practices to investigate how they used mobile technology to have a better grasp of their academic endeavors.

I analyzed the data collected through this project to identify strategies and practices of user-localization. I talked about three main areas of their lives-academic, personal and professional- for which my research participants use their mobile phones. I asked my participants to discuss their mobile phones' various uses and how they adapted this technology to achieve their personal and professional goals and analyzed the collected data.
3.3 Data Collection Method

My research project required participants from South Asian countries such as India, Bangladesh, Bhutan, and Nepal. These participants helped me explore how these multilingual students traverse sites across disciplinary and multicultural contexts. To align my investigation on par with these areas, I divided my research process into four subgroups. First, I started with a careful selection of my participants, adopting sample recruitment. I then used affinity grouping to analyze the focus group discussion data and prepare for the next phase of data collection, which was artifact-based interviews. My sampling strategies are a combination of convenience sampling and snowball sampling. Convenience sampling refers to the ways one would use institutional resources to contact potential participants, and using existing participants to identify other potential participants is snowball sampling.

3.3.1 Sample Recruitment

According to the data from the US embassies housed in India, Nepal, and Bangladesh, there were a total of 202,014 students from India, 13,000 from Nepal, and 8,800 students from Bangladesh studying in the US in 2019. These figures show the growing number of South Asian students in the US, indicating clearly the expanded scope of my research in a broader US context. The undergraduate Asian student population at UTEP, which has an enrollment of 24,879 in 2020, 83% of which is Hispanic, stands close to one percent of the UTEP student population. Within this minority student population group, there is a significant representation from Nepal, India, Bangladesh, and Bhutan. Given UTEP’s status as a Hispanic Serving Institute, I was, on account of my positionality, curious to investigate within this scenario how South Asian students, who are represented as minority students, use different tools, such as mobile technology, to adapt to their academic needs and acclimate to this foreign physical space.
For the convenience sampling, I contacted the Office of International Programs (O.I.P.) for additional information and details in the course of recruiting my participants. They provided me with the total number of South Asian international students with F1 visa enrolled at different programs at UTEP, with an enrollment of 161 students in 2020. The F-1 Visa (Academic Student) allows people to enter the United States as full-time students at an accredited college. However, they did not provide the figure for non-F1 students. Based on the figures they provided, coupled with the rough estimate of non-F1 students, it can be assumed that about 1% of the UTEP student population is South Asian. The information they provided on the number of South Asian students enrolled in different programs helped me recruit some of my participants, as I was able to meet with them in their departments and confirm their participation. These participants, along with my contacts, helped me contact the potential participants. Hence, I used both convenience and snowball sampling to collect my participants.

I recruited nine international multilingual students from South Asia, such as Nepal, India, Bhutan, and Bangladesh, for the focus group. Although these participants differed in terms of their academic disciplines and education levels, they could be placed under a homogenous category since they shared a number of parallels in terms of topography, climate, and cultural practices. From this pool, I chose five participants for the artifact-based interviews.

3.4 Participant selection

3.4.1 Focus Group Participants

My selection of participants for the focus group was governed by factors such as gender, education levels, and academic programs. For example, I wanted to ensure a "fair" representation of participants across genders in the focus group and one-on-one interviews. However, given that the number of female students at UTEP from South Asia is much lower than that of males, I could
only find two female participants, a graduate student from India and an undergraduate student from Bhutan. Some other female participants I communicated with showed interest in participating in the interview initially could not make it citing a conflicting schedule. All other participants are males, currently pursuing their graduate studies in different academic programs except for a Bhutanese undergraduate.

I recruited my participants by communicating with them via email, telephone calls, and even through face-to-face conversation. To protect the identities of my students, I am using pseudonyms. After obtaining the IRB approval, I prepared consent forms and passed them to my participants before advancing with the interviews. My participants read the consent forms and signed them before participating in the interviews. See Table 2 below for the list of the research participants.

**Table 1. National and disciplinary backgrounds of focus group discussion participants**

<table>
<thead>
<tr>
<th>Participants</th>
<th>Country</th>
<th>Academic Program</th>
<th>Academic Level</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mukesh</td>
<td>India</td>
<td>Environmental Engineering</td>
<td>Graduate</td>
<td>Male</td>
</tr>
<tr>
<td>Sonam</td>
<td>Bhutan</td>
<td>Business Studies</td>
<td>Undergraduate</td>
<td>Female</td>
</tr>
<tr>
<td>Sameer</td>
<td>Nepal</td>
<td>Computational Science</td>
<td>Graduate</td>
<td>Male</td>
</tr>
<tr>
<td>Aalam</td>
<td>Bangladesh</td>
<td>Science</td>
<td>Graduate</td>
<td>Male</td>
</tr>
<tr>
<td>Anil</td>
<td>Nepal</td>
<td>Rhetoric and</td>
<td>Graduate</td>
<td>Male</td>
</tr>
<tr>
<td>Sapanja</td>
<td>India</td>
<td>Environmental Science Engineering</td>
<td>Graduate</td>
<td>Female</td>
</tr>
<tr>
<td>Jigme</td>
<td>Bhutan</td>
<td>Science</td>
<td>Undergraduate</td>
<td>Male</td>
</tr>
<tr>
<td>Aarif</td>
<td>Bangladesh</td>
<td>Computational Science</td>
<td>Graduate</td>
<td>Male</td>
</tr>
<tr>
<td>Abdul</td>
<td>Bangladesh</td>
<td>Science</td>
<td>Graduate</td>
<td>Male</td>
</tr>
</tbody>
</table>

Although I initially planned to limit the number of focus group participants from all four countries to two, three turned up from Bangladesh. This was because, in the course of
communicating with three of my potential participants from Bangladesh, two had expressed uncertainty about their participation. However, in the end, all three turned up for the interview, raising the number of participants from Bangladesh to three. I had two participants, each from the remaining three countries, Nepal, India, and Bhutan. My participants from Bhutan were undergraduate students who also worked as writing consultants at the university writing center. All of my participants also worked at UTEP in addition to being students.

3.4.2 Artifact-Based Interview Participants

For the one-on-one artifact-based interviews, I selected two participants from Nepal and one from the other three countries. When selecting the participants, I wanted to be country, gender, program, and level inclusive. That is the reason I chose a female Business undergraduate participant from Bhutan. The remaining participants were Humanities and Science graduate students from the other three countries, Nepal, India, and Bangladesh. From the focus group interview, I collected five themes, each of which I wanted to investigate further using one on one artifact-based interviews. So, I selected five participants, one each from Bhutan, Bangladesh, and India, and two from Nepal. The reason for selecting two participants from Nepal was my shared nationality with the participants which would make it easy for me to communicate with them and schedule interviews more conveniently. See Table 3 below for the list of the interview participants.

Table 2. List of participants for artifact-based interviews

<table>
<thead>
<tr>
<th>Participants</th>
<th>Country</th>
<th>Academic Program</th>
<th>Academic Level</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mukesh</td>
<td>India</td>
<td>Environmental Engineering</td>
<td>Graduate</td>
<td>Male</td>
</tr>
<tr>
<td>Sonam</td>
<td>Bhutan</td>
<td>Bachelor of Business Studies</td>
<td>Undergraduate</td>
<td>Female</td>
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<tr>
<td>Sameer</td>
<td>Nepal</td>
<td>Computational Science</td>
<td>Graduate</td>
<td>Male</td>
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<tr>
<td>Aalam</td>
<td>Bangladesh</td>
<td>Science</td>
<td>Graduate</td>
<td>Male</td>
</tr>
<tr>
<td>Anil</td>
<td>Nepal</td>
<td>Rhetoric and</td>
<td>Undergraduate</td>
<td>Male</td>
</tr>
</tbody>
</table>
3.5 Focus Group

I conducted a focus group discussion with nine participants from Nepal, India, Bangladesh, and Bhutan. A focus group discussion is an important strategy employed by researchers who primarily use qualitative data collection methods. Dishad and Laftif (2013), citing Anderson (1990), say that "a focus group interview is a qualitative technique for data collection. A focus group is "a group comprised of individuals with certain characteristics who focus discussions on a given issue or topic" (p.241). According to Denscombe (2007, p.115, as cited in Dishad and Latif, 2013), "focus groups consist of a small group of people, usually between six and nine in number, who are brought together by a trained moderator (the researcher) to explore attitudes and perceptions, feelings and ideas about a topic" (p.192). They further state that "a focus group interview provides a setting for the relatively homogeneous group to reflect on the questions asked by the interviewer" (p.192).

The director of UTEP’s University Writing Center (UWC) provided space for the discussion. The UWC was a good location given that it is housed on the first floor of the university’s library, has a room where up to two dozen participants can be easily accommodated for discussions and interviews. Also, the UWC is a convenient location for the participants from across disciplines to meet for the discussion because it is centrally located at the university, making it an easily accessible location for students from all different departments. I wanted to make the focus group discussion as casual as possible to receive spontaneous responses from my participants on their use of smartphones in the U.S. academic and non-academic settings. Therefore, I did not provide any questions to my participants before the discussion. My positionality as one of the South Asian students, I assume, helped the participants share their ideas expansively.
I wanted to do a focus group as this would allow my participants, all of whom are South Asians, to unhesitatingly share their opinions on the use of smartphones, regardless of whether they agree or disagree with one another’s views. The focus group, I believe, would also help me discern my participants’ smartphone localization experiences as they use their smartphones to enhance their day to day affairs and generate new insights that would guide me towards a much more in-depth discussion centering around my research topic. It was also important that my participants engaged in conversation with each other about these issues since they all use smartphones for different purposes and share a number of parallels in terms of localization and user experiences. Hence, their conversations would help inform each other about how this technology can be optimally used to enhance their life chances in the U.S.

In the focus group, which lasted about ninety minutes, I asked participants open-ended questions on diverse topics related to their use of smartphones and experiences with their usage and recorded the discussion (see a copy of all discussion questions in Appendix A). My questions aimed to study how my participants had been using mobile phones to wrestle with their personal and academic necessities. The questions were invested in eliciting responses connected with different uses of smartphones, such as how they used their mobile phone to educate themselves and how it helped them navigate different physical and virtual sites in the U.S. I also asked my participants questions about different apps and features of smartphones they used and their experiences associated with the devices as they did so. Further, I tried inquiring how or if smartphones brought any changes in their academic and personal lives and asked them to share their ideas as they would employ apps and features to ease their everyday affairs. Hence, the questions I asked my focus group participants ranged from their history of mobile phone usage to entailing their experiences using smartphones for a wide array of functions corresponding to
academic, personal, and professional dimensions. Participants openly shared their viewpoints and experiences their smartphone usage for various purposes.

3.5.1 Focus Group Data Analysis

After recording the discussion and transcribing it manually, I used an affinity diagram, which is a tool that gathers large amounts of language data (ideas, opinions, issues) and organizes them into groupings based on their natural relationships, to analyze the data from my focus group. According to Weprin (2016), “An affinity diagram is a method used to organize many ideas into groups with common themes or relationships” (n.p.). I used this research method since my research primarily deals with extensive responses related to my participants' experiences with their smartphones. An affinity diagram helped me condense multiple responses into initial themes, allowing me to see emerging patterns in my data as I moved on from the focus group to the artifact-based interviews. In addition, since affinity diagramming is a popular method used in user-experience research, I found it useful to employ this method as it will help me speak to technical communication and technology design researchers as I present my findings. Through an affinity-diagramming analysis, I was able to trace how the participants adapt mobile technology to address their needs and make choices, even when selecting certain apps or features. The affinity diagram helped me cluster responses from my participants and arrive at education, navigation, banking, translation, and entertainment as the primary themes discussed during the focus group. After carefully collecting and examining the responses I received to my various questions from my respondents, I landed on these themes. Then, based on the similarities of the responses in terms of how my participants localized smartphones to attain various purposes, I placed them under the above-mentioned thematic categories. As illustrated in Table 1, I collected the participants’ views about how they localized smartphones to meet various goals of theirs and their experience with
smartphone usage, designs, apps, and feature preferences. Based on their natural relationship with each other, I clustered the ideas under the five specific themes: Education, Banking, Entertainment, Translation, and Navigation. (See Appendix A).

Understanding South Asian international students' experiences with smartphones through a focus group helped me understand how these devices have been instrumental in supporting my participants in multiple ways and helping me prepare for the second phase of the research, artifact-based interviews. The focus group's size allowed me to ask both open-ended and specific questions and obtain detailed responses from my research participants. It also allowed the participants the time and opportunity to share their views on issues of technology design, user experience, and how they adapt mobile technology to address different needs. However, it was not just an analysis for results, but an analysis that allowed me to group my participants' responses under specific themes and investigate those further in the artifact-based interviews, which was part of my research method.

3.6 Artifact-Based Interviews

Next, based on the overall themes derived from the focus group, I proceeded to individual artifact-based interviews. For this, I selected five participants from the pool of nine focus group participants, ensuring that all four countries chosen from South Asia were fairly represented in terms of gender, academic programs and levels. I, however, selected two participants from Nepal on account of my shared nationality with the participants, which would make it easy for me to communicate with them and conveniently schedule their interviews.

An artifact-based interview is one in which the participants come with their artifacts and respond to the interviewer's questions in the proximity of their artifacts. The artifact-based interview helped me with data triangulation as it would mean revisiting the focus group's responses
coupled with a more detailed discussion of the important themes collected in the focus group. Hales (2010) says that data triangulation "is the use of a variety of data sources, including time, space, and persons, in a study. Findings can be corroborated, and any weaknesses in the data can be compensated for by the strengths of other data, thereby increasing the validity and reliability of the results" (p.14). The artifact-based interview helped me delve deeper into South Asian UTEP international students' individual experiences with their smartphones; the interviews helped reinforce, contradict, analyze, or modify the response obtained from the focus group interviews. Thus, the artifact-based interviews would further substantiate my data. The basis of my interviews was to get a comprehensive picture of ways students who come from different South Asian countries and pursue different academic programs at different levels, albeit at the same institution, use smartphones to traverse academic and non-academic terrains in the U.S.

In artifact-based interviews, the participants can enjoy the tangible feel of the device as they answer questions. This means they had their smartphones with them or within their close reach, allowing them to engage with the devices physically. This makes the participants exhibit how they use their smartphones to achieve different purposes. This may mean that students’ perceptions about smartphones might not be consistent with what they share about it in its absence. In my case, the artifacts were smartphones, along with different apps and features installed on these devices, which they had at the interview. After ensuring that my participants remained in close proximity with their smartphones, I proceeded with the interviews. Based on the individual themes that I had allocated to each of my participants (e.g., education, banking, translation), I started with general questions about different ways they used their device and experiences they went through in so doing and proceeded to specific questions targeting how they used their mobile phones to grapple with the complexities of their academic and personal lives. For example,
depending on the assigned themes, I asked my participants how smartphones helped them entertain, fostered their academic endeavors, helped in translation engagements, assisted in different navigation activities, and supported banking practices. I also engaged artifact-based interview participants in activities that involved their interaction with their artifacts. For instance, I asked them to show how they used dictionary, store, map, and Blackboard apps, which made them elaborate on how these impacted their academic and personal lives. This also allowed me to observe how strategically they localized their smartphones and cross-check whether they used their devices in ways they said they did.

3.7 Data Analysis of Focus Group and Artifact-Based Interviews

The responses I received from my focus group interview participants helped me with data analysis. I did so by employing the commonly used user-experience research method of affinity diagram and card sorting. I used these research methods since my research mainly deals with my participants' user experience accounts as they engage with their smartphones and user experience research methods have proved effective in analyzing how the users of technologies adopt them in their everyday lives. Department of Health and Human Services (2014) has it that “User experience (UX) focuses on having a deep understanding of users, what they need, what they value, their abilities, and also their limitations... UX best practices promote improving the quality of the user's interaction with and perceptions of your product and any related services” (n.p). Leaning on this explanation of user experience it can be argued that when international students use mobile technologies, in addition to its primary use for communication, it is mostly about how they employ these devices to tackle various educational and personal needs. I was able to organize focus group participants' responses into five specific themes: education, entertainment, banking, navigation, and translation, in which they localized their smartphones. I paired these overarching patterns with
quotes and individual responses from artifact interview participants, which I analyzed in ways similar to the focus group discussion, using the card sorting method, which is similar to the affinity diagram method. This helped me evaluate the responses of my participants as they elaborated on themes assigned to each of them. I coded for patterns that show a relationship between a focus group and individuals regarding their uses of and experiences with smartphones.

Next, in the course of the one-on-one interview, I employed a card sorting method of data analysis, using a user journey map. According to Spencer & Warfel (2004), “Card sorting is a user-centered design method for increasing system’s findability. The process involves sorting a series of cards, each labeled with a piece of content or functionality, into groups that make sense to users or participants” (p.2). Of the two types of card sorting, closed card sorting and open card sorting, I used the latter as this gives more liberty to participants since they can sort cards into groups that they feel are appropriate. This card sorting method can also pave way to further research through affinity diagraming which helps group the major themes, which then can be investigated based on the use of a user journey map. A user journey map explains through a diagram a user’s experience using a specific product along a particular timeline, starting with initial contact or discovery and continuing through the process often associated with attachment and loyalty (See Appendix B).

Typically, card sorting results end up with a two-level hierarchy: a category and its sub-components. I used this technique to elicit responses from the focus group discussion by organizing words- placed randomly- related to their use and experience of the cell phones under some defined categories. Card sorting helped me develop overall themes and patterns from my artifact-based interviews. For example, when I wanted data from my participants on the user experience or user localization as they use their devices to attain their educational navigational objectives or any other questions connected to smartphones, I marked categories and analyzed their responses. I remained
very flexible when it came to analyzing the data. I wrote down codes as they appeared. This helped me observe what aspect of the product mattered most to the user and what mattered the least. For example, when it came to entertainment as a theme, I encouraged my participant to share whatever he or she felt were connected to this theme in terms of the types of entertainment smartphones allowed them, what entertainment apps their smartphones supported, how it changed their entertainment practices, and whether this aspect of smartphones allowed them to stay connected to their culture. Further, I also asked them to share what they mostly used their smartphones for and the least they used them for. I carefully traced various activities they enacted using their smartphones, and that helped me see what aspect of the product they valued the most and what was of least importance to them. Card sorting is also a tested data collection technique with a history of being successfully used for over a decade. This technique, which has direct user involvement, provides insight into users' mental models for smartphone choice and usability.

My participants' responses to the questions I asked them in focus group helped me understand the considerations that governed the selection of their smartphone brand; the history of their smartphone usage; the way their smartphone usage practices varied between their home country and the U.S.; the way their use of smartphones affected their learning curve; the way they localized the smartphones to maximize their uses, and the way it influenced their verbal and written communication skills. The responses also helped me understand what the participants felt the designers still needed to work on. They also shared if their instructors supported their use of smartphones in reading and writing activities and whether the classrooms at UTEP were smartphone friendly. Further, the participants also discussed how these devices helped them in terms of navigation, entertainment, banking, and translation. Not all participants were required to respond to all the questions asked; they were free to jump in when they felt like doing so. This
allowed the participants to add to the views expressed by other participants in addition to their responses to the asked questions. After recording the participants' responses, I analyzed the data through an affinity diagram and proceeded to a more in-depth one-on-one interview whose data analysis was supported by a user journey mapping.

Hence, in the focus group, I asked my participants many open-ended questions about their use of smartphones in terms of apps and features and various other aspects that governed their smartphone usage. After that, I was able to form specific broader themes, as explained earlier. And in the one on one interview, I decided to focus on these themes by allocating my participants with these individual themes that I would thoroughly investigate by tracing different activities that my participants used their smartphones for spanning the time they were back in their countries until the present time in the U.S. To elaborate, in the artifact interviews I asked my participants to share different experiences they had localizing their smartphones as they transitioned from spatiotemporal settings of their home countries to the U.S. I did not have any preconceived themes to categorize my participants’ responses Instead, based on my participants’ responses to my questions, I remained open to developing the themes. As illustrated in Table 1, for example, I placed all ideas connected to entertainment in whatever way, such as YouTube, Netflix, Movies, Interactive Games, and Music, in some way under the "entertainment" theme. I developed the other four themes, education, and navigation, accordingly.

3.8 Research Biases and Limitations

Because of my passion for this topic, I was likely biased during the data collection. For example, in asking open-ended questions, I may have imperceptibly influenced my participants' responses by coloring them with my own biases or preconceived notions I nursed about smartphones. For example, while clarifying or rephrasing questions, I cited one or two of my
instances using smartphones, which may have conditioned the participants' responses. There may also have been language and culture-related limitations associated with the focus group, which barred some participants from opening up at the same level as others. Some of the participants, mainly female, were more reserved than others. South Asia is still a predominantly patriarchal society, and this may have in some way reflected in the mindsets of my female participants. Next, some of the participants, who "sounded" well versed in spoken English, showed a higher tendency to speak than others. So, I assigned a fixed time for each participant to respond, and I intervened when needed to ensure that the participants followed turn-taking during the discussion. However, I did not encounter any of these issues during the one-on-one artifact-based interviews.

Next, my sample size could also have had a limitation on my study. If I had been able to conduct at least two focus group discussions, my data pool would be more expanded. Next, my selection of two participants from Nepal for the artifact-based interviews based on convenience may also have led to some bias in the data collection process. After the first half of the focus group discussion, I divided my questions amongst my participants because of the time constraint, which barred the participants from openly responding to all the questions. This may also have affected the quality of responses. Similarly, towards the end of the focus group, some participants seemed to be in a rush to end the interview, which could have also affected their responses. Of the nine participants in the focus group, only two were female participants. This disproportionate number may have, in some way, influenced their responses.

3.9 Ethical Concerns

I ensured that ethics remained a top priority throughout the study. I requested that my participants read and sign the informed consent form before the discussion and interviews. The letter of Informed Consent follows U.S. federal guidelines, as outlined by Frankfort-Nachmias &
Nachmias (2008) including, "a fair explanation of procedures, description of risks reasonably to be expected, a description of benefits reasonably to be expected, an offer of inquiry regarding the procedures, and an instruction that the person is free to withdraw" (p. 75). There were no risks to the participants associated with this study, and I also clarified this before starting the discussion and interviews. All participants were qualified for the discussion and interview since they were over 18 years of age and appeared to be in sound mental and physical health. Additionally, all recorded materials will be erased after five years, following the research committee's final approval. This will minimize any potential risks linked to confidentiality.

In this chapter, I presented the research questions that governed my overall dissertation. I also discussed user localization and user experience, my theoretical framework for the research, and the rationale for participant selection. Further, I discussed different methods such as focus groups and artifact-based interviews I used for data collection and analysis, along with notes on research biases and ethical concerns. In the next chapter, I will describe the focus group discussion, which will be the basis for the ensuing chapters on artifact-based interviews with the select research participants. (See Appendix B for focus group discussion questions and Appendix C for user journey map)
Chapter 4: Findings: Focus Group, Entertainment, and Banking

In chapter three, I talked about the methods I used for my study. In this chapter and the other two chapters that follow, I will present the findings and connect them with my theoretical framework for this project, which mainly rests on Huatong Sun's User Experience and User Localization frameworks. Since both of these chapters discuss how South Asian international students at the University of Texas at El Paso (UTEP) use their smartphones to tackle different difficulties, localizing their apps and features in the process, and their experiences connected to their usage, these chapters directly relate to my theoretical framework. This chapter will first discuss the focus group and then proceed to artifact-based interviews.

4.1 Focus Group

I conducted a focus group with my participants to study different ways they used their smartphones. I asked them questions (See Appendix A) connected to various aspects of smartphones ranging from the history of use, choice of brands and apps, experience using different brands and features, and the impacts their smartphones had on their personal and professional lives. I organized the focus group responses under five thematic categories, although many responses could fit in more than one category. This chapter will first engage with the focus group discussion and discuss artifact-based interviews on entertainment and banking, which I conducted with two select participants from the focus group.

4.2 Focus Group Discussion

The focus group discussion with nine South Asian students brings to light some fundamental viewpoints revolving around how South Asian international students at The University of Texas at El Paso (UTEP) use their smartphones to come to terms with different U.S. life complexities. When these students came to the U.S., they were mostly confronted with new
challenges pertaining to academics, finance, culture, and lifestyle. Hence, to cope with these
difficulties, these students made apt use of smartphones, which helped them significantly in their
struggle to acclimate to this largely unfamiliar physical and cultural landscape.

The South Asian international students' uses of smartphones at UTEP are mainly governed
by their academic and personal needs, hobbies, trust in mobile technology to help them accomplish
their tasks, and their technological adeptness. Similarly, the participants' smartphone brand
preferences are also contingent on their cultural backgrounds, corresponding expectations, and
peer influences.

Overall, my focus group participants shared many ideas regarding their use of smartphones
for different purposes, their history of smartphone usage, and their change of usage of smartphones
over time. Further, they also shared their smartphone user experience in terms of apps and features
and what determined their brand choices. The participants also compared the use of their
smartphones between their home countries and the U.S. It could be seen that these South Asian
students at UTEP used their smartphones as rhetorical and strategical tools in their attempt to figure
out ways to make different academic and personal ends meet. This was reflected in their choice of
brands and careful selection and adoption of different apps when grappling with various
complexities of their lives in the U.S. setting. They had been engaged in user localization practices
in the course of tweaking and playing around with different apps and features. Despite representing
the same geographical space in a broader global context, on account of the differences that
prevailed within my focus group in terms of culture, language, and disciplinary differences, their
smartphone usage practices too considerably differed in many ways. However, I could also draw
many parallels in their usage in terms of their tactfulness in using their devices to make the most
of their personal and academic lives in the U.S.
The smartphone user experiences that the participants share have implications for general users, technical communicators, designers, and students in terms of how they can all contribute to and participate in harnessing the benefits of this technology. Hence, these views expressed by South Asian international students not only open conversations on how smartphones can help foster justice in academic and non-academic settings in the U.S. but also have takeaways for designers and academia. Designers should start focusing on cross-cultural technology design, and technical communicators should explore ways to ensure enhanced incorporation of mobile technology into communication practices and pedagogy so that the users can reap the benefits of this technology via localization and enjoy improved user experiences.

The ensuing sections provide the views expressed by the study participants regarding their technology preferences, how they use their smartphones for different purposes, what governs these choices, and their experiences related to them. Based on these views, I will also categorize the views under certain themes, which I will further examine with select participants in the artifact-based interviews.

4.3 Smartphones and General Uses

South Asian international students from Bangladesh, India, Nepal, and Bhutan did not use their smartphones in their homes in the same way and volume as they did after coming to the USA. This can be attributed to their limited smartphone access coupled with many tasks they performed back then, which heavily hinged on in-person engagements, requiring little smartphone use. Hence, their smartphone usage back in their home countries was mainly centered around communication. However, after coming to the U.S., their smartphone use has changed. They have significantly expanded in terms of helping the participants address various complexities of U.S. life here, making them use different apps and features. This section will first talk in general about
how these participants use smartphones, what brands of smartphones they use, and what factors govern these choices. After that, based on further details they share, I will categorize their views under five broad themes: entertainment, banking, education, navigation, and translation. However, some of the ideas placed under one theme may as well seem relevant in others. The "deemed" primary purposes of smartphones, such as making calls and sending and receiving messages, are not placed under specific themes as they may fit into more than one theme depending on the purposes they serve in different contexts. The ensuing paragraphs provide some general information about the mobile phone uses and brand choices of the individual participants, and sections after that engage in themes that I was able to derive after analyzing what the participants had to elaborate.

To begin, Sonam, a business studies undergraduate student from Bhutan, bought an iPhone for the first time when she came to the U.S. In Bhutan, she used her mobile phone for a limited number of tasks, seldom using it to show her presence on social media platforms like Facebook and Snapchat. However, after coming to the U.S., that has changed. She is now very active on social media like Instagram, Facebook, and TikTok. She says these apps serve many purposes, including entertainment, education, banking, navigation, and translation. Sonam thinks the use of smartphones connects more to convenience and availability. Abdul, a mechanical engineering Ph.D. student from Bangladesh, uses his smartphone to check maps, use social media apps, talk to his family, watch videos, translate texts from one language to another, and listen to music. In Bangladesh, he used Facebook through a browser; now, he has installed Facebook, Snapchat, Instagram, and Outlook apps on his phone. In Bangladesh, Abdul used a multimedia phone, which he continued using after coming to the U.S.
Aalam, another mechanical engineering Ph.D. student from Bangladesh, now uses his smartphone to build a better social media presence, send emails, check maps, and play games during leisure. Aalam, who used his first smartphone after coming to the U.S., used Nokia back home and was not much attached to social media. After landing in the U.S., he started using Samsung Galaxy 7, mainly to communicate and use social media in addition to clicking photos. Now, he has switched to S 10 plus, which he says has a lot more capacity and operates much faster compared to earlier models he used. When Aarif, a computational science Ph.D. student from Bangladesh, started using a "regular" mobile phone in Bangladesh, it was limited to calling and texting. However, he switched to a smartphone after coming to the U.S. Since then, he has become quite dependent on it in terms of receiving reminders, tracking things, and making payments. Aarif also appreciates free audio-video calling feature on Messenger since it does not require him to remember passwords to call his friends and family. Jigme, an undergraduate Physics major from Bhutan, uses his smartphone to take notes, keep track of specific tasks, and receive reminders. He prefers the iPhone to other mobile phones for taking photos because he likes the quality images it produces. Next, he uses this device to stay in touch with his friends, mainly via social media.

Sapana, an environmental science Ph.D. student from India, has an iPhone. She uses this phone to access social media applications and call her family back home. However, her preference is an android phone since "an android phone is more comfortable than the iPhone and offers most features for free." For Sameer, a computational science Ph.D. student from Nepal, the smartphone has become an integral part of his life. In addition to entertainment, it has helped enhance his academic and social life. Sameer has gradually become acquainted with different smartphone applications, such as the Outlook app, which he never used in Nepal. These apps have made his life convenient. Sameer did not use his smartphone for academic purposes in Nepal, and neither
did he use it for the calendar app. But now, he sets up his schedules on his calendar. This reminds him of every task he needs to perform, helping him manage his schedule better. He also has health apps that help him stay fit. Most importantly, however, Sameer uses his smartphone for translation, which he says has significantly helped him enhance his academics and adjust to life in El Paso.

Anil, a Nepalese Ph.D. candidate in Rhetoric and Composition, uses an iPhone mainly to communicate with his friends and family. Other than that, he frequently uses it to record audio and video documents and browse information on the net. He also uses it occasionally to translate texts from one language to another. He has been using WhatsApp for the last few months to communicate with his cohort. Although he seldom used his smartphone to access social media until some years ago, his use of social media has increased now. The credit for this, he says, goes to his smartphone. Since smartphones are portable, he can connect to social media whenever he has some free time, regardless of where he is at the time. When Anil came to the U.S. fifteen years ago, his mobile phone use was limited to communication purposes, such as texting and calling. Now, he also uses it for banking purposes, such as paying for credit cards, depositing checks into his bank account, paying phone bills, and navigating different virtual and physical spaces. As a first-year composition instructor, however, he shares that he has best used his smartphone to enhance teaching-learning activities.

In the past, Mukesh, an environmental engineering Ph.D. candidate from India, used brands like Nokia, which were referred to as multimedia phones. Now with an iPhone 8, he is multitasking. He has no immediate plans to upgrade it as it is working well for him. He uses his smartphone to show his presence in social media, send and receive emails, and do some translation. However, for him, being able to reap the benefits of banking activities has been the best use of his smartphone. He does most of his banking through his iPhone and maintains that since this phone
does not need to be locked with a password and scan fingerprints, it is highly secure. His phone is connected to his Apple watch and MacBook pro, so there is no need to use a password to open and lock his laptop as the phone performs these tasks. His phone also tracks the number of steps he takes every day, gives health tips, and helps him stay healthy. So, for him, too, it is an integral part of his life. He jokes, "It's literally covering all aspects, and through apps like Uber, it even feeds us." In addition, Mukesh also uses translation and email apps, such as the Outlook App. However, when a deluge of notification emails pop up on his smartphone, he finds it a little disturbing.

The following sections organize my participants’ views on the general use of their smartphones. This is based on different experiences they share with the use of smartphones in terms of wide-ranging issues, such as learning and brand choices, user localization, app features and expectations, language and communication skills, user-centered design considerations, and smartphone use in classroom contexts. Drawing on these views, I will arrive at some overarching themes, which I will explore further in one-on-one artifact-based interviews.

4.4 Smartphones: Learning and Brand Choices

This section demonstrates how smartphones have contributed to enhancing the learning curve of my subjects and what factors govern their smartphone brands. I asked my participants questions about how their phones contributed to their learning in any way and if their cultural, linguistic, and economic backgrounds influence brand choices and usages of smartphones, and whether this influence was the same in the U.S. as it is in their home countries. These questions are important for my research as my areas of investigation comprise how smartphones have assisted South Asian students academically and what factors affect their brand choices.

Mukesh states that learning apps like YouTube and Coursera, which offer free courses, can be accessed on smartphones. He opines, "Communication is becoming increasingly easier now. It
is often extra helpful to you, especially during your exam time or during your assignment period. When you are stuck, you can immediately communicate with your peers and professors and get things done." He thinks the brand choice of smartphones depends upon society and peer influences. It also depends on the brand's market status as it is often associated with speed and security. Sonam thinks to what extent we learn from a cell phone depends upon how constructively we use it. She says, "We can google information and do many things using our phone. However, if you only use it for entertainment, then it can be very disruptive as well." Harking back to the Bhutanese context, she cites smartphones' growing popularity in accessing online education as most schools have canceled face-to-face classes due to the COVID-19 pandemic. For her, the brand choice depends on brand knowledge and the budget allocated to purchase the device.

Abdul thinks the internet connection has stretched the scope of smartphone usage and significantly impacted the learning experience of its users. Back in Bangladesh, he says, "We had people to take care of all our needs. But in the U.S., you have YouTube providing tutorials on how to cook food, fix cars, and stitch your clothes." In other words, in Bangladesh, although these services were available on smartphones, there would be people available and willing to help. However, in the U.S., my participants are compelled to figure out solutions to their needs themselves, and YouTube helps them in the process. He says it is also a generational issue. My participants are in the 20-40 age group range. Abdul, who is close to forty, feels that he is quite ignorant about the usage of smartphone technology when compared with today's youths who use these platforms so adeptly. Back home, he was not even aware that there were popular apps such as Snapchat or Instagram. However, now everyone is using them, even for learning activities, which he thinks has been better facilitated by smartphones with strong internet connectivity. Hence, that period of relying on peers for learning is nearing its end as people worldwide are
learning from each other. He holds that this impacts our social and cultural views. He explains, "I believe that even gaining knowledge on some controversial issues like homosexuality and religion is easier now as people open up because we are connected via the net." Now, the smartphone is a mega source of information. So, smartphones are changing our views and our ways of learning and accessing information. He stresses, "Before mobile phones used to be tools; now they are who we are."

Nawshad feels that people today are beginning to enjoy easy learning with smartphones because of the internet connection on the cell phone. He points to how research programs in academia are becoming more diverse. He says, “I am a science student, and I have to perform thermos management and high-pressure combustion experiments. Because of smartphones, my tasks have become easier as I can easily access the instructions and instantly connect to my supervisor when needed.” He does not have time to go to his laptop to browse information; his phone does that for him. He also learned fishing using his smartphone. When talking about the COVID-19, or any other natural calamities, for example, he says, “Yahoo news and Google news pop on your phone and give the information.” And the brand choice is affected by your peers, cultural traits, economic backgrounds, and tastes. Back home, he shares, "I used to see that people were more hyped about the iPhone. However, I do believe that there are cell phones that can outmatch the iPhone with their capabilities. The new Samsung Plus and some high performing L.G. cell phones are there in the market as well." He continues that it also depends upon what your society thinks about it as people like to stand out in the crowd. So if the "crowd" thinks that iPhone is better than others, even if it is not the best, most people would go for it if they can afford it.

Hence, in terms of selecting smartphone brands, it is not just the cost that matters to everyone; it is also the cultural dimension that the participants consider in terms of associating the
brands as status markers. So, even to show that they stand at the top of the social hierarchy, the participants purchase high and expensive brands of smartphones. This is based on the participants' cultural scenarios that often associate their status with their material possession, which also manifests in smartphone brands. This psychology of the participants may have been transferred to the U.S. contexts as well, as they feel that being in possession of high brand smartphones would "elevate" them to the level where their American friends and colleagues stand.

Although this is not a significant area of my study, smartphone possession in terms of brand and cost seems to connect to my research participants' socio-economic statuses. Not all South Asian students studying in the U.S. hail from the same socio-economic backgrounds, and the differences in connect with their choices of smartphones. Jamalova and Constantinovits (2019) lean on Rogers' (2003) view that "individuals' reaction to the new technologies/innovations is highly related to socio-economic status" (p.13) and further posit that "socioeconomic status influences mobile phone purchase" (p.13). Hence, it is not only the applicability aspect of the smartphone that determines the users' preference for certain features and brands of smartphones but also how possessing those smartphones helps them exhibit the elevation of their socioeconomic footings. Soriano and Cao (2017), drawing on studies by Portus (2008) and Rashid & Elder (2009), state that "having a mobile phone is perceived to raise social status, and the better models or brands translate to higher social status" (p.83). Based on the conversations my participants had about their socio-economic conditions and how that influenced the price and brand preferences of their smartphones, future studies might better engage in understanding how the socio-economic standings of South Asian international students impact their smartphones preferences.
The participants also accept the importance of smartphones in the changing educational contexts, being aware, at the same time, that unless used appropriately, smartphones cannot be harnessed to reap academic benefits.

The necessity to acclimate to the U.S. culture, understandably, has forced the participants to engage in smartphone usages in certain ways to get things done. The cultural differences have also forced the participants to rely on smartphones for navigation and learning. Mobile phones have offered to provide information for certain issues considered taboo in their native countries, which has helped stretch the spectrum of the participants' knowledge repertoire. While all participants endorse the academic use of smartphones and are also cognizant of different knowledge avenues they can navigate via smartphones, the choice of brands for some is contingent upon social and economic factors that shape perceptions towards those who carry more popular like iPhone and Samsung.

4.5 Smartphones: User Localization

This section details how my participants localize their smartphones to get most done by their smartphones, and in the process, if they played around with any apps and features to make their ends meet. Borrowing the definition of localization from The Localization Industry Standards Association (LISA), Essenlink (2000) posits that "localization involves taking a product and making it linguistically and culturally appropriate to the target locale (country/region and language) where it will be used and sold"(p.3). Hence, in line with this working definition of localization, I asked my participants questions such as whether they tweaked or played around with any features or apps on their smartphones to maximize their use and share how they did so and the purposes behind doing so in the U.S. setting that is so different from their home countries in many ways. Their responses relate to the definition of localization presented by Essenlink in
that my participants also use the apps and features of smartphones in line with their linguistic backgrounds. However, Esselink’s (2000) mention of localization aligns more with localization at the user’s end. This is, however, still important to my research since one of the prime purposes of the project is to study how South Asian international students localize smartphones to make them more relevant in the U.S. cultural setting and how even designers can contribute to making things easier for the users.

Aarif, also involved in an entrepreneurial project alongside his studies, has been able to proceed with his venture by tweaking apps that help with surveillance and management of different departments of his business. He clarifies, “I add up different extension numbers on my smartphone for different departments, and that makes the client communication easier because every department is handling different kinds of stuff, and clients are able to make direct calls to the required departments. So, it’s better for the clients.” Anil is little informed about different apps and has not tried tweaking or playing around with them. He uses whatever apps and features he is comfortable using. Jigme uses a screen recorder and screenshot features for any information relevant to him, whether in the class or beyond. Sapana mainly uses smartphones for scanning, editing, and writing, using a word finder. Mukesh shares how he successfully installed a Linux operating system on his phone, which he attempted without being certain that it would work since his phone was not meant to support that operating system. However, that installation reduced his battery life to thirty minutes. That was one frustrating tweaking experience for him. Abdul believes that by accessing the remote computer system, one can update their data; one can access their remote computer and ransom packaging, which gives access to supercomputing, keeping track of the calculations for his research. Abdul had to leave a meeting once, but he also wanted to ensure he did not miss anything. So, he clicked the recording and left, only to realize later that that
was illegal. The participants have tweaked apps and features and “localized” them to make them work best for their needs. The participants keep themselves knowledgeable about different apps that smartphones can support and use them in the best possible ways to achieve different goals in U.S. settings.

4.6 Smartphones: Apps, Features, and Expectations

This section discusses the apps and features that my subjects use the most and their expectations in terms of the available apps and features. I asked my participants about some of the apps and features that significantly helped them grapple with various complexities of personal and academic lives in El Paso. This section is vital to my research since one of my key research interests is to investigate how my participants have been wrestling with numerous hurdles in the U.S. setting through the use of different apps and features.

For Mukesh, navigation apps are beneficial, especially in big cities. For Sonam, certain apps help her enjoy hefty shopping discounts. She uses Groupon to get heavy discounts and uses Instacard, which saves her money and time when making purchases over 35 dollars. She also uses Robinhood to invest in stocks and Scannable to scan her documents. She uses Netflix, YouTube, and TikTok to enjoy her leisure. Abdul listens to a lot of music, especially when he is driving, and uses YouTube premium. He also uses Netflix. When traveling on a plane, a feature on an apple phone helps add the boarding pass to his apple wallet, ensuring a comfortable journey. Even Jigme listens to a lot of music every day on his phone. It works as a stress buster for him after a stressful day. Aarif has sleeping issues, and even if he cannot sleep early, he has a compulsion to wake up early the following day to attend classes and meetings. He has an alarm app, Alarmy, on his phone. It cannot be switched off when this alarm goes off unless he solves a particular mathematical problem. And this helps him wake up early. Aalam was almost stranded on the way while going
to Yosemite National Park had it not been for his Google map on his smartphone that came to his rescue by offering alternative routes to his destination. The participants have been careful about the cost and effectiveness of picking apps that best serve their interests. The strategic use of different apps and features has helped the participants save money and proved instrumental in according them a gratifying user experience in reaping academic and economic rewards.

When asked what kinds of apps they wished were developed, Aarif and Sameer mentioned a language translator app that would translate words spoken in one language to another. Aarif cited China's case, where international tourists who fail to understand the Chinese language profit from such apps. Sameer added how his Chinese friends access many materials in their language through translation apps. He, too, wished there was an app that would translate spoken Nepali to English; that would make things easy for him. Sapana would like a feature that would automatically freeze her social media apps if she spent more than 30 minutes on them. Mukesh expressed his satisfaction for the MyUtep app on campus, which would be highly useful to students. Abdul cited the hassles of finding a parking spot in connection with his desire for new apps. He enumerated, "Like an Uber app, if there were apps allowing people to rent their parking spots to those seeking them, especially in areas with heavy traffic, it would be a win-win deal." Even when it comes to app preferences, there are variations in the participants' choices, which are contingent on their needs and backgrounds. Most of the participants concur that the existing apps have primarily satisfied their needs and laud designers for relentlessly working to produce better apps. However, they also expressed their desire for more helpful language apps. The participants have also shown their understanding of U.S. life and prescribed ideas about specific apps that would help ease the hassles.
4.7 Smartphones and Language and Communication Skills

This section deals with how smartphones have influenced my subjects' verbal and written communication skills in English. This is important to my research since one of my areas of interest is to find out if my subjects have been using their smartphones to hone their language skills. This is vital for my participants since they all are ESL students, and English language proficiency plays a vital role in helping these students adjust to the U.S. way of life and have competence in their academic endeavors.

Jigme says, "Since we are all socially active nowadays, it does affect the way we communicate, especially with meme culture taking over the world." Abdul points to the outsourcing I.T. business and how that has been one of the top revenue-generating businesses for developing countries. So, to communicate effectively with their clients in Europe and America, people in South Asia try to work on their English accents. Hence, to increase the value of production (VOP), they have to devote time to improve their communication skills. YouTube on smartphones helps them with language learning by providing free access to audio-video materials. Anil googles information about specific words and phrases and their usage on his smartphone, which helps him enhance his communication skills. He holds that this also helps hone our writing skills as smartphones make listening to academic resources easy. He posits, "Even when you simply use social media, read messages or articles, it indirectly helps us become polished writers." Sapana has a few apps, mainly language apps, that help her learn to read and write some languages. She is currently learning the basics of the Punjabi alphabet that way. Abdul is using an app called Duolingo to learn Spanish. For Sameer, smartphones, with autocorrect, have helped improve his verbal and writing skills. The participants are aware of the enhanced communication practices that smartphones have helped bring about. However, they are also mindful of how these can be
harnessed to profit from global business networks through improved language and communication skills.

4.8 User-Centered Design Considerations

This section deals with the views expressed by my subjects on the design-related issues of smartphones and if they felt the need for any changes in designing smartphones so that their user experiences would be seamless. I asked my participants questions on what factors they think the designers should consider when designing smartphones so that users from different backgrounds can use them smoothly. This is also crucial to my study since, along with user localization, I am invested in studying their experiences using different types of smartphones and what changes they feel are necessary to ensure that users across cultural and physical spaces can "own" their smartphones. This section is important in terms of the implications smartphone design-related issues have on designers.

Aalam feels designers are on the correct path and hopes that he can do computer-aided design (CAD) on his cell phone after a few years. For Jigme, it is all about maximizing the user experience. An example of how that has happened is that passwords were needed to unlock devices in the past, and now with fingerprint scanners, that problem is over. Abdul feels that there is a struggle between performances and user experiences. He compares the current Blackboard with the one in the past, which he says was not user-friendly, but the newer version is better than the old one. To him, the people in the industry are investing in further enhancing the efficiency of smartphones. However, a lot remains to be done. Mukesh stresses that the owners of the phones should have maximum control over them rather than the companies or the apps and that the app makers are heading in that direction. Maybe five years ago, users were not the complete owners of those apps since they did not offer that flexibility. Even if users wanted to remove some default
apps from their phones, they could not because they came with the default operating system. Now, he believes, that is beginning to change. The participants' sharing of user experience points to a broader understanding they show towards designs and brands and how these are connected to the performance of the devices and corresponding experiences using those devices. They agree on being able to have more control over their devices, which indicates that these devices must offer more user localization options so that the users across cultures can feel genuine ownership over them. However, they also acknowledge how designers are headed in the right direction in creating smartphones that provide the best experience to users across locations.

Mukesh feels that designers are working to develop culturally informed technology. He explains, "When you unlock your new phone, it asks you which country you are from. And as per that, certain features come and go. However, more freedom will be beneficial, such as if you enter the information about your country, maybe the design of your operating system will adjust accordingly." Sameer thinks design preferences depend on the locality one lives in. The same apps and features targeted for users in the U.S. may not be reliable in some other parts of the world.

Abdul talks about modified Uber apps in Bangladesh, but it is still in its nascent stage. He shares how apps give you the option of selecting a specific accent when setting up Alexa or Siri, and mentions that designers are trying to keep everybody on the same page. Aalam adds that in Bangladesh, you cannot make a payment on an Uber app. He thinks it is the manufacturers overseeing your locality and culture that develop the products. He is skeptical that manufacturers send better products to first-world countries and inferior ones to those with greater economic diversity. Sameer says that the manufacturers have to be careful. He disapproves of producing blanket designs; the manufacturers have to study whether the target market demographics own their products. They must design phones that users can relate to their culture. The participants also
admit that designers are paying attention to developing products that respect cultural sensitivity through inbuilt feature flexibilities that allow the users to play around with the apps and features of smartphones to make them more culturally relatable. That said, however, the participants feel that more has to be done by manufacturers to ensure that technology designs are inclusive.

4.9 Smartphones and Classrooms

This section deals with my participants’ views on if their instructors supported their use of smartphones in reading and writing activities and whether their classrooms and courses are smartphone-friendly. This is important for my study since I want to find out if smartphone technology has been recognized as a technology capable of both improving pedagogical practices and assisting students with their academic activities, ranging from engaging with texts and assignments. This section will also help me discern how smartphone technology can be harnessed, both by students and teachers, to attain their academic and professional goals.

Next, when asked about instructors supporting smartphones' use in reading and writing activities, Sonam, Mukesh, and Sapana feel that videos could be uploaded to Blackboard, but it would not be convenient for students to watch them on smartphones. Abdul, also a graduate instructor, says the classrooms are technology friendly, but they could be improved to make provisions for smartphone technology. Mukesh feels that in his line of work, as of now, not much can be accomplished with a smartphone; he needs a computer. Aalam, also a science student, feels that smartphones have yet to reach that stage when the users can replace computers with smartphones to do their assignments. He doubts if it will happen anytime soon. Abdul says mobile phones are not much used in his class. However, as an instructor, he encourages his students to use them to collect data and take snapshots instead of merely taking down notes. Whenever he is conducting an exam, he asks them to use the browser on the phone. Mukesh, on the other hand,
worries that students may misuse smartphones. They might fake reading a text when they are actually reading messages on social media sites. Sapana also shares a similar concern. She recalls catching some students engaged in online shopping with their cell phones in the classroom. Abdul suggests using a Lockdown feature on the browser of smartphones, which gives notification to the instructors if students go out of the browser they ought to be using, to check such issues.

Aalam thinks the trend of using cell phones in the classroom has not developed much. Sonam says her class does not use mobile much. She continues that even when students are using their smartphones for non-academic purposes while the lecture sessions are ongoing, the instructors simply ignore it. Aarif and Naveed share that instructors have their “opinions” on smartphones' usage. They agree that students have more exposure to smartphones than most instructors and stress that it is high time the instructors updated themselves with the latest technological knowhow. This relates to what Brunk-Chavez & Miller (2009) state in “The hybrid academy: Building and sustaining a technological culture of use.” These scholars posit that “some faculty do not find themselves to be empowered users of technology, and this prevents them from engaging with technologies in meaningful ways” (p.6). Hence, the lack of adequate knowledge of smartphone technology may have prevented instructors from integrating it into pedagogy or encouraging students to use it for their academic activities. Anil says for RWS 1301 and 1302, the first-year writing courses he teaches, he assigns his students a documentary project. He shares, "I encourage my students to use whatever technologies they are comfortable with to produce the document. And some of my students have informed me that they have used their mobile phones for that purpose." While all participants agreed that smartphones had helped them academically, the view regarding the degree of efficacy of smartphones varied amongst the participants. While smartphones assisted with research and communication to an extent, to participants from the
science and management areas of study, they have yet to become viable substitutes for computers. However, smartphones proved to be highly effective with a graduate student participant who instructed first-year writing, both in terms of doing his own tasks and instructing his students. The participants, acknowledging the growing importance of smartphones in academic engagements, feel that their instructors should upgrade their technological knowhow of this technology and that classrooms should be made mobile-friendly. Thus, it can also be inferred how pedagogical practices should be adapted to fit mobile technology.

Based on the summary of the responses from my participants, using an affinity diagramming analysis method, I categorized the participants' responses under five broad categories: entertainment, banking, education, translation, and navigation. I did this because those categories came up most frequently in this initial focus group discussion. At the same time, it is important to note that some responses seemed to fit in more than one category. For example, social media also connects to communication, information, education, and even entertainment. After grouping the responses from my focus group on different dimensions of their smartphone usage in the categories listed earlier, I proceeded to one-on-one artifact-based interviews in which I dug deeper into these thematic categories with my participants. These interviews would help me with data triangulation by allowing me to see if the participants reinforced their views expressed in the focus group or changed the versions of their responses.

Based on what the participants shared about their smartphone usage in their home countries and the U.S., it can be seen that their switch of smartphone brands has been primarily shaped by their changing needs, whether in the course of attaining academic pursuits or personal hobbies. The participants have kept themselves well informed about different changes and innovations in mobile technology in this connection. They have also become cognizant of the different roles that
their smartphones can play in positively impacting so many dimensions of their lives. To a large extent, the participants' uses of smartphones are governed by their requirements and preferences. These participants have diverse needs stemming from the changes of sites and circumstances, ranging from managing schedules to communicating with different people. To address these needs in the U.S., they have tactfully localized smartphones. From mainly using them for communication purposes to banking, entertainment, education, translation, and navigation of physical and virtual sites, user localization is starkly evident in these participants' activities as they play around with apps and features of their smartphones to attain their goals.

Seemingly, some participants, such as Sameer, had a tough time coming to terms with smartphones, which were bundled with apps and features during their beginning days in the U.S. However, they appeared to have quickly localized them, converting them into "all in all" devices that empowered them in different ways. Participants like Sapana shared how the price of smartphones has been an essential factor in governing brand choices, and nothing much had changed for her in terms of using smartphone features and apps in India and the USA. The apps and features she is using in the USA are the ones she was using back home. The only issue for her is the unreliable internet service in India that limits the use of these apps and features. In the U.S., she thinks that apps such as YouTube stream smoothly because of the high-speed internet service. This helps her not only pursue a hobby like cooking but also accomplish course assignments. So, the participants have been keeping track of smartphone brands that hit the market at different intervals and have been selective of the brands based on their needs. They also keep themselves informed about different apps supported by smartphones and try to optimize phone use, getting as many tasks done as possible, ranging from banking to health. While adapting to mobile-assisted
banking practices in a new physical and cultural setting, it can be seen that security concerns have conditioned the participants' user experience to some extent.

The ensuing sections, leaning on the parallels drawn from the overall views expressed by my participants in the focus group on smartphone usage, as examined above, briefly discuss the five broad themes I identified.

4.10 Entertainment

I derived this theme, entertainment, based on the views expressed by the participants about their uses of smartphones, which connect with entertainment in some ways.

For Sonam, entertainment is what changed the most after she landed in the U.S. With Netflix and TikTok apps now installed on her phone, the smartphone has changed the ways she entertains herself; no longer is she under the compulsion to watch T.V., go to movie theatres, or even party with friends. In Bhutan, she had no idea that she could use entertainment apps on smartphones to entertain herself. Abdul uses his phone for various other purposes in addition to listening to music and watching videos on YouTube. When Aalam arrived in the U.S., he used Samsung Galaxy 7, which allowed him to click quality photos. Now, he has switched to S 10 plus, and this one not only has a lot more capacity and operates faster but also has excellent picture quality; the wide-angle feature gives him the comfort of taking wide-angle pictures without having to move around. Next, while fishing, one of his favorite pastimes, he uses the Fishhunter app on his smartphone to locate spots with a high number of fish available. Sameer used his smartphone only to listen to music, take pictures, and use Facebook when he was in Nepal. However, that changed after he came to the U.S. Sameer says, in addition to using a smartphone for music and movies, he now uses it for many other purposes and initially felt overwhelmed looking at people's indulgence in smartphones and the number of apps and features they used on their smartphone. He
shares, "When I came to the U.S., I was totally confused trying to figure out different kinds of applications people were using here." Aarif focuses on the memory ram so that he can play thriller games, such as PUBG, easily. Similarly, Jigme listens to a lot of music on Spotify, which allows him to create an endless playlist of songs. Sapana has been able to pursue her hobbies, such as cooking, better with YouTube tutorials that she can easily access on her smartphone. This has also been an entertaining experience for her.

4.11 Navigation

The participants also discussed different features and uses of their smartphones which helped them navigate different physical and virtual sites in the U.S. Sapana uses her smartphone not only to communicate with her family and access social media but also to track her brother, who is in the merchant navy. Abdul, who now uses a smartphone to navigate places, recalls his first visit to Mexico after coming to the United States carrying an old mobile phone. He shares, "When I visited Mexico during my first year in the U.S. with my old "wack" phone, the battery died fast. And without a google map, it was horrible." Aarif, like other participants, has also become quite dependent on his smartphones to navigate different internet sites and visit places in El Paso. Appreciating different features of his smartphone, he shares, "These features have helped increase my efficiency. Google accounts, for example, save passwords and cameras and pixels help in scanning all kinds of documents, and Google Map has made it easy for me to travel." Anil, too, uses his smartphone for navigation. He says, "I never used the phone for navigation in Nepal, and during my earlier days in the U.S. So, now with smartphones, navigation is the difference." After arriving in the U.S. from Bhutan, Sonam was exposed to new apps like Uber, which has helped her navigate places. She comments, "In the U.S., if you want to try a new restaurant, you look it up on your phones, and you can also use maps to navigate places. Back in Bhutan, however,
we hear about these things from people and check them out. That is the lifestyle difference." Hence, the participants have used their smartphones to enjoy different navigation practices.

4.12 Banking

Banking was also an important practice that the participants discussed. This section entails what the participants had to share about the way they used their smartphones to manage their budgets and expenses.

Mukesh, who starts off by maintaining the clutch of traditional banking in India to this day, admits how smartphone-assisted online banking is beginning to shake that grip. It was after arriving in the U.S. he realized that "with smartphones that supported banking apps, banking was at his fingertips." Back in Bangladesh, Abdul did not even have a bank account. In the U.S., however, all his credit cards and bank accounts are stored in his apple wallet housed in his smartphone. Aarif also uses his smartphone amply to engage in shopping and transferring funds. Sameer, who too did not have a bank account back home, uses his smartphone for banking purposes. This, he says, has helped him obtain ideas on monetary management. Now, Anil also uses his smartphone for banking purposes, such as paying for credit cards and phone bills. Recently, he learned how to deposit a check into his bank account using his smartphone. Sonam also uses her smartphone to engage in financial activities and notably uses her phone to buy and sell stocks. She shares that Bhutan has started online banking. However, she is not sure about its efficacy and doubts if she would use this service when she goes back to Bhutan despite using it in plenty here. Jigme, who also admits using his smartphone for banking purposes, says, "Our devices are extensions of who we are." So, these participants have been using their smartphones to profit from different financial activities made possible by smartphones.
4.13 Education

Based on what the participants shared about how they used their smartphones to improve their teaching-learning activities, this section entails the views of the participants that tacitly or overtly relate to education.

Aalam occasionally uses his mobile phone to read research papers when he is away from the university campus and his laptop. Aarif has switched to Samsung Note from Samsung Note 4. He was never an iPhone fan since Samsung has the S pen to write down notes without requiring a pen. Anil uses his smartphone frequently to record audio and video documents, navigate sites, and google information. As a first-year composition instructor, Anil shares that he has best used his smartphone to enhance teaching-learning activities. Jigme also uses it to take notes and keep track of specific tasks and receive reminders. Sonam says that there were no apps like Blackboard available in Bhutan. So, accessing educational materials through the smartphone was out of the question. Now, for Aalam, S 10 plus is helping with his research. Although Sameer never used his smartphone for academic purposes in Nepal, he has begun doing that now. For Sameer, the smartphone is an integral part of his life. In addition to entertaining him in different ways, it helps him connect better with his academic and social life. All the participants shared their use of smartphones in accessing reading materials on Blackboard and communicating with their professors and peers for various academic purposes. Sapana says YouTube tutorials have helped her with academics, especially when it comes to needing support with disciplinary-based citation formats.
4.14 Translation

I derived this theme, translation, by entailing how my research participants, in addition to using smartphones to do many tasks, also used them for translation purposes, both in classrooms and beyond.

Abdul sometimes uses his smartphone for translation purposes. Anil also occasionally uses it to translate texts from one language to another, mainly from Spanish to English and vice-versa. This has been particularly helpful to him to explain things to his five-year-old son, who goes to kindergarten in El Paso and often asks him to translate Spanish words to Nepali or English. In addition, it has also helped him engage better with his students of Hispanic origin, some of whom have severe language issues, mainly with vocabulary words. Mukesh also shares how in the course of wanting to purchase certain fruits and vegetables, whose American names he does not know, he uses his smartphone to get them through translation features that Google Chrome offers. Abdul shares that during his first visit to Mexico in the first year of his arrival in the U.S., he wished he had a smartphone which, in addition to helping him navigate places, had English to Spanish and vice-versa translation feature so that his visit to this new place, so different in terms of language and geographical features, would be delightful. Sameer, who uses his smartphone for various purposes, says he primarily uses it for translation purposes. He says this has significantly helped him with his studies and communicate effectively with people in El Paso whose first language is Spanish and who lack English language proficiency.

The examination of participants’ views in a focus group, based on various dimensions of smartphones, ranging from design choice, localization experiences, and academic and non-academic aspects, helped me come up with five thematic categories: entertainment, banking, education, navigation, and translation. Along with the views expressed by my participants about
general uses of smartphones and their analysis, I briefly discussed these themes in this chapter. Next, using individual artifact-based interviews with five select participants, I will go for a detailed discussion of these themes in the following two chapters. The criteria for my participant selection for artifact-based interviews are governed by factors such as gender and disciplinary inclusion, and more importantly, the views expressed by the participants that closely align with those five themes I derived from the focus group. The ensuing chapter will be based on the artifact-based interviews of two of my participants, Sonam from Bhutan, and Mukesh from India, with whom I will be digging into entertainment and banking, respectively.
Chapter 5: Findings: Entertainment and Banking

After a discussion on general uses of smartphones within the five themes detailed in the earlier chapter, this chapter discusses two of those themes: entertainment and banking. For the first section, entertainment, I chose a participant from Bhutan, Sonam, who primarily uses smartphones for entertainment purposes. I am featuring Sonam here because in the course of the focus group, her experiences using smartphones heavily centered around entertainment, in which she was able to connect different uses of smartphones to entertainment, linking it to culture as well. The other reason I picked her was that she was one of the two female participants and was quite elaborate with her views. Further, Sonam also displayed a great degree of interest in talking more on this issue.

The second section in this chapter focuses on banking. I chose Mukesh, a Ph.D. candidate in Environmental Science and Engineering from India, for this artifact-based interview since he has been using his smartphone for banking purposes for some time now. Mukesh also showed interest in contributing further to the conversation on how smartphones have helped him in different kinds of banking-related activities.

5.1 Sonam: Entertainment.

Entertainment and culture have a strong connection. How people from specific cultural backgrounds entertain is quite perceptibly shaped by their cultural practices. Sun (2012) views culture as "the meanings, behaviors, and practices that groups of people develop and share over time as well as the tangible manifestations of a way of life, such as artifacts, values, and states of consciousness" (p.5). Although culture is fluid, its practitioners, regardless of which physical space they may be situated in or what artifacts they may possess, will subtly or overtly find a way to connect their entertainment practices with behaviors and practices associated with their culture.
According to Sun, cultural localization "includes broad sociocultural factors from national/ethnic culture (e.g., collectivism vs. individualism, universalist vs. particularist orientations) and subgroup culture (e.g., age group, gender, and organizational affiliation), individual factors (e.g., personal background, values, and interests), ways of life, daily activities, and interpretations of these" (Sun, 2012, p. 5). So, even when Sonam talks about using her artifact, a smartphone, in this case, to entertain herself in her current cultural and physical space, which is geographically distanced from her country, the components of her cultural localization will seep into her views. Hence, this section on "Entertainment" entails many cultural references that Sonam makes in the course of expressing her views on how she uses her smartphone for entertainment.

5.1.1 Entertainment, Culture, and the Impact of Modern Technology

Sonam says the elderly population in Bhutan typically entertain themselves by playing archery, and the younger ones enjoy outdoor activities such as hiking and picnicking. At schools, cultural shows are organized to welcome new students and bid farewell to the pass outs. The Bhutanese traditional way of entertaining entails many cultural dances that are integrated with different festivals. She feels that modern technology, such as smartphone technology, has significantly impacted the way people entertain themselves in Bhutan. Nowadays, many people are invested in their cell phones, primarily engaged in apps like TikTok. She feels that apps like TikTok and Instagram, as in other parts of the world, are popular in Bhutan. However, they also use other social media apps, and this has, to a large extent, shrunk the volume of people's outdoor activities. Although this is not something to be generalized, she says she can talk on behalf of some of the people she knows, like her friends and acquaintances. She feels that they do not go out a lot because they are "invested" in their phones most of the time. So, it may be inferred that smartphones have profoundly impacted the way people entertain themselves across the world.
Sonam says that smartphones have impacted the way people entertain themselves in Bhutan. Although they may even appear to erode traditional entertainment practices to an extent, they are helping promote the Bhutanese culture on the whole. She asserts that the entertainment apps available on smartphones such as Spotify, Tiktok, Netflix, and YouTube are easy to use, and the demarcation between these apps and social media apps is often blurry; in addition to entertaining her, these help her maintain ties with her home and family and connect her to the Bhutanese culture despite her current standing of physical farness from Bhutan. She says, "Cultural events are live-streamed on Facebook, which I can easily view on my mobile phone. It helps me stay connected to my culture." She elaborates how during the Nepalese-Bhutanese cultural event at UTEP, she dressed up in traditional Bhutanese attire and danced to some Bhutanese numbers. She then posted those photos on social platforms such as Facebook and Instagram, using her smartphone. The smartphone feature also helped play traditional Bhutanese music, which mainly helps while conducting cultural events like this. Thus, for Sonam, smartphones have played a crucial role in promoting the Bhutanese culture and keeping her connected to her country and culture.

5.1.2 Entertainment Apps

Sonam speaks in favor of TikTok, which is a social media platform used for making a variety of short-form videos, from genres like dance and songs. She stresses that the TikTok app, which is smoothly supported by smartphones, has also promoted Bhutanese culture. She says, "TikTok really helps promote our culture, and also brings back the old Bhutanese traditions and everything..." Next, the best thing about TikTok for her is that it has a vast music collection of both yesteryears and today. Although there are not many Bhutanese songs available on TikTok in terms of number, she feels that TikTok helps revive old music, and by that token, it has helped in
the rebirth of some Bhutanese melodies. During the interview, Sonam displayed some of the TikTok videos she made. Most of these TikTok videos were of Hindi and English songs and a few of the Bhutanese songs. One of them was a video in which she lip-synchs a Bhutanese number. Sonam explained that this romantic number by Kintuzang, a popular Bhutanese singer, translates to “The girl I love doesn’t know how much I love her.” Sonam, however, is more inclined towards listening to Hindi songs and other pop songs and making their TikTok videos. She especially loves to dance to Hindi songs as she grew up listening to those numbers. So, the TikTok app supported by smartphones gives the flexibility of using different audio and video content for the participants to use free of cost, and Sonam has tactfully employed it to make TikTok videos both in the Bhutanese language and English. TikTok, most importantly, has connected the youth with the songs of yesteryears and helped perpetuate the cultural legacy in some way. Sonam says, "I am passionate about singing and dancing. So I usually use TikTok and Instagram to watch a lot of dance and song covers for motivation. They have also helped me learn many dance steps." Because she took classes on technology from her early school years, she thinks she is quite adept at using it.

Making TikTok videos for English songs, mainly dance numbers, has kept her abreast of both the past and contemporary American music and helped her acclimate better to the U.S. cultural setting. Through this hobby, which she says she shares with her American friends, she has been able to bond better with them. Based on Sonam's views, one of the biggest contributions of smartphones has been the revival of cultural traditions and their transfer to posterity. Hence, with the support of smartphones, South Asian students in the U.S., like Sonam, have been able to localize apps like TikTok, both to stay connected to their culture and fit well in their current American cultural setting. And with social networking apps like Facebook and Instagram, which
have now come bundled with news, communication, and entertainment, users have been able to enjoy entertainment, socialization, and communication in a single package. It also shows that South Asian students are quite adept at localizing entertainment apps such as TikTok to stay in touch with their culture and technology. However, Sonam is not clear about how TikTok videos help promote her culture beyond Bhutan because she is not sure how the Bhutanese music fares with the non-Bhutanese audience's tastes.

Sonam has also heard of smartphone-supported entertainment karaoke apps such as Smule and StarMaker. These apps allow people to sing cover songs and post them to the internet. She says her friends use it a lot, and she has seen its “cool” ad on Facebook. However, she has not used it so far. She also has Netflix and YouTube apps on her smartphone, which give her easy access to watch hundreds of movies. Netflix allows her to watch movies from different countries across the world. However, it does not help her connect to her culture because although there are movies from many languages on Netflix, it features no Bhutanese movies. However, she can stream some Bhutanese movies on YouTube. Nevertheless, she does not usually watch them on YouTube because their quality is mostly compromised. Therefore, in addition to enjoying movie and music experiences on smartphones via apps like YouTube and Netflix, the participants have also localized the Tiktok app to pursue their hobbies and polish their artistic talents such as singing and dancing. Thus, the increasing use of smartphones for entertainment will have substantial implications in the entertainment field in the days to come, especially in terms of compelling both the designers and producers to rethink how they can ensure seamless user experiences for users across the cultural and geographical spectrum.
5.1.3 Cultural Fluidity and Cross-Cultural Connections

Despite showing allegiance to her culture, Sonam does not nurture an excessive obsession with it. She argues that we live in an era of global culture, and no longer does one need to maintain unwavering adherence to their culture since culture alone does not define one’s identity. In light of this, she feels that her command over English has been beneficial in providing her the edge to compete with the world, and her smartphone has equally contributed to her understanding of other cultures by exposing her to diverse cultures through social media and entertainment platforms they support. Furthermore, she believes the role that smartphones have played in making people from a particular cultural background more tolerant to those from various cultural and linguistic backgrounds cannot be undervalued.

Sonam grew up listening to Hindi songs and dancing to their melodies. Bhutan, which borders India, is strongly influenced by the Indian culture. So, Sonam feels that the present entertainment culture in Bhutan cannot be understood in isolation from the Indian culture. Thanks to their portability and easy internet connectivity, the smartphones have helped her enjoy the magic of the Indian entertainment industry, popularly known as Bollywood, whenever she desires. So, Sonam is happy that her smartphone not only keeps her connected to her roots but also allows her to relate with so many other cultures that she identifies with, helping her become a global citizen. Smartphones, while helping promote culture, on the one hand, have also, on the other hand, helped people rethink their ties to their cultural heritage by acting as a "contact zone." Pratt (1991) defines contact zone as “social spaces where cultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power” (p.33). Hence, by providing platforms for music, movies, and other modes of communication and knowledge to enmesh with each other, smartphones have both shown that cultures are in constant flux and provided agency to the users.
to choose their cultural identity, leaving it entirely to their discretion. At the same time, it would be flawed to assume that all the users want to associate themselves with their heritage cultures totally. As is evident with Sonam, not all want to keep themselves tethered to their “roots” and remain equally flexible about embracing cosmopolitan cultures that they do not originally belong to, showing utmost sensitivity to cultures other than their own. Smartphones seem to have played quite a crucial role in engendering this mindset that fosters respect for diverse cultures in their users to some extent.

5.1.4 Experiences with Apps and Features

Sonam's user experience with smartphone apps is quite satisfactory. She feels that designers are continually improving and upgrading the apps so that users across cultures and contexts can use them smoothly. Elaborating on her seamless experience with apps, she says, "I have not faced difficulties using the entertainment apps because they are very convenient and easy to use. So, there are no technical barriers to using entertainment apps." However, she recalls many of her friends and family complaining about the limited number of apps available in the Bhutanese language, with the Bhutanese calendar being one of them. Although she wished there were more apps in the Bhutanese language, as it would probably help other fellow Bhutanese, to her, that is not a big issue. She ascribes the limited number of apps in the Bhutanese language to Bhutan’s population size; with a population of mere seven hundred fifty thousand, she thinks, maybe not many apps will be developed in the Bhutanese language. It can also be understood that while considering the technological adeptness of the participants and satisfactory user experience, as with Sonam, the designers need to work more on making apps that cater to a broader pool of users across cultures, particularly paying attention to the linguistic features. This connects to Mulberg (1993), who states that "designers have a responsibility to find out exactly what it is that people
need, and to make sure that any particular design will fit into their lives. There is no crystal ball that will do this for them” (p.209). Next, it also aligns with Sun (2012), who posits that “we need to integrate action and meaning in cross-cultural technology to augment the everyday lives of local users” (p.4). Leaning on Galdo and Neilsen (1996), Lachner et al. (2015) posit that “for user experience (UX) designers these contexts are difficult to anticipate as they are biased by their own culture, whereas considering cultural differences is crucial to design better products in globalized markets” (p.58).

Sonam reminisces about her China visit and shares that in China, for example, they had apps in which you could type in Chinese, and the receiver had the option to receive the message in their own language using a language converter/translator app. She says, “If such apps were developed, they would especially help monolinguals communicate better.” However, messenger apps have helped her communicate easily with her family and friends. Therefore, while having quite a clear picture of the types of apps that would help translate languages, the participant also endorses the efficacy of existing communication apps like Messenger. This response may be of pertinence to designers as they think about designing apps that cater to users from different socio-linguistic backgrounds. Hence, if designers fail to incorporate the aspirations of the users across linguistic and cultural backgrounds, the products may fail to ensure the highest degree of satisfaction in terms of user experience.

5.1.5 Smartphones for Entertainment: Now and Then, and Home Vs the U.S.

Sonam spends a lot of time on her mobile phone. She started using it in 2016. Before that, she was studying in a boarding school where the use of smartphones was strictly prohibited. During her early days with the smartphone, she primarily used it to call her friends, text them, and sometimes use Facebook. However, she did not use Facebook much then because the internet
connection was low, and she was not even aware of other social media apps. So, most of the time, she used her cell phone only to make calls and text her friends. She also occasionally used smartphones to listen to music but refrained from using YouTube as the internet connectivity to the phone was weak; she usually listened to music through Bhutan's radio. Nowadays, however, in addition to making calls, she uses her smartphone to log onto social networking sites such as Snapchat, Instagram, and Facebook and also to entertain herself through different entertainment apps such as YouTube, TikTok, and Netflix, to name a few.

When Sonam first arrived in the U.S., she experienced culture shock. However, different social media and entertainment apps helped her learn a lot about American culture. She watched many movies on Netflix and also followed many friends from here on Instagram. These helped her learn about the U.S. lifestyle. She gives big credit to these apps for helping her blend with the American culture. Thus, smartphones have also helped the participants come to terms with the new cultural climate through the blend of entertainment and information they provide to their users.

Sonam’s use of smartphones has changed in some ways as she transitioned to the U.S. setting from her home country. These changes have helped her entertain and communicate with friends and peers. The reliable internet connection apparently played a pivotal role in enabling Sonam to enjoy more significant benefits of smartphones in the U.S. than in Bhutan. So, the "smartness" of mobile phones seems to hinge on the internet connection considerably. It would be pertinent here to draw on Sun's (2012) view that "a technological product is not used in a vacuum, but in a real context. The surrounding sociocultural contexts provide a setting for interactions, influence user decisions, and are ultimately immersed into user experience" (p. 78). Thus, it would require extra effort on the part of the designers to design apps that can function well across sites with relatively lower bandwidth.
When Sonam first came to the U.S., she required little practice to use smartphones. Calling herself a fast learner, she says when she first had her internet-connected mobile phone, it was not a big deal for her to get started. She had already seen some of her friends in high school use Instagram, and she instantly opened her account on Instagram and started playing around with its features. She follows ABC News and BBC on Instagram, and that is how she usually obtains her information. Sonam says she also learned how to apply make-up and dress appropriately through Instagram, as before that she had a terrible taste in clothing. She logs onto Instagram to find out the different activities that people exhibit on this app and is often inspired by their styles and presentations. Sonam says, "I follow celebrities and scholars on Instagram, and this helps me receive different tips on how to dress properly and how to advance my career goals." Next, she opened her Snapchat account, which she uses for entertainment and news. She says she is mainly influenced by her friends to use Snapchat. However, she now uses social media sites such as Snapchat and Instagram not only to connect with people but also to upload videos and pictures and entertain herself. It is seen that peer influence has been a strong factor in shaping the smartphone usage of some participants and that they have been able to tactfully localize them to reap both information and entertainment benefits.

Now, Sonam has Spotify, an audio streaming and media service app, on her phone. That is something new; no longer does she need to rely on the radio or tape recorder to listen to music. Next, she also uses a keyboard using the Sancho app. Besides, Sonam also uses Edition to learn to play the guitar. For meditation, she uses apps such as Meditation and Cure, Fit, for fitness, and Robinhood to buy and sell stocks. For Sonam, Robinhood, in addition to being an app that has helped her financially, is also a source of entertainment. Odd it may sound, but she considers buying and selling shares a fun activity that also serves as a stress buster. Sonam displayed to me
all the apps discussed above on her smartphone, along with WhatsApp, iTunes, and Clips, which are primarily used to make and edit videos. Similarly, she also showed me apps such as Facebook, Houseparty, and Zoom. In addition to showing these apps, Sonam also navigated some of these apps to show how she impeccably makes use of these apps to achieve the targeted benefits.

Hence, the participants, such as Sonam, have been keeping a close eye on the latest apps and features so that they are able to harness the manifold advantages of smartphones. This ranges from monetary gain to personality enhancement. Their exhibition of how they play around with these apps shows the degree of comfort they have in localizing these apps and enjoying an uninterrupted user experience. However, Sonam also points out some "drawbacks" associated with these apps. She feels that often these apps distracting and consume a lot of her time. She explains, "Some of the apps are very, very addictive, especially TikTok and Instagram. They are so addictive that I often lose track of time." Although she has mixed experiences using these apps, on the whole, she feels that the benefits of these apps far outweigh their disadvantages. Hence, international South Asian students like Sonam are also equally aware of the potential demerits of smartphone features and apps if not meticulously used. However, Sonam opines that using the apps and features wisely is directly concerned with the users’ discretion rather than the apps being flawed by default. Nonetheless, in terms of user experience, none of the participants have any complaints.

5.1.6 Aspirations and Motivations

Sonam plans to use the apps on her smartphones to make different kinds of videos, one of them being a short video of her hometown, which she wishes to present to the global audience. This project, which exhibits the beauty of Bhutan and its rich culture, would be both entertaining and informative. Because of factors such as size, portability, and audio-video quality, the smartphone would be her device of choice to shoot the video since the Bhutanese landscape
comprises mountains, valleys, rivers, lakes, and forests. She is convinced that making a video about Bhutan and its culture and showcasing it to viewers across the world would not only be satisfying but would also help her country become more distinctly visible globally. She also has a friend in Bhutan who makes short videos about the Bhutanese culture using smartphones and posts them to social networking sites. She hints at the prospect of collaborating with her in making videos. That way, she can promote the Bhutanese culture and traditions and entertain her audience. She shares that she will be wearing her national dress for office purposes back in Bhutan and posting her pictures, clad in that attire, on Instagram. This will help her friends in the U.S. and elsewhere know more about her Bhutanese customs.

Sonam’s motivation to use entertainment apps on smartphones is driven by her passion for Hindi songs and dances, with the apps easily available. She also feels that TikTok, video-making features, and social networking sites such as Facebook and Instagram have given her many opportunities and helped her nurse her passion for music. Smartphones have, therefore, even motivated participants like Sonam to further their projects aimed at promoting their culture on a global scale.

5.1.7 Finally

Sonam admits that smartphones in the U.S., even when she mostly uses them for entertainment, have assisted in personality enhancement, helping her gain better visibility on social media. She feels that her being able to localize its apps and features has helped her become more confident and presentable. Similarly, watching and making English TikTok videos on her smartphone have helped her improve her English communication skills, particularly being able to grasp certain native English expressions has further enhanced her spoken English. These videos have additionally helped her stay in touch with her culture and adjust better to the U.S. culture. In
terms of apps, she feels that currently available apps are catering well to the users' needs. Sonam is comfortable using the English language to use smartphone apps and features, and the new option to type in Dzongkha, her native language, has further enriched her user experience with smartphones. That being said, she does wish to see more apps developed in Dzongkha. Sonam feels that designers are continually developing apps that provide smooth experiences to users across cultures and contexts. Sonam also discounts the need to be overly conscious of one's cultures and traditions, which she maintains keep changing. Sonam is happy that she has command over English and that with the world shrinking into a global village, the need to associate with her culture is no longer necessary. She asserts that with burgeoning social media supported by smartphones with internet connectivity, there have been many cultural mixes. For example, even TikTok videos have users from different cultures and countries making videos of transnational cultures and languages.

Hence, it is worthwhile to note how participants are using entertainment apps to polish their language skills. In addition, entertainment apps have also helped participants understand the fluidity of cultures by serving as contact zones as they come in contact with users from varied linguistic and cultural spectrums. This has also tacitly helped foster intercultural sensitivity. Therefore, depending on their backgrounds and preferences, these participants like Sonam have used smartphones no only to entertain themselves but also to use them for a wide variety of purposes, aimed at easing their lives in the U.S.

The next section deals with how South Asian international students like Mukesh, an environmental engineering Ph.D. student from India, use smartphones for banking purposes. While several participants used their cellphones for entertainment, many also used their phones for specific activities. One of the activities is online banking, which is interesting because this points
to how international students use mobile technology to manage their financial activities, which condition most of their everyday activities in a foreign land. I decided to focus on banking as in the course of the focus group, all participants shared their experiences using smartphones for different banking activities, and that had significantly helped them manage their time and budget. I picked Mukesh to delve further into this theme since, in the course of the focus group, Mukesh was the one to expansively talk about using smartphones for different kinds of banking-related activities. I also wanted to ensure that my participants were chosen from all four countries, India, Bangladesh, Nepal, and Bhutan, and Mukesh, from India, had both time and interest to talk on this topic. Hence, Mukesh was the right pick for the "Banking" theme.

5.2 Mukesh: Banking

Finances are important to South Asian international students who have to live in the U.S. on very tight budgets, often with their families. This may be one reason banking is such an important activity—to make sure that there is enough money to cover all the bills. Using smartphones for banking purposes saves their time visiting banks and gives them some added benefits such as obtaining credit cards with free annual percentage rate (APR) and cashback facilities for all purchases they make. Because of the need to rely on the scholarships and financial aid provided by the university, saving every cent counts for the South Asian international students at UTEP. Next, the difficulty in obtaining financial support from family and, in some cases, even the compulsion to send home some saving makes effective banking management one of the most crucial necessities for South Asian international students. This section focuses on how Mukesh, a Ph.D. candidate in Environmental Science and Engineering from India, uses his smartphone for banking purposes.
5.2.1 Banking Culture in India: Now and Then

In the last five years, Mukesh says India has witnessed a giant leap in mobile banking, with mobile apps now available in Hindi and regional languages such as Marathi and Tamil. Mukesh did not use mobile banking back in India. He feels that banking in India is tilting slowly towards online culture, where one can check their bank balance on their smartphones and make payments through online banking or net banking, a popular term in India for online banking. So, when he was in India, he was exposed to only that tiny aspect of online banking. He never imagined that it could get into an app version so soon, which he saw only after coming to the U.S.

When Mukesh visited his family in India in December of 2019, he saw many people using banking apps like ABM and many others, whose names he cannot recall, on their smartphones. He shares that Amazon has also started online payment options in India. So, with the Amazon app installed on their smartphones, people can do online transactions, which Mukesh thinks is “fantastic” as this has led to convenient shopping experiences. Mukesh cites a ten-year-old example from his family, highlighting the salience of online banking. When his parents went to pay an electric bill, they would draw money from an ATM and pay. Even that was taken as a modern banking practice then and considered greatly convenient to the users. However, having to visit the electricity office in person to make the payment would still be quite tedious. However, now with mobile banking, things have significantly changed as one can comfortably pay their bills via their smartphones without leaving their homes. All one needs to do is plug in banking and payee details in the apps and press some keys, and the job is done. Mukesh thinks that mobile banking gained momentum in India over the last three years and gives its credit to Narendra Modi, the prime minister. Now, it is a common sight to find even local grocers possessing “dusky” credit card machines and facilitating transactions through smartphone apps, when only until a few years
ago that was a rare sight as most of the transactions took place in cash. Mukesh thinks the compulsion for people to stand in long queues to carry out banking activities made the companies initiate online banking practices, promising people an easy alternative to standing in long queues. With a tip of their finger, their financial transaction could kick start.

Mukesh feels that India's mobile banking apps have yet to cover all the major regional languages. However, he could see the option of using some major languages in the app settings. For example, Hindi, being the first one, and some other local state languages, like Marathi in Mumbai. So, mobile banking apps in India now provide the option of using some major and regional languages. However, he feels that most people will prefer Hindi over other languages.

Mukesh fears that the biggest challenge of mobile banking in India is the risk of someone hacking into smartphones and abusing the apps, especially vulnerable are senior citizens who use their smartphones for online banking, among others. It is easy for people to gain their trust and access their banking apps and hack them. The other difficulty that persists with online banking, according to Mukesh, is that if people want to pay a 1000-rupee bill, they need to refill 2000 rupees into that bank app. So, people are still apprehensive about the credibility of online banking. However, unlike those in India, Mukesh shares that people in the U.S. practice online banking with total confidence. So, while succeeding in considerably drawing people’s interest in online banking, its promoters, mainly the promoters of smartphone banking, still need to reassure them about its safety. Hence, in the course of observing and appreciating the growing online banking practices back in his home country, Mukesh is also pointing out the potential perils of online banking, which should draw the attention of the app makers so that all security-related issues associated with these apps are aptly addressed.
5.2.2 Mobile Banking in the U.S.: Apps and Usages

Mukesh says he embarked on an online banking journey after moving to the U.S. He shared rent and grocery costs with his roommates and found it convenient to make payments using banking apps, such as Wells Fargo. He started using banking apps on his smartphone to avoid the hassle of going to the bank or opening his computer and plugging in the login information. It made the transfer of money easy. With the advanced banking app features supported by smartphones, he found creating accounts and saving passwords easy; all that he needed was a fingerprint or facial recognition. Logging onto the app this way is much faster, making Mukesh realize that mobile banking was speedy, and there was no need to worry about the computer and internet connection. Thus, the experience of localizing smartphone apps for banking purposes has been quite a seamless experience for Mukesh. This experience was instrumental in helping him adjust to the new American environment. This underscores the role that mobile phones can play in easing the lives of international students in the U.S. in terms of making payments and transfers.

The first banking app Mukesh installed on his smartphone after coming to the U.S. was Wells Fargo. With Wells Fargo doing intra branch transactions was easy. Although carrying out transactions within different bank branches was easy, service charges would be assessed for transactions with other banks. Next, Mukesh was introduced to PayPal by his friends, which he found very helpful. Mukesh found the transaction on PayPal secure with the details filled out in this app not being shared with the third party. Further, no additional money is charged for payments made to different recipients. As he liked these features, he installed PayPal app on his smartphone. Now, his usage of mobile apps has sharply increased compared to his initial banking experience. So, in the beginning, online banking transactions for Mukesh were limited, confined to transferring funds to friends to pay for groceries. Thus, Mukesh carefully explored different mobile apps and
chose those that gave the highest degree of satisfaction regarding cost, user experience, and security. It also stands as a testament to how judiciously international students localize mobile banking to help them adapt to the U.S. lifestyle.

5.2.3 Online Banking Experience in the U.S.: Now and Then

Now, online banking for Mukesh has expanded to pay the internet, electricity, and other bills. It looks like almost everything is taken care of by mobile phone apps. The prime motivation for his use of online banking was the notification features offered by those apps for any suspicious activities. For example, for making withdrawals or deposits from an ATM, he received instant notifications. If any unauthorized use is suspected, the app can be immediately locked. Mukesh cites a couple of experiences where the notification features came to his rescue. Once, one of his debit cards was abused while he was driving. However, that very moment, he received a notification and was able to block the transaction instantly. If it had not been for his smartphone, he would not probably have become aware of it. The other feature he found helpful was the helpline: one simply needs to click it, and he or she is directly guided to communicate with the bank via chat or a phone call. That resolved his problem quite quickly. The app also gives the user the option of locating the nearest ATM. That is very helpful if one is in dire need of cash; all that needs to be done is click the app, and it provides information about the location of the nearest ATM. The third example he shares to underscore the importance of smartphone banking is his visit to Albertsons, a local grocery store. Mukesh narrates, “At the pay counter, I realized that I did not have my wallet. However, when I looked at the card swiping machine, I realized that my smartphone supported a feature that would allow me to pay even in the absence of my credit card. So, that helped me a lot.” Mukesh, who is in his mid-thirties, feels that generations younger than
his are much more adept at technology. When he meets someone younger than him, he gets thrown off when they mention certain features he is unaware of.

5.2.4 Apps and Feature Preferences

Mukesh has been enjoying a seamless mobile banking experience as a user. He is convinced that the app companies are trying to make mobile banking very simple. He says, "I think anyone who plays with banking apps for around 15 minutes can easily learn to use these apps effectively." Another experience with the banking app feature he shares is the check deposit feature, which is convenient, especially in the present context when the world is hit by the COVID-19 pandemic. All that one needs to do is take a picture of the check using the smartphone app, and the app instantly deposits it into the user’s bank account. This app helped him a lot since without a car of his own, going all the way to a bank to deposit a check would be a daunting task for him.

When Mukesh first came to the U.S., he was using a Nokia Lumia multimedia phone. In retrospect, he feels that that model is no longer user-friendly in the current context since it will be difficult for regular users to understand how its operating system works. It does not offer much flexibility in app installations. After that, he switched to the iPhone, and things changed for him. With the iPhone, he felt assured that security is taken care of. iPhone also gives him the flexibility to simply browse the App Store for existing apps. Mukesh’s experience tells that to remain relevant to the changes in people's needs, smartphone brands need to be continuously invested in researching so that what they offer is on par with the users' needs, particularly paying attention to security and affordance. This would be an essential takeaway for smartphone manufacturers and designers as they think through how they can maximize user experiences when designing their products.
Mukesh uses the Western Union app to carry out transactions between the U.S. and India. He cited an example of his parents traveling somewhere when they realized that they were supposed to pay some bills, and they had no access to mobile banking. So, they informed Mukesh of the situation, and Mukesh paid the bill from the U.S. through his smartphone assisted online banking. Next, when one of his friends was stuck in New York in 2015 after losing his wallet, he sought Mukesh's help. Mukesh, who was in El Paso then, instantly transferred money to his friend's account. Mukesh says he could have done it through the computer browser. However, with his smartphone banking, he could do it much faster than through his laptop. Mukesh says, "I think that creates a big psychological difference that I can live with a single touch." He is still using very reliable banking apps like PayPal, but now there are many more such apps, which some people think are relatively easier to use. Hence, mobile banking apps have also facilitated international payments and money transfers, making it further easier for international students to deal with their monetary issues. Additionally, being able to support friends and family in times of need promptly has also boosted their morale and helped strengthen the culture of supporting each other. This also implies that smartphones will provide greater agency to international students in the days to come and increase their mobile banking activities.

Mukesh prefers using English for online banking over other languages, including his mother tongue, Marathi. He opines that the terms used for online banking are mainly in English, and if translated to Hindi or Marathi, it may take a while for users to understand them. He is comfortable with English since that is the language he is exposed to every day. So, in a single glance, he can understand the information provided in English.
5.2.5 User Experience

When asked about the user experience with banking apps, Mukesh says that most of them have excellent features that fulfill his requirements. He feels that maybe the banks are the ones that need to do certain things in terms of facilitating banking transactions between different financial institutions across physical sites. For example, Wells Fargo and banks in India are not connected. So, banks should help initiate the process through which money from Wells Fargo can be easily transferred to banks in India. This has yet to be supported by the system of Wells Fargo. Mukesh feels that the banking agencies have to address this limitation promptly, and the banking apps are not to blame. As of now, his experiences using the banking apps have been relatively smooth. He does not feel the need to change or work on the features of these apps. He says, "I think they satisfy all my requirements; maybe other people whose requirements are at a different level may be experiencing some issues, but not me. And maybe they might need all those changes. But for me, as a student, I think things are fine. For example, Wells Fargo and Capital One are all pretty easy apps to navigate and use." Until this point in mobile banking, he has not faced any technical glitches or unpleasant experiences. Based on his experience with mobile banking, Mukesh's suggestions provide certain takeaways for banking institutions regarding how they can further offer a smooth banking experience to their users across cultures and physical sites. Thus, the banking experience of international students in the U.S. should also be of concern to banking institutions.

Mukesh feels that having many apps on his smartphone consumed much battery and slowed it. However, apps nowadays do not cause those issues. Mukesh displayed Wells Fargo, PayPal, and Western Union apps on his smartphone. He also guided me to some steps on how money can be transferred using the Zelle feature on the Wells Fargo app, from one Wells Fargo account to
another, and to accounts in other banks that supported Zelle. He also showed the iPay app on his smartphone and shared that his smartphone is also his "walking wallet." Mukesh also paid for his credit card through his Wells Fargo account using a smartphone. Further, Mukesh’s smartphone also had Robinhood app, an easy-to-use smartphone-supported investment app, which he uses to buy and sell stocks. He also shared how after being informed about the Robinhood investment app, he was able to trade shares and make some money. This considerably helped ease his financial woes. Particularly, because of the smartphone's portability, he was able to engage with this app at his convenient time. Even when commuting to UTEP on a campus shuttle, he would be able to use it with ease. Mukesh opened this app on his smartphone and showed me how the stock transactions could be done.

This chapter discussed how two South Asian international students, Sonam and Mukesh, from Bhutan and India, primarily used their cell phones to address banking and entertainment issues in the US setting. They expressed their views on how they have been using smartphone technology to ease various facets of their lives in the US, which is quite different from their lives in their home countries, not just in terms of geographical landscape but also in cultural and social practices. In the next chapter, I will elaborate on the views expressed by Anil from Nepal, Sameer from Nepal, and Naswad, from Bangladesh. I will discuss these participants’ views and experiences using mobile technologies to support them in education, translation, and navigation.
Chapter 6: Education, Translation, and Navigation

In the previous chapter, I discussed how some South Asian international students used their cell phones to primarily address banking and entertainment issues in the U.S. setting. Sonam and Mukesh, from Bhutan and India, expressed their views on how they have been using smartphone technology to ease various facets of their lives in the US, which is quite different from their lives in their home countries, not just in terms of geographical landscape but also in cultural and social practices. In this chapter, I will elaborate on the views expressed by Anil and Sameer from Nepal and Aalam from Bangladesh. I will discuss these participants' views and experiences using mobile technologies to make the most from education, translation, and navigation, respectively. Navigation in this context refers to how the participants use their smartphones to explore different physical and digital sites to meet their academic and other needs. During our interviews, these participants showed on their devices how they used certain apps and features, substantiating their claims regarding how they employed their smartphones to meet various needs through localization practices and user experiences.

6.1 Anil: Education

6.1.1 Introduction

Anil came to the United States from Nepal in 2008. Although he had been using a mobile phone back home, he did so only for communication purposes. He says that unlike the mobile phones in use in the US, those in Nepal then lacked internet connectivity. As one of those who represented a tiny percentage of the Nepalese populace that used the mobile phone at the time, using this device for an academic purpose never crossed his mind. According to S. O'Dea (2021), only 4.2% of the Nepalese population used mobile phones in 2008. Then, he could not discern that mobile phones could be used for classroom purposes. He simply used his mobile phone to make
and receive calls. It was only after he came to the United States that he started using smartphones for various academic and non-academic purposes, which helped him settle in. Hence, to deal with different challenges, mainly in terms of adapting to US life when he first arrived here, he felt “compelled” to explore how this device could help him adjust to the US lifestyle. Thus, even without being aware of it, international students like Anil resort to smartphones to ease their beginning days in the U.S.

Having lived in the US for close to one and a half decades now, Anil is little informed of the progress Nepal has made in using mobile phone technology for different purposes. Although he has heard about mobile phones being used in classrooms there, he casts doubt on how effectively they are used for academic purposes. With less than 5% of Nepalese using smartphones back in 2008 when he left for the U.S., it was hard to imagine people using mobile technology for classroom purposes. Anil's use of cellphones for academic purposes dates back to 2008 when he came to the U.S. As a master's student in a U.S. university, he had to look up words while reading articles for which his mobile phone significantly helped. Although he had a laptop with him, his smartphone was more portable and offered him the flexibility of time and space to read texts and look up words. So, learning vocabulary words was how he began using his smartphone for academic purposes.

Anil feels that many changes have occurred in terms of the uses of smartphones between the time when he first started using them for mere communication purposes in 2008 and now. Today, the smartphone uses expand to banking, entertainment, and education, among others. After coming to the US, he became aware of the many benefits mobile technologies offered. In his early days in the US, for example, his mobile phone usage was confined to looking up words, reading articles, and keeping himself updated with current affairs. Whenever he encountered difficult
words while reading any books or articles, smartphones helped him discern their meanings; with his smartphone, he could look them up anywhere at the university campus or even when away from the college premises. The smartphone voice feature also helped him with correct word pronunciation. Although he does not recall using any specific apps for current affairs updates, he could easily surf news using the Google browser his phone supported.

Before joining the University of Texas at El Paso (UTEP), Anil recalls utilizing his leisure time at another university campus reading a required course article on his mobile phone. Even without a laptop by his side, he had no difficulty reading the text on his mobile phone. Although prior to joining UTEP, he thinks he did not extensively use his smartphone for academic purposes, he accepts using it for academic engagements to an extent. However, once at UTEP, his use of different mobile applications for academic purposes considerably expanded.

6.1.2 Scholarship and Scope

Anil, a graduate student in the rhetoric and composition program at the University of Texas at El Paso (UTEP), is cognizant that many texts are written about using mobile technologies for classroom purposes. He expresses a desire to read those articles and learn how to use cell phone technologies for classroom purposes. However, he is uncertain about how he can do that since he does not have sufficient knowledge of the pedagogical aspects of smartphones. According to Kim (2013), "Most of the instructors lack the ability to adapt mobile devices on teaching materials or develop user-friendly mobile learning (m-learning) tools or smartphone apps for pedagogical purposes” (p.27). This merits the attention of academia on how it has to invest more in mobile phone technology so that this technology can be more holistically adopted by instructors who believe in its efficacy in boosting pedagogical practices. Anil, nonetheless, has already started using mobile technology in his writing classes.
Anil has also attended some conferences in which papers were presented on mobile phones, focusing on how smartphones could be tied to academic projects. By participating in these conferences, he became aware of how mobile technologies could be used for teaching-learning purposes and that such practices had already started at some colleges. Anil says, "I hope to use smartphone technology more in the days to come, and I want to learn new mobile phone technologies to be able to satisfy the needs of our current students." Anil has realized the importance of this technology since it is portable, and the students use it daily. However, he has yet to read amply about how cell phones can assist learning, and not many resources on this topic are available in the department. Therefore, if more research can be done regarding how smartphone technology can be harnessed to yield maximum benefits to those involved in the academic sector, it would positively impact academia.

Although Anil has heard of many apps and features related to cell phones being discussed at conferences, he believes more of such conferences should be organized. He also emphasizes that graduate programs should offer courses on mobile technology, sharing how Clemson University offers such courses focused on mobile technology. At one of the conferences he attended, a graduate course on mobile technology was discussed, in addition to elaborating on how the university promoted the use of cell phone technology in the classroom. So, some universities are already offering courses with a focus on mobile technologies, and based on this, he argues that if we could incorporate courses on mobile technologies in our (UTEP) curricula, it would be relevant to the current academic and professional scenarios which are perceptibly dominated by technology. Hence, Anil has been keeping abreast of the scholarship surrounding mobile technologies as they are being adopted in academic programs and gaining increased space in disciplinary discourses.
6.1.3 Social Networking Apps, Localization, and Academic Conversations

After joining UTEP, Anil started using different social networking apps, such as WhatsApp, for academic purposes. He says he uses this app to communicate with his Ph.D. cohort, which mainly centers on exchanging ideas about courses and offering suggestions. Hence, his cohort mainly uses WhatsApp to share knowledge and help each other academically. Anil showed the snippet of a WhatsApp conversation on his mobile phone in which there were exchanges of messages amongst his cohort members related to course information and academic issues. Citing Bers (2010), Al-Mashaqbeh & Atef. (2018) states that "modern-day learning does not end in the classroom like it was in the past. All students now own internet-enabled phones. With tools like WhatsApp, students have the ability and advantage of creating knowledge from wherever they are" (p.20). Like WhatsApp, Anil says, even other social media apps, such as Facebook, can be a popular tool to stay in touch and build community. Al-Mashaqbeh (2015) says, “Facebook is a good educational tool to organize class activities and students’ communications. Students may interact with each other for many purposes such as: getting information about class activities, networking with each other...and setting up meetings and to create project groups" (p.60). Anil says he is even using the Messenger app on his mobile phone to engage in academic discussions with his colleagues. Hence, to students like Anil, social media apps such as Facebook and WhatsApp have helped them stay in touch with their cohort and build a scholarly community. Anil says he even suggests his students form Facebook Groups to help facilitate intra group communication and help them accomplish collaborative projects.

Hence, it is worth noting how Anil has used a social networking site to engage in academic conversations. This can be taken as a smart usage and localization of smartphone technology by an international student. Citing Brown (2017), Al-Mashaqbeh & Atef (2018) state that "social
media contents are rich in color, graphics and improved functions allowing a face-to-face communication at no cost apart from that required to access the internet. Students, therefore, prefer this platform for communication and entertainment” (p.19). This also suggests how compartmentalizing smartphone uses under certain rigid categories may not make much sense. Anil, for example, has been able to tactfully use a certain social media platform on his mobile phone to gain an academic benefit, blurring the lines of division between one particular theme and another, social networking and education in this case. This is one instance of user localization, where the user has adapted a particular app, designed for some other primary purpose, to serve his academic interest. So, now that students are using smartphones tactically in different ways, academic institutions must think of ways to help students further harness the benefits of this technology. Cotten (2008) states that “given that companies are developing computer-mediated or mobile-mediated communication networks that can be used in a variety of ways, college student affairs professionals should consider how they can best use these networks effectively to contribute to student well-being” (p.67). This may thus call for a collaboration between academic leadership and smartphone companies so that students may be further equipped to reap the educational benefits provided by this technology.

6.1.4 Smartphones, Classroom, & Equity

Although Anil has also been using his phone for banking purposes since 2008, he started using his smartphone for classroom purposes after he joined UTEP as a Ph.D. student and writing instructor in 2016. As a step in this direction, he encourages his students to use whichever technologies they are familiar with for their class projects, particularly stressing mobile technologies. He says, "Everyone in the US owns a smartphone these days, but not laptops or computers. So, instructors need to ask students to use cell phones for their projects as many of
them may not necessarily have access to other technologies." Hence, Anil is convinced that smartphones are not only instrumental in boosting pedagogical activities but also help foster equity in writing classrooms.

When Anil teaches multimodal assignments in first-year composition, he encourages his students to use mobile technologies or any other technologies they prefer to work on the relevant projects. He says his students have shared experiences using cell phone technology when they create multimodal texts, which requires them to integrate audio-visual components into their projects. In addition to using his smartphone to upload content to Blackboard occasionally, Anil also encourages his students at UTEP to use smartphones when they are required to produce multimodal texts for their classroom purposes. Anil says, "When I teach multimodal assignments in the first-year composition, I ask my students at UTEP to use cell phone technologies or whatever technologies they are familiar with." He elaborates that his students use iMovie and Adobe Spark on their phones to make public service announcements and videos for visual argument assignments.

Based on his experience teaching at different colleges in the US, Anil shares that students in other parts of the US usually are not required to do multimodal assignments. They engage in traditional assignments, such as narratives and other kinds of essays. Before joining UTEP as a graduate student-instructor, Anil was not informed about the importance of mobile technologies; he did not know until then that mobile technologies could be so supportive academically. Now, however, he sees an increasing significance of technologies like these. Anil feels that we must use all technologies within our reach to fulfill academic and other requirements.

Anil also feels that since many students also work to support their tuition, they need to manage their time between work and studies. In this situation, using mobile phone technology for
class projects, whenever possible, will help them greatly. Steel, C. (2012, November) opines that “for students, mobile devices are obvious tools that can help maximize their time-on-task wherever and whenever there is time and opportunity to learn. Pricing and mobile connectivity for these devices are rapidly becoming more accessible to students” (p.875). Thus, it is important to note that mobile technologies are more portable and cheaper than other types of technologies and would be especially advantageous to working students. In this context, the designers and makers of smartphones should think about producing smartphones that are not only affordable to users across varied income levels but also ensure gratifying user experience. This is also important from a social justice point of view.

Anil has realized the importance of mobile technology since it is portable, and students use it daily. Therefore, if more research can be done regarding how smartphone technology can be harnessed to yield maximum benefits to those involved in the academic sector, it would impact academia positively. Anil asks his students to research specific topics and makes them read texts for which, he says, they make exclusive use of smartphones. He states, "My students are so accustomed to using their smartphones that even when they have a big computer screen in front of them, they still want to read texts on their smartphones." Anil maintains that when it comes to completing multimodal assignments, they are comfortable using different apps, in addition to iMovie and Adobe Spark he mentioned earlier, such as Canva and Wix on mobile phones.” Anil also displayed these apps on his mobile phone. Anil encourages his students to adapt the features and apps on his smartphone while engaging in multimodal assignments and not simply use the default fonts and templates. He says this act of localization helps promote diversity and connects students better to their roots.
2.1.5 Limitations

Anil opines that every technology has certain affordances and limitations. For example, it takes more time to type on smartphones than typing on the computer. This impedes the work pace. His job requires him to type a lot, so he usually feels more comfortable using a laptop over a smartphone when engaging with alphabetic texts. This view has implications for designers in that they should address the concerns of users from across socio-cultural and disciplinary backgrounds. So, their efforts must be channeled towards ensuring that these users enjoy a seamless user experience with their smartphones, particularly smoothening the writing aspect on the smartphones. Anil also feels that smartphones must accommodate more apps and features that further enhance reading and writing processes. However, for Anil, the overall merits of smartphones far outweigh their demerits since computers are not as easily accessible and portable as smartphones.

It is worth reflecting that one of the other current limitations to online classes using smartphones is also the default assumption made by instructors and designers that all students participate in course activities via full computers. This assumption fails to fully take into account those students who significantly rely on smartphones to accomplish a large percentage of their academic activities.

6.1.6 Mobile Phones and the COVID-19 Pandemic

Anil says during times of crisis, such as the ongoing COVID-19 pandemic, the increased importance of mobile technology can be acutely felt. He shares that many of his students have told him that they do not possess laptops. Before the pandemic, when they could attend regular in-person classes, they would use university computers and obtain face-to-face instructions from their teachers. However, since online sessions have now replaced in-person classes, instructors are using
different platforms such as Skype, Zoom, and Blackboard Collaborate to conduct synchronous and asynchronous sessions. Working students and those without laptops have reported attending those sessions on their cell phones. Anil has also conducted some sessions using his mobile phone and displayed these apps on his mobile phone. Just like in in-person sessions, the mobile technology-assisted online classes support discussions and collaborative projects. Citing different scholars, Sun et al. (2018) state that “much like collaborative learning in face-to-face settings, mobile Computer-supported collaborative learning (CSCL) has been shown to have a positive effect on academic achievement or knowledge development in multiple subjects, including science (Ke & Carafano, 2016), math (Roschelle et al., 2010) and reading (Yang, Yu, & Sun, 2013)” (p.250). Hence, mobile technology has accorded considerable leverage to all stakeholders in academia when it comes to continually facilitating academic activities, notwithstanding trying times, such as the current COVID-19 pandemic scenario. This further broadens smartphone technology's scope in implementing technology-assisted pedagogy that can be made equitably accessible to students across different economic strata.

6.1.7 Motivations and Goals

The primary motivation behind Anil's use of smartphones for academic purposes is its portability; he adds that even during a challenging time like the ongoing pandemic COVID-19 scenario, everyone is able to use their mobile phones comfortably. For students, he says, the motivation is being able to work on their assignments using their smartphones even when they do not possess laptops. Another motivation is the comfort of using this technology for teaching purposes. Anil says that research shows that using newer technology while teaching our students motivates them to further their learning using that technology. Since mobile technology is relatively a new technology, they want to learn more about it. This is illustrated by the fact that
even when they have a computer in front of them, they are mostly seen using their cell phones, regardless of their physical location. Anil's goal is to use his cell phone actively for his classroom, and he says he will keep encouraging his students to use cell phones for classroom purposes. In the Spring 2021 semester, Anil plans to visit the technology center and learn how he could optimally use different apps and features on his smartphone for classroom purposes. Citing Johnson et al. (2012), Hsu and Ching (2013) posit that "the innovation in mobile apps has raised interests among educators because it facilitates teaching and learning" (Johnson et al., 2012). Anil is also planning to read some articles on using cell phones effectively for classroom instructions. These are some of the goals he hopes to achieve in the near future.

6.1.8 Engagement with Apps and Features

Anil is not much familiar with many learning apps that smartphones support. He primarily relies on WhatsApp, Zoom, Blackboard, and Dictionary apps to engage in academic activities, both as an instructor and student. He says he has a faint recollection of certain mobile apps being discussed at the College Composition and Communication Conference (CCCC) he attended some years ago. Based on that, he plans to explore further mobile apps and features that could support him both as a student and as a writing instructor. While accepting his technological know-how limitations, Anil is actively involved in investigating all the options at his disposal to help him use mobile technology to support his academic endeavors. At the same time, he is also engaged in researching further on different apps so that he can maximize the integration of pedagogy into mobile technology. Zaheer et al. (2018) posit that "educational applications offer the possibility to bring innovations to teaching practices, as well as new forms of communication, interaction and authorship, thus contributing to the process of teaching and learning" (p.188). In line with this
view, Anil believes that teaching and learning endeavors become more effective with more advanced educational apps incorporated into smartphones.

When Anil taught at other universities, he did not feel the need to use technology much. However, because of a high percentage of the traditionally marginalized bilingual and multilingual student population that UTEP serves, he has "localized" multimodal assignments so that they can be done using smartphones. This means he is also tacitly, if not directly, localizing smartphone technologies. He says that since UTEP has students from different income level families, it may not be feasible for all students to buy laptops. However, since all his students have smartphones, he encourages them to localize them for multimodal assignments. So, by tailoring multimodal assignments to fit with smartphone apps and features, he is also promoting the localization of smartphone technologies. Anil feels that localization is crucial in terms of considering what types of assignments would be suitable for a particular student population. He primarily sees a growing significance of cell phones for UTEP undergraduate students as these devices fit their budgets. That is why he encourages them to use cell phones, which he thinks, comes blended with localization and justice.

Hence, even without, perhaps, deliberately localizing mobile phone technology, not only is Anil practicing user localization but also encouraging his students to do so. This stands as a testament to how international students, based on contextual needs, exude flexibility in employing technology to accomplish their academic responsibilities, whether in assuming the role of a student or instructor. Anil feels that his students at UTEP are better than him in using different mobile applications, but they still need to be trained to use this technology in the best possible way. He reiterates that multimodal assignments give justice to multilingual students by allowing them to use multiple modes and localize technology. He occasionally mentions scholars like Huatong Sun,
who talk about user localization in terms of how local users adapt technologies to satisfy their needs.

6.1.9 Change Preferences and Association

For Anil, what changes he would like to see in mobile phones is difficult to answer. He says to be able to evaluate or think about the changes of apps and features needed in smartphone technology, he first needs to be well informed about the available options. He still considers himself a novice when using cell phone technology. However, he suggests UTEP introduce courses on technology, particularly focusing on mobile technology. He thinks this can provide additional knowledge on how academia can profit from mobile technology. He also proposes invited discussions amongst graduate students so that they can discuss these technologies and be familiar with their applications and evaluate what technologies they lack and how that void can be filled. He also favors phones with bigger screens over those with smaller ones since working on small screens is relatively difficult.

Talking about his feelings associated with cell phones, Anil says that back in Nepal, he never imagined using his smartphone for academic purposes someday. However, that changed after he came to the US in 2008 after he became aware that students and teachers were using many technologies, including mobile technologies, for academic purposes. However, during his early US days, he used his smartphone for limited purposes, such as for communication and sports updates. When he saw a person reading some text on a smartphone, he became excited at the prospect of being able to read articles on his mobile phone without having to print them. That was how he was inspired to read on his mobile phone when he was in the first semester of his master's studies. Eventually, he started uploading certain articles to Blackboard for his students through his smartphone. He recalls this particular incident when he was late for class and had to inform his
students via email; he did that with ease using his mobile phone while commuting to the university. So, being able to instantly communicate with his students via his smartphone without needing a laptop further strengthened his association with this technology.

Anil also remembers gaining access to audio-video clips using his cell phone. He has taken many online classes in which the teachers uploaded the lectures and audio-visual documents, and he says he, too, does the same for his students. Now, Anil is thinking about cell phone pedagogies drawing on Selber's idea about the uses of technology. He shares Selber's ideas on how technology can be used both functionally and critically. He elaborates it as using technology not simply to produce but also exploring the possibilities of how it can be adapted to cater to the needs of diverse groups of users. In Nepal, Anil simply used it functionally, just to make and receive calls. However, in the US, he also uses his cell phone critically for academic purposes. In the past, when teaching at Eastern Illinois University, he simply used mobile technology functionally, that is, only for communication and information. But now, not only does he question the effectiveness of this technology but he also engages in exploring ways to adapt it to suit different groups of users. This means not only can mobile technology be used to produce the needed “documents,” but it can also be critically assessed, paving the way to tweak its features and apps to synchronize with the users’ cultural and linguistic backgrounds.

6.1.10 Benefits

Anil says being familiar with cell phone technology benefits students in different ways and offers added benefits to international students. To South Asian international students, for example, the US is an alien space, both physically and culturally, and there is a need for them to traverse varied cultures that the US houses. So, to the ones seeking technology to explore US cultures, mobile phone technology is a viable option since it is portable and easily accessible. Anil
remembers using his cell phone to gain a better cultural understanding of the U.S. He cites this case where he was participating in an orientation program conducted for international students at one of the US universities he attended. At the event, when some questions were asked about the US culture and lifestyle, he was able to use his mobile phone to browse information promptly and respond.

For South Asian students in the US, English is not the first language. Hence, they may often have hard times communicating in English with others. In such instances, they can use internet-connected smartphones to quickly look up words and learn language features, which will help polish their communication skills. The US is a completely new world for the freshly arrived international students, who hail from totally different physical and cultural spaces. In this scenario, smartphone technology will help them communicate with other people and learn different ideas. Hence, international students can use smartphones not only for academic attainment but also for many other purposes. Moreover, even to expand their scholarly boundaries, they need to be cognizant of the world beyond academia, particularly in acclimating to the US lifestyle, for which different mobile apps can be handy.

Besides academic coursework, international students have to be involved in many other activities, both on campus and beyond. Learning to engage in activities beyond the academic world would also supplement their academic requisites in many tacit or overt ways. So, the international students have the compulsion to explore a lot more than the domestic students. Except for India, other South Asian countries do not have English as their official language, so even in language learning, mobile phones help a lot. Citing Hussein & Cronje (2010), Gangaiamaran & Pasupathi (2017) state that "the features of mobile technology such as the portability and information accessibility plays a major role in the enhancement of English language teaching and learning (El-
Hussein & Cronje (2010)" (p.11242). Anil opines, "Most of the students who come to the US from other parts of the world have language constraints. And to overcome those, mobile phone technology is the best technology available. In addition, mobile technology also assists in teaching and learning purposes.” Hence, Anil has been effectively using his smartphone to further enhance his academic endeavors, both as a graduate student and assistant instructor.

After discussing Anil's experience using smartphones for education, the ensuing section discusses how Sameer, also from Nepal, uses smartphones to engage in translation practices in the U.S.

6.2 Sameer: Translation

6.2.1 Context

Sameer, who comes from Nepal, has been using his smartphone to assist him in translating texts, mainly from English to others, particularly Nepali, and vice-versa. He says that English is a secondary language in Nepal, and not many people have a good command of it. He thinks this is because two different educational systems prevail in Nepal, in which one system prioritizes the English language over other languages, such as the Nepali language. However, since English is not the mother tongue of the Nepalese, people face difficulties communicating in English, and this reflects in language translation practices, too. Sameer thinks language is basically a tool for communication, and so as long as the message is delivered, language “accuracy” is of little concern. He believes that most translations done in Nepal are based on whatever degree of linguistic competence translators have. Most people do not seek technical assistance for translation purposes. Sameer does, however, acknowledge that this scenario is changing. He acknowledges that today’s generation is quite techno-savvy and aware of how mobile technology, among others, can assist them in translation processes.
6.2.2 Practice and Involvement

Whenever Sameer has the need for translation, he tries translating on his own first. If that does not work, he uses his smartphone with internet connectivity. He admits his first priority for translation is relying on his translation skills based on his language proficiency and not using any technology as such. Sameer hints that the quality of translations is purely subjective. He refers to different newspapers and radio and TV outlets and posits that the types of "Englishes" they use for verbal and written communications vary considerably. Although he did not furnish any specific examples, he mentioned how English used in CNN is different from that used in Fox and that even with digital print media, English used by the New York Times is different from that of The Washington Post. For him, though, that is not a problem. He holds that no one variant of English needs to be endorsed as "standard" English. What really matters to him is the clear delivery of messages. However, he acknowledges using a smartphone to assist him in the translation process since he is not confident about his English language proficiency. This seems to contradict a little with his earlier view that he still relies on his language skills to engage in translation. Hence, it is a mobile technology that Sameer ultimately resorts to for translation despite nursing some reluctance to seek help from any technology for that purpose initially. This only emphasizes the role that smartphones play in the lives of international students like Sameer as they go about using this device for translation activities, among others.

Sameer shares that mobile technology is a recent phenomenon in Nepal. He adds that Nepalese have yet to productively use the internet or other technologies, such as mobile technology. Sameer attributes his reluctance to use mobile technology for translation unless he cannot do without it due to his countryside upbringing, which still treats technology with skepticism. He generally tries to translate based on the language knowledge he has acquired so far.
and reiterates that most people in Nepal do that. Hinting at smartphones, however, he posits that people often are not aware of the power they are carrying in their hands or pockets. He says, "We do not realize that and just try to translate based on our own knowledge. However, it is a different story with today's generation." When Sameer looks at his nephews and other youngsters, he finds that they are trying to cope with new technologies. However, in Sameer's case, his "mind" is what he first wants to use before resorting to internet-assisted translation, for which he uses Google Translator. He does, nonetheless, agree that if he is accustomed to making greater use of technology, it will help him a lot to enhance his translation quality. However, despite this awareness, technology, still quite inexplicably, is never his priority. Unless he reaches a dead end, with his own translation skills literally failing him, he will not seek help from technology.

However, Sameer repeats that when he thinks of technology to help him with translation, it is a mobile technology that crosses his mind first. Sameer's story is quite different from other participants in terms of his involvement with technology. Unlike other participants who seem to be fully exploring their mobile technology to have themselves assisted with various complexities, Sameer's involvement with smartphones seems relatively limited. This shows how it would be erroneous to keep all the South Asian students in the same basket. However, that acknowledged, it should still be noted that Sameer has been using his smartphone to aid him in his translation processes and relies on it quite heavily for the purpose.

6.2.3 Translations in the U.S. and Cultural Aspects.

After coming to the US, Sameer says he began using his smartphone for translation quite frequently. He mainly uses Google Translator to do so. He is not sufficiently informed about other apps that can help him translate better. For example, he accepts that his English language skills are not adequate for him to understand specific keywords and concepts. To overcome that, he types
words in Nepali to understand what they mean in English. However, Sameer is also aware of certain limitations about using his smartphone for translation. He says, "It will be kind of weird or bad gesture to translate when we are directly talking to people we know. When talking to total strangers, I even use signs. However, if even that does not help, I will use translation features on my smartphone to communicate." Sameer's translation practice is thus seen to be governed by his cultural upbringing to an extent. His perception that simultaneously translating on a mobile phone while communicating with seniors has somewhat conditioned his mobile-assisted translation practice.

Despite having landed in a different cultural space, Sameer's cultural baggage continues to influence his translation practice. He talks about El Paso, which is home to quite a significant percentage of the Spanish-speaking population. He recalls this incident when he had visited this grocery store, Mata, in downtown El Paso and had to get the price details of some grocery items. However, the shop attendant did not seem to understand English clearly. That is when he said he took out his smartphone and used the English to Spanish translation feature, which helped him obtain the information he needed. This is just one example of how international students like Sameer tactfully use their smartphones to communicate with people who may not be able to communicate well in English, even within the U.S. This strategic use has helped them localize smartphones and better acclimate to “alien” cultural spaces.

6.2.4 Translation for Education

Often Sameer uses translation features on his smartphone to obtain clarification on ideas and concepts related to academics. When he does not know the "proper words" in the course of his writing assignments, he resorts to the translation feature on his smartphone. As a science graduate student, he needs to get accurate words to explain research activities and experiment procedures,
and missing them would dilute the credibility of his projects. Sameer also recalls using his smartphone to type certain concepts related to his course in Nepali to get their English translation. He says this has substantially helped him actively engage in class discussions and respond to his professor's inquiries. To get the words he wants, he first searches them in a file or even types in Roman font. He also looks at the examples of how they are being used, and by matching them in his context, he is able to use them relevantly. Next, when Sameer needs to type certain Nepali words to get their English meanings, he types using the Devnagri font, which he has downloaded on his mobile phone. However, he sometimes finds typing in the Devnagari quite annoying, as getting glyphs correct is still an issue for him. Comparatively, he finds Unicode, in which he types in Roman to get the word typed in Nepali, more comfortable. To type using Unicode, he simply uses the browser on his phone. He may not be using translation much in his day-to-day life, but he frequently uses it for academic purposes. Sameer's translation practice illustrates how it is intertwined with his academic endeavors. Hence, it shows how there are overlaps with certain themes associated with cell phone use, and compartmentalizing them under rigid categories, such as education and translation, may not always be accurate.

6.2.5 Introduction to Translation Apps and Features

Sameer first heard of translation apps from some friends. He had also read some pieces of news about people using different translation applications on their computers and smartphones. He was particularly fascinated by a story of a Chinese tourist who visited Mexico some years ago. This tourist had no maps, no guides, and did not even have the smattering of the Spanish language. In other words, he was a complete stranger to Mexico. However, his smartphone, which supported him with translation and communication, helped him complete his month-long vacation in Mexico without any hassles. This example particularly made Sameer mull over how he too could localize
smartphone technology to simplify various academic and other activities that he had to be engaged
with in the U.S. McNaughton & Light (2013) state that “recent developments in mobile
technology, including the introduction of the iPad and other smartphone and tablet devices, have
provided important new tools for communication. The wide availability of these portable...technologies has changed how we work, learn, spend our leisure time” (p.107). The story
of the Chinese touring Mexico with the help of his smartphone aptly supports McNaughton &
Light’s view, demonstrating how mobile technology, which supports translation apps and features,
has profoundly impacted our work and leisure activities in unprecedented ways.

Sameer has heard of different applications that are “smart” enough to translate from one
language to other languages quickly, but he mostly sticks to Google Translator. He has not used
any of those “ideal” language apps until now and hopes to explore them further in the days to
come. Despite possessing limited knowledge about translation apps, Sameer has been able to use
his smartphone to translate. International students like Sameer would profit significantly if they
can be offered some workshops or training sessions on the different translation apps and features
supported by smartphones and how they could be optimally employed to enjoy greater academic
benefits.

6.2.6 Issues with Smartphone Translation

One of the inconveniences of using a translation app for Sameer is that when conversing
with important persons or people senior to him, he would not want to take out his phone and use
it for translation amid the conversation. He thinks doing so would be discourteous. He does not
quite discern how it goes from a technological perspective, but he feels it may look rude or
unethical from a social perspective or a behavioral perspective. Further, this will also mean some
lapse in the conversation, breaking its very tempo. Also, sometimes Sameer doubts the accuracy
of the translation apps. Often, when trying to get translated words for his certain pre-conceived ideas, which he wants to match with his research results, he doubts how accurately the translated words reflect the sense of his ideas.

Sometimes, due to the socio-cultural environment, the same word or phrase will convey different meanings even when there is a direct translation. The words may mean something literally, but their senses could be varied depending on the context. He posits that one's situation, cultural situatedness, religion, or even the field of study could influence the meanings and senses of the translated words. He does sometimes feel bad not getting the correct translation. That being said, however, he trusts them most of the time. He accepts that many studies are being conducted on ensuring the accuracy of the technology-mediated translation nowadays. He believes that as time progresses, translation apps will have many good features added to them, increasing their reliability by incorporating graphs and statistics showing the translation's accuracy. Although Sameer nurses mixed feelings about the accuracy of the smartphone-assisted translation, he says he trusts the technologies that are being constantly improved since they will further enhance the accuracy of translations. To retain the confidence of users such as Sameer, the designers of translation apps should strive to develop apps that offer the highest degree of accuracy in the course of translation.

Sameer says translation technology, after all, is human-made, and it may not be relied on entirely. Sameer has encountered some other problems in the process of translation. For example, when he types a word to get its translation, he can tell that the translated word is not the one he is looking for. He has also seen many strange mobile phone-assisted translations in social media, such as Facebook, which lack cultural accuracy. For him, those are “hollow” translations and this makes him not trust them one hundred percent. However, Sameer says, “At the end of the day, I
still rely on the translation apps to get translations done.” Based on some of the shortcomings Sameer points out of smartphone-assisted translations, designers have to pay attention to addressing those concerns. They must work to replace literal translations with apps that consider cultural contexts and connotations and provide more reliable translations. This calls for greater collaboration between designers and language experts.

### 6.2.7 Motivation, Feelings, and Purposes

What motivates Sameer to use smartphones for translation is that they are handy and portable. He says the smartphone fits one's palm, and one can easily play around with its apps and features. He thinks if one has a cell phone, the first thing that comes to their mind is internet connectivity. This means there is no need to look around to find people who could translate for you if you have verbal communication issues. He thinks it is primarily due to easy access that smartphones best serve as translation tools. If he has his mobile phone in his pocket, he does not need to ask other people or carry a dictionary or other language books. His smartphone can help him with everything related to translation. Hence, smartphones have also helped international students become self-reliant and given them the leverage to work independently without having to seek help from others. This is especially helpful to them since they may not be familiar with how comfortably they might be able to receive help from individuals in a cultural site that is starkly different from theirs.

When Sameer fails to obtain an accurate translation, he feels bad. He wishes more had been done to improve the translation technology. However, he does not wish to complain since he understands technology is human-made and is being improved with each passing day. Back in Nepal, Sameer did not use his smartphone for translation. However, over the last three years, there have occurred many changes in the ways Sameer uses and views technology. He has learned many
things and is being informed of new ones every day and even using different translators. He has
acquainted himself with different add-on features in Google Chrome, which give him the
translation and grammar check options. He feels that if certain apps and features are available to
further simplify translation, he would like to explore them. Sameer has not observed any changes
in the ways translations are done after he arrived in the US three years ago; he does not have any
personal experience to share in this regard. Generally, Sameer gets help from Google translator
and Siri. For example, when he is walking, he asks Siri for the required translation-related
information. He feels that Siri is getting better nowadays, but sometimes Siri does not give him a
good translation and wonders if his accent is responsible for this. However, most of the time, he
trusts Siri.

Sameer mainly uses translation for academic purposes. As a graduate student, he needs to
read many journals. Sometimes, he also writes manuscripts, and while he is preparing for those,
he heavily uses translators. However, except for his experience at Mata Store, mentioned earlier
in the paper, he does not recall using a translator app for face-to-face communication. Sameer says
whatever ideas he communicates in English, he first pauses to think in his native language, Nepali,
and then translates them to English. This connects to Laura Gonzales’ (2018) idea of translation
moments. In her book, Sites of Translation: What Multilinguals Can Teach Us about Digital
Writing and Rhetoric, which talks about how multilingual communicators rhetorically translate
information for their communities, Gonzales says, “Translation moments are 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...” (p.23). Hence, when
Sameer verbally communicates in English with its native speakers, he is already engaged in
translation. This is enacted as he pauses to translate ideas from Nepali to match them with the
exact English language context to communicate effectively. However, he is aware that this situation cannot be replicated in written contexts, and to engage in translation practices in written English, he seeks support from his smartphone.

6.2.8 Translation: Choices and Considerations

If Sameer is given a choice to translate a piece of text using a smartphone or without it, he would first try doing it based on his translation knowledge. However, he would also use his smartphone to double-check to see if his thinking process of translation matches that of the smartphone or to see if any differences are seen in the process. When asked what technical issues he has experienced translating using his smartphone, Sameer said he did not have the expertise to comment on that. However, with technology improving, he is positive that whatever glitches currently prevail will eventually be overcome. He cites his preference for voice-command translation features smartphones support, which provide easy word predictions and search and translation options. Hence, Sameer has not just been a user of mobile technology but also its assessor in terms of pointing out certain deficiencies of mobile-assisted technology though he may not accept it outright. Therefore, it may not be a fabrication to state that being positioned in the US, Sameer has not only learned to tactically use translation apps and features on his cell phone to meet his various needs but also to evaluate the effectiveness of their functionality to an extent.

6.2.9 Takeaways for Designers

Sameer feels that, perhaps, more could be done to increase the reliability issues with mobile-assisted translations. For that, he suggests a need for expanded databases and additional help from the experts. That can help enhance the credibility of translation further. If Sameer wants to translate English words to Nepali, he would be happy to see the words actually displayed in the Nepali script when he looked for them. If he types something to be translated and sees it in his
language, he can better relate to his contexts. So, however subtly, Sameer connects the process of translation with his culture, which is what designers should be mindful of. The designers must be sensitive to how the users of their products may want to associate those products with their cultural traits. If shown by the designers and makers of technology, this sensitivity would also enhance user experience as the users will be able to own the products they are using fully.

Sameer has not used translation apps when communicating with his parents back home. He simply talks to them on the phone. He says his parents are not good at typing and reading on their mobile phones. They can only receive calls. So, he prefers calling them instead of sending text messages. Thus, designers should think of designing phones that cater better to users from varied literacy backgrounds and health conditions. However, when Sameer communicates with his brother, he sends texts as well. He has not so far felt the need to use a translator to send texts in the Nepali language. Sameer uses Roman script when he is translating. He has the Devnagari script on his mobile but does not find it handy. He is used to typing in the English script and finds doing so easier in the Roman script than in the Devnagari script. The Nepali script also has many characters, and he needs to spend much time finding these characters and switching the pages when he is typing. So, it would again be wrong to assume that international students like Sameer will readily choose to type in their language for translation. Convenience and ease also play a key role in this process. While, as Sameer mentioned earlier, he may be happy to see Nepali words, having to type them for translation would mean investing extra time and effort, and he clearly does not wish to do so.

However, sometimes Sameer finds it difficult to translate using the Roman script since the word can be lengthy, with long letters and many characters, and likely to be misspelled or misrepresented. Although he could not provide an example of that at the interview, he explained
that a single Roman character or word could be pronounced in different ways. Sameer feels that for a South Asian student like him, many translation apps and other banking and entertainment apps have helped a lot to adapt to the US environment. Even in terms of academic writings, he says that one has to be very accurate with word choice in his field, especially in getting formal words. The translation apps help him figure out such words. If he tries finding those words on his own, he may have difficulties. However, using his smartphone for translation and language learning has helped him grow academically. He gives big credit to smartphones, particularly for language and translation apps they support, for helping him grapple with the complexities of academic and personal lives in the U.S. Sameer displayed Google Translator, Devnagari, and Roman apps on his smartphone and even typed some words to get their translation.

After discussing education and translation themes, this section entitled navigation, also the final section of this chapter, is based on the interview taken with Aalam, a graduate student from Bangladesh. The section discusses Aalam's experience using a smartphone to explore different physical and virtual sites in the US to gain academic and other benefits.

6.3 Aalam: Navigation

6.3.1 Navigating Experience in Bangladesh

Aalam says that in Bangladesh in 2016, cell phones did not help much in providing information on reaching desired locations. He thinks part of the reason is that Google Maps was not readily available there, and one could not find live updates and other features required for navigation. However, when he went back home for a vacation in 2019, after some years of stay in the US, he noticed that people had started using Google maps.

Dhaka, the capital city of Bangladesh, is home to 20 million people and experiences heavy traffic jams, mainly during peak hours. It could take hours for one to reach their destination. In
this scenario, Google Maps not only helps find shorter routes but also provides information about traffic conditions. Aalam mentions that most of his friends and family in Bangladesh are office goers. Hence, they need to commute to their workstations at different times. In this context, smartphones that support navigation apps and features help them find the best routes and access traffic details. Yamsaengsung & Papasratorn (2017) state that to avoid traffic congestion, an effective technique that drivers can employ is "to check traffic conditions before making a trip and choosing routes to avoid congested road segments. Moreover, with the ubiquitous use of GPS-enabled smartphones today, drivers can check real-time traffic conditions and make routing decisions before and during their trips" (p.120). Hence, employing mobile phones to navigate the best routes gives drivers an edge in managing timelines to commute to their destinations.

When Aalam returned to Bangladesh in 2019, he heavily relied on Google for travel. For example, when he was not sure of the time it would require him to reach a certain location, he checked Google Maps on his smartphone. This gave him different route options to get there. Thus, he was able to avoid routes that experienced a high volume of traffic congestion. Google Maps showed options of parallel roads and some other country roads, giving Aalam information about alternative routes that he could use to reach his destination. This shows how Aalam strategically optimized his smartphone usage to navigate new locations and access all the details so his travels would be hassle-free. Aalam aptly capitalized on the handiness of smartphones for traveling purposes. Also, as for the preference of smartphones over computers, Aalam could aptly use the navigation app on his mobile phone and simplify his travel experiences because of convenience factors, such as portability.
6.3.2 Navigation: Now, Then, and Complications

Although Aalam has been extensively using navigation apps ever since he landed in the US, he remembers using apps such as Google Maps in limited volume even before that. However, it was less advanced than its current version. He says that Google Maps then only provided information about routes and locations, and they had not generated all the data about Dhaka. However, now it provides additional details, along with information about traffic on the routes and possible obstructions. The map also provides information about the places situated along the route to the prime destination, which gives users a slice of their overall travel experience. So, for Aalam, Google Maps, which he has always used, is half navigation and half information. Hence, it shows how when it comes to using apps to reach different places, Aalam is aware that his smartphone can be aptly used to help him reach desired destinations, and he has kept himself well informed about the advantages that his smartphone provides in this regard.

However, there is also a chance that your navigation app may fail at times. Aalam shares his experience about how once his navigation app stopped working abruptly: While driving around midnight through Kirkwood, a remote place in California, he got caught in a roadblock. His Google Maps app failed to display any other routes. So, he switched to the Google interface on his smartphone, and it immediately offered some alternative roads he could take, instantly solving his problem. Aalam shares that if you set the endpoint of your travel on Google and set instructions accordingly, it will explore various routes to your destination and take you there. So, he resorted to this practice when he was stuck at Kirkwood that night. Hence, although his navigation app failed to work, his smartphone did come to his rescue, helping him find a way out of the blockade. This is an instance of how Aalam tactically played around with his smartphone features-in a way
localized them- to overcome a difficult situation that arose when his navigation app failed him all of a sudden.

6.3.3 Language Preferences

Aalam is aware that Google Maps now supports the Bengali language, but he has never tried it. He has always used English with navigation apps since using languages other than English confuses him. He has been using navigation apps in English ever since he came to the U.S. The prospect of switching to Bengali simply baffles him. He states that which languages users prefer to employ to access apps depends on their tastes, which are often governed by different cultures and classes. Although Aalam does not have experience using the Bengali language in using navigation apps, he is cognizant of people who have it. Hence, Aalam's view on the language he prefers when using navigation apps indicates that South Asian international students at UTEP do not harbor an obsession with their native languages while pressing for language flexibility in apps. Instead, they would choose apps in the English language over those in their mother tongues. This also speaks of how these students do not wish to stay chained to their cultural cocoons despite their affinity with their roots.

6.3.4 Motivations, Goals, and Culture

The motivations that Aalam had for using smartphones stemmed from his traffic experiences in Bangladesh and the complexities of the US life that he had to grapple with once he came to the U.S. Harking back to his Bangladesh visit in 2019, Aalam reiterates how he was overwhelmed by the volume of traffic on the city roads. That made him contemplate using a mountain bike over other means of transport. That to him looked more time-saving than other means of transport. So, with the help of the navigation apps on his mobile phone, which he could
comfortably keep in his pocket, he was able to bike to his desired destinations on schedule. Had it not been for his smartphone, this traveling option would simply not have been feasible for him.

Next, when Aalam arrived in the US in 2016, he felt lost. His smartphone was the only means of support for him. Aalam did not stay close to school and hence could not use the campus shuttle, and he did not have a car. This forced him to use SunMetro, a public shuttle service, to go to university. He would check Google Maps to see the SunMetro shuttle schedule and use it to commute to college. So, the compulsion to use public transport to commute to school was the main motivation for Aalam to use Google Maps during his early U.S. days.

Aalam also did not know anybody at the beginning stage of his US stay and had to rely on Google Maps to get directions to visit places. He feels that navigation apps make things a lot easier for any outsider in the United States. During his initial US days, Aalam was little informed of the cultural attributes of El Paso. This made him hesitant in approaching people upfront to ask for directions, although now he feels that people in El Paso are "super friendly." Aalam says he does not like bothering people anyway, and Google Maps made it easy for him to get to desired destinations independently. Aalam shares, "Google Maps makes you a little more independent. So, as long as one has a map here, they are never lost. One can always find their way back home, and you do not need to reach out to other people to tell you how to get to places."

In addition to traveling and navigating learning management systems such as Blackboard and going to places, Aalam also used his smartphone to explore budget shopping options. For example, he ordered items using the Amazon App on his smartphone. He would also use his smartphone to visit different grocery, clothing, and furniture stores to buy different essential items. His smartphone helped him both locate those stores and provided directions to reach them. This helped him settle in El Paso. He navigated stores via his cellphone, using both Google Browsing
options and Apps, to purchase cabinets or suitable clothes to wear in El Paso. Therefore, the obligation to grapple with so many tasks motivated international students like Aalam to maximize mobile technology usage, mainly in terms of exploring various physical and virtual sites quite indispensable for their assimilation into U.S. life. This relatively cheap and dependable technology considerably helped ease his everyday life in El Paso during his initial days here.

Aalam feels that his cultural background does not affect his navigation skills. For him, English has never been a problem in using navigation apps. When he first came to the U.S., he had to report to the Office of International Programs (OIP), visit Social Security Office to obtain his social security card, get used to online shopping systems, navigate Blackboard-in fact, do so many things. He received emails every day, and all his courses were uploaded to Blackboard. So, everything was digitalized. This was very dissimilar to the academic scenario in Bangladesh, where students would ask teachers about their studies upfront and visit sites physically to complete different administrative tasks. They could easily receive directions from passersby to get things done or visit places.

6.3.5 Apps, Efficacy, and Technical Adeptness

Aalam reminisces a time when Google Maps helped him reach the Social Security Office in El Paso. Earlier on, his cohort had been taken to the Social Security Office by the OIP. Little then did he care about where it was located and how he could reach there on his own if the need arose since he thought his work with the office was over. However, he was called by the office later to furnish some missing documents. Since it was a weekday, he did not feel like bothering anyone to take him there, and he set off on his own. Thanks to his Google Maps, he could reach the office without any confusion. He shares, "That was the day I realized that so long as one has Google Maps on his smartphone, it is impossible to get lost in the U.S. I have been sticking to this
app ever since." Aalam also shared another experience with a fishing app—probably Fishbrain— that helped him catch many fishes during the fishing trips that he often makes. So, international students at UTEP, like Aalam, have shown their adeptness at using technology further to explore various locations and situations in the US settings. His experiences show just how crucial this device is in international students' lives as they wrestle with various dimensions of U.S. life.

Aalam displayed different apps on his smartphones that would help him navigate, such as Google Maps, Amazon, American Airlines, Amazon Music, Albertsons, Apply Music, Best Buy, and Verizon. His phone also had a job search app, LinkedIn. In addition to these, his phone was also populated with banking apps and different parking apps like Cholo. For example, when he went to Florida, he used Cholo, and in Huston, he used the PayByPhone app. Using Cholo, he could check ahead of time and confirm a parking space. He also has Walmart and Walgreens apps. Hence, Aalam has been using various apps that give him the advantage of saving time and money and navigating different physical and virtual sites in the U.S.

Aalam has been sticking to the same navigation app, Google Maps, which he has been using since his early days in the U.S. However, now many customized apps for shopping and navigating places are available, ending the dependency on Google apps. Aalam feels that he was always good with technology and wanted to do things smartly. He always wanted to find a path that would require him to do the least amount of work, and navigation apps have helped him attain that to an extent. He believes that if you can save time on less important things, you should and find more time for essential tasks. Aalam’s view also speaks of the tactfulness that students like him can exude in getting "less important" things done smartly using smartphones to utilize the remaining time to accomplish more significant tasks. Navigation apps such as Google Maps and
others have helped international students like Aalam have more time at their disposal for investing in important projects.

6.3.6 Experience with Apps

Aalam says his experiences with different navigation apps depend on the apps he is using and how active the developers of those apps are. He is quick to add that the developers of Google Maps are very active. Back in 2016, when he started using it, he remembers that it only showed where to go and how. Over time, it has been developed to tell if there is a roadblock somewhere, or if there is an accident nearby, or whether you are speeding. It even gives you speed limits for every road in addition to notifying you if the police are close by, cautioning you against speeding. He feels that apps are being developed further for the users’ comfort. Aalam predicts that Google Maps should be able to get you anywhere sometime soon. In terms of other apps, he says they are being developed to the point where they are more flexible and easier at the user’s end. However, some of the apps are, for example, very heavy on the RAM and memory. New smartphones may not support several apps that worked with the earlier models since these apps could be heavier. For example, he casts doubt whether apps that worked with iPhone 6 or Samsung 7 will work with newer editions of those brands as they may be too heavy for the new phones to support. These apps may cause lagging due to their "weight." These apps also take up more charge and exert more pressure on smartphones' rams. So, with the evolution of cell phones, apps are also becoming more swift and productive. However, they are also taking up more space and memories, and developers need to be more careful on that front. These ideas that stemmed from Aalam's experience using different apps have implications for the app developers as they should now focus on producing apps that are lighter and more efficient and supported by a maximum number of smartphone brands. Thus, the makers and designers of apps and smartphones must pay attention to the users'
experiences as they develop apps and features that are compatible across brands and accord the highest degree of satisfaction to their users.

6.3.7 Navigation, Growth, and Cultural Connections

Aalam feels that his engagement with smartphone navigation apps has helped him grow on many fronts. It has, for example, helped in fostering his social and community interactions. He has been approached by Bangladeshis en route to the U.S., who are seeking help navigating different US locations. Based on his experience, Aalam has been able to help them in this regard by offering them ideas on how they can navigate different routes to reach their destinations once in the U.S. The other advantage of navigation apps is that he can easily determine if he is getting the best deal for the price he is paying. If unsatisfied with the deals, he can explore better deals on different goods and services. These apps are also helping him navigate jobs. Through Linkedin App, he says, it is easy to connect with potential employers. He also uses browsing options on Google Chrome to look for jobs and familiarize himself with different requirements those positions demand. Aalam feels that fishing apps, such as Fishbrain, help people connect culturally, although he thinks culture is subject to fluidity and not a blanket concept. He shares how not everyone in Bangladesh has the same passion for fishing and that many would not want to go fishing even if they are paid for it. So, it cannot be generalized.

Moving to the cultural aspect, he thinks some leisure apps can be used based on cultural preferences. He cites PUBG and Ludo Star, which are multiplayer game apps. Although Aalam does not spend much time on these apps, he shares that they have helped people find other like-minded individuals sharing the same game cultures and bond with them. So, some mobile game apps do help revive that cultural aspect in that they help people interact and play with those with
whom they share some sporting interests. And in terms of navigation, it helps him connect with people from his country who are new to the U.S.

Aalam elaborated on the Facebook Group that the new Bangladeshis in the US have created to share and get information about different dimensions of U.S. life. Furthermore, this has helped him help people from his country. He says it is like giving back something to your country, even though you are thousands of miles away. So, these mobile apps have also helped strengthen community bonding for international students like Aalam. Therefore, in addition to simplifying the complexities of their lives in the US, smartphones and apps have also helped nurse their cultural practices of helping their fellow countrymen and keeping them connected to their roots. Aalam also posits a case in point: Using different social media apps, such as Facebook and Twitter, on their smartphones, Bangladeshi students like him were able to help the victims of the cyclone that hit Bangladesh in 2019. They localized these social media apps, making them function like navigation apps, reaching out to donors and linking them to needy ones. These apps, he believes, have proved instrumental in helping manifest the giving culture of his people.

6.3.8 Challenges

Aalam cites that one of the challenges associated with navigation apps is to stay self-contained. He says that the world of the internet is both vast and ugly. Numerous services and products are launched every day, with the internet serving as the best platform to promote them. Those goods and services easily draw the attention of internet users. So, if one is not self-contained, there is a possibility that he or she could easily give in to the temptations and lose money unnecessarily. The other is the security issue. He says that our data are linked to all the social media platforms with Google connected with Facebook and Instagram. So, when searching for a particular product, the ads related to that product or service will pop up on all users' social media.
Your data may be accessible to different persons and sites, which keeps you at risk of getting spam, leaving you vulnerable to security breaches. So, one has to be very careful when using navigation apps on smartphones. So far, Aalam has not had any issues using these apps. Aalam's views about some possible flipsides of some apps may be takeaways for designers, who can based on this experience and the experiences of many other students like Aalam, work on developing apps and features that ensure the highest degree of security to their users. In fact, the producers and designers of mobile apps can collaborate with international students like Aalam and further research to make their apps more secure for their users.

6.3.9 What Next?

Aalam thinks that the developers are inching to translate the users' desires into their products and provide them with what they want without even asking them for it. He feels that the artificial intelligence system is heading well in that direction. However, he maintains that there is a lot to work on regarding users' security. He suggests that if an app notified the country from which the international students were coming to a U.S. university and connected them to the university system, that would help. He elaborates that, after being accepted at a university, if there was an app that would give details on the best option to reach the university, it would benefit the incoming students. If this app could provide information about connecting flights and airline options, that would help them substantially. And once they arrive in the U.S., if this app could provide international students with information about Uber service and price, university housing, and pockets where other international students live, it would considerably lessen the woes of the new students.

Referring to the context of the Bengali students, if an app could mention some pocket areas where the Bengali students live, it would help students coming from Bangladesh. That would
greatly ease the lives of these students for the first few weeks and help them settle in. It could also give newly arrived students a list of things they would need to do once they get here. Finally, he stresses that the best brands of smartphones and apps and features must be offered to students for discounted prices along with the provision of purchases supported by flexible installment schemes. This would ensure social justice to student users from different economic strata.

The next chapter, also the final chapter of my dissertation, summarizes the research findings and discussions and points out to the implications of mobile technology to different stakeholders, both within and beyond academia. Analyzing how multilingual South Asian international students at a U.S. university localize smartphones for academic and personal accomplishments, the chapter provides takeaways to the stakeholders and offers potential areas of inquiry on the topic to the prospective researchers.
Chapter 7: Analysis and Recommendations

7.1 Overview

The previous chapters in this dissertation introduced the research topic, literature review, methods, which lean on user localization and user experience frameworks, and discussion of how South Asian international students use their smartphones for various purposes in the U.S. Based on the ideas the research participants articulated during the focus group and artifact-based interviews, in which they demonstrated using different apps and features on their smartphones, this chapter will analyze the participants’ views, coupled with their user experience accounts, in terms of how they localize their smartphones to attain different goals. And leaning on this understanding, I will posit the implications these may have on academia, designers, and smartphone producers. These will be oriented towards making different stakeholders pay attention to their respective fields when addressing issues pertaining to the increasing use of smartphones, not only by international students in the U.S. but also by students in the U.S. in general as they go about employing their devices to make sense of their academic and other needs.

7.2 Smartphones and Culture

Based on the discussions with my participants, smartphones can be seen to have already acted as tools that connect people culturally regardless of where they remain physically positioned. Leaning on Geertz (1973), Sun (2012) regards culture “as the meanings, behaviors, and practices that groups of people develop and share over time as well as the tangible manifestations of a way of life, such as artifacts, values, and states of consciousness” (p.5). Hence, for these students, as a group hailing from similar cultural spaces with shared practices, values, and ways of life, smartphones carry the promise of offering new avenues for their cultural heritage to flourish alongside. And one of the ways these participants plan to do that extensively is through the
employment of the video and vlog-making features offered by these portable devices. Although these participants have already engaged in the process minimally, it would significantly help if they could use smartphones with high-resolution cameras combined with high-quality video recording and editing features. The participants have already embarked on localizing smartphone features, which can replace many other devices such as cameras, recorders, and music players, among others. This is advantageous both from an economic and portability point of view. By engaging in different fun and networking activities on smartphones, which associate with their cultures and connect them to people from their part of the world, my research participants have tactfully used their smartphones to promote their cultural identities.

The discussions with the participants have also clarified that if designers fail to incorporate the aspirations of the users across linguistic and cultural backgrounds into their products, the products may fail to deliver the highest degree of satisfaction in terms of user experience. Sun (2012) states that “just focusing on a technology itself without considering a user and his or her concrete activity in a surrounding context will not help designers go very far toward accomplishing user goals” (p.229). As the world becomes increasingly diverse with each passing day, it becomes the obligation of everyone associated with the production and distribution of smartphones to pay attention to the designs and technical features so that users from across cultural and economic boundaries are able to interact with these artifacts seamlessly. This may necessitate the need to foster cross-cultural technology design, which, according to Huatong Sun, is making a usable technology meaningful to local users, so that no technology remains caged to any national or economic category. This way, "designers will be able to design better resources to support various local uses that resonate with users' lifestyles" (Sun, 2021, p.224), and it becomes particularly pertinent in the case of international South Asian students in the U.S. in that their reliance on
smartphones is quite heavy as they use them for so many different purposes. In this scenario, I maintain that should designers pay extra attention to the cultural components of heterogeneous user groups, the South Asian international students in my study will be able to avail the opportunity to own smartphones that not only fit their budget but also enable them to relate to these devices culturally.

The study also answered my inquiry on the role (if any) that peer influence played in governing uses and brand choices of smartphones. The study suggests that peer influence has been a strong factor in shaping the smartphone usage of some participants and that they have been able to tactfully localize smartphones to reap both information and entertainment benefits via different apps connected to the news, entertainment, and hobby. What different uses the participants put their smartphones into were quite perceptibly inspired by the practices of their peers. These peers happened to be both from their parts of the world and from the U.S. On the one hand, they wanted to ensure that they were on the same page with friends from their home countries when it came to making brand selections, and, on the other hand, they also wanted to ensure that they were not behind their colleagues from the U.S., both in terms of how they selected brands and used these smartphones for different purposes.

7.3 Culture, Localization, and Paradox?

The study also shows the paradoxes surrounding the views of the participants when it comes to their cultural ties. It is interesting to note that, on the one hand, the participants quite openly admit not being unwaveringly tied to their cultural heritage. However, on the other hand, they also lay out their plans on using smartphones to exhibit their local culture, which “includes broad sociocultural factors from national/ethnic culture (e.g., collectivism vs. individualism, universalist vs. particularist orientations)” (Sun, 2012, p.5), on a broader world stage. Hence, it
would be fallacious to generalize that the participants are excessively concerned about remaining knotted to their cultures regarding smartphone use. Instead, their major motive, it seems, is to localize these artifacts to blend their hobbies with cultures and use them in producing audio-visual documents. It is worth observing how different smartphone apps have aided in the production of audio-visual documents that both inform and entertain the research participants by helping the users advance their hobbies further. This is also an example of how users localized their smartphones to pursue their hobbies, such as fishing, along with promoting their cultural legacies through the production of multimodal documents, such as TikTok videos and Vlogs. According to Sun (2012), user localization “extends to the users’ sites, where users develop heterogeneous use strategies from the perceived product affordances and concrete subjective experiences, as well as integrate the product into their everyday lives through use and consumption” (p.24) My research on participants’ use of smartphone localization aligns with this take on localization.

The next takeaway from the interviews was that most participants did not emphasize that things would be better off if they had apps in their national or regional languages. Instead, their preference for apps in English over those in their national or regional languages could leave researchers wanting to investigate further the extent of cultural impact on these users' smartphone uses practices. Because of the comfort they have developed with the English language over the years, English is their language of preference for apps and features. This also indicates that the participant users are not adamant about any particular language(s) and would instead use English to engage in mobile banking as they are already accustomed to using them in English and that switching to another language, even if it be their regional or native languages, could only make them confused. This may merit another dimension of consideration as designers might have to
shift their focus from language to other design features with regard to developing culturally relevant apps.

7.4 Engagement with Various Apps and Features

Focus group and artifact-based interviews have also pointed to how South Asian international students have relied on banking applications on their smartphones, among others, to support themselves with finance-related activities significantly. And predictably, more such apps that highly prioritize user experiences and better serve this student population will keep being developed at an expedited pace in the future, keeping in mind how these play a pivotal role in serving an increasing number of international students in the U.S. That said, what must also be acknowledged is that these students in the U.S. have thoroughly investigated the availability and applicability of different banking apps and features and strategically used them to manage their expenses. In the process, they have carefully weighed the advantages and disadvantages of these apps before deciding which tailor better to ease their finance-related concerns.

Hence, one of the key findings of my research has been that although these international students from South Asia entered the U.S. with limited information about different mobile apps, mainly banking apps, their need to acclimate to the U.S. life—both academic and personal—compelled them to explore and adopt them quickly. This is also reinforced by the seamless user experience shared by some participants when using different kinds of banking apps on their smartphones. Citing Nielsen Norman Group (2008), Sun (2012) posits that “‘user experience’ encompasses all aspects of the end-user’s interaction with the company, its services, and its products” (P. 43). And these participants’ user experiences entail their interaction with different apps such as Wells Fargo, Discover, and Chase, to name a few, as they strive to manage their expenses with the limited funding they receive from their university. At the same time, however,
some participants also implied that users need to continually upgrade their technical skills to reap the maximum benefits of smartphone technology.

Based on the investigation of uses of smartphone-supported banking apps, through focus group and artifact-based interviews, it has become quite evident how South Asian international students at UTEP aptly use banking apps to the best of their advantage. In addition to helping them save time and money, these apps have also accorded them psychological relief in that they have enabled these students to help their friends and relatives in need of prompt financial assistance. Through these apps, the participants are able to send money to their loved ones all over the world promptly. They share that this easy transfer of money made possible by these apps has been instrumental in relieving the financial woes of their friends and families. This is directly proportional to these students' social and emotional well-being as their smartphones help them engage with “healthy social relationships that are supportive, encouraging, loving, kind, and authentic” (Cochran, 2019, n.p). Therefore, the privilege the banking apps accord to their users in being able to perpetuate warm bonding with their dear ones as they can offer their support to them in their times of need is a truly gratifying experience for these international students.

7.5 User Localization

The next notable finding of the research is how South Asian international students have localized entertainment and social media apps to not only entertain themselves but also to advance their academic and leisurely activities. For example, apps such as TikTok and PubG are more than mere entertainment to these participants. Similarly, WhatsApp and Facebook not only help them network, collaborate, and socialize via virtual mediums but also empower them in many different ways. Staying informed about fashion trends in the U.S., obtaining information about movies and books, and even learning how to pronounce certain words indicate how the South Asian
international student users have been using them to foster their academic, communicative, and leisurely activities. Further, these apps have also helped promote the cultures of these students by allowing them the liberty to lip-synch their regional songs and enact some dance moves they associate with.

Most importantly, banking and entertainment apps have not only given these students the confidence and agency to acclimate to the U.S. lifestyle and simplify their financial entanglements but also helped them keep some aspects of their cultural heritage alive as they go about their day-to-day affairs in a country different from theirs in many regards. Hence, entertainment and banking apps have helped South Asian international students at UTEP in manifold ways. In addition to serving as sources of entertainment and helping with budget management, the localization of these apps has also helped South Asian international students hone personality traits, learn different life skills, and support their friends and families in times of difficulty.

7.6 Takeaways for Academia

The interviews conducted with South Asian international student participants clearly point in the direction of the increasing use of smartphones for academic purposes. Kearney et al. (2012) say, “As mobile technologies develop, our challenge as educational researchers is to probe new pedagogical opportunities that honour principles of authentic, collaborative, personalised learning, drawing on well researched socio-cultural tenets.” (p.15). Leaning on this, whether it is the use of different apps and features for multimodal assignments in first-year composition or formation of study groups via social media apps, it may now be high time to tactfully consider adapting pedagogical practices such that they are compatible with mobile technologies. This calls for collaboration between designers, scholars, and academicians with the endorsement from greater academic entities. This collective venture will help foster justice in academic settings. According
to Rebore (2013), “The idea of justice implies that an individual or a group of people can be treated justly or unjustly, fairly or unfairly. The content of justice is an entitlement” (p. 219). So, the collective effort of designers and academicians will empower the research participants both overtly and subtly.

Next, better communication and help channels can also be established with international students through different social media apps, which will add to the justice component. For example, international students use smartphones to stay connected with their friends and family via affordable and easy-to-use apps such as Facebook and WhatsApp. So, universities can also additionally reach out to this population group and offer them the support they deserve through these social media apps. Hence, assessing the experiences shared by my research participants, the partnership between students, designers, and academia overall should benefit the underprivileged student population, including international students, in terms of augmenting academic achievements and career prospects.

The participants’ experiences with mobile phones speak of how international students’ adoption of technology enhances their studies and helps them perform on-campus duties, both as students and employees. Further, these experiences also point to how these research participants have tactfully employed this technology to benefit both academically and professionally. Student instructor participants’ experiences using smartphone technology for their studies and the constant encouragement they provide their students to do the same should also help academia contemplate how pedagogy and mobile technology can be intertwined to help both domestic and international student populations. Next, the experience of my research participants could also inspire other (minoritized) students to make the best use of mobile technology as they struggle at personal and academic fronts in the U.S. Hinze et al. (2017) suggest that "the use of mobile apps is an essential
component of digital literacy and has huge potential for changing teaching and research practice" (p.21). Apparently, helping students expedite the use of smartphones for scholarly and other ventures seems to offer manifold advantages. Similarly, Udell, C. (2014) posits that “mobile devices are having enormous impact, interrupting long-held approaches to how people learn, what they learn, and when they learn” (p.28). Hence, academia should invest further in exploring how pedagogical practices can be better integrated with mobile technologies.

7.7 Call for Technological Upgrade

Based on the research participants’ views, it is not hard to imagine how embracing technology and incorporating it into pedagogy has become so important in academia. Students' growing interests in espousing mobile technology in their academic activities have mandated instructors to train themselves further and become more adept at using mobile technologies. This will help them effectively cater to the demands of technology mediated teaching-learning activities. Brunk-Chavez & Miller (2009) provide some tips that could help create a sustainable technology culture in college campuses by technologically empowering instructors. They stress that, by going beyond functional technological literacies, schools must "provide instructors with the opportunity to become empowered users of technology" (p. 19). This recommendation seeks greater attention from academia. For instance, different departments can conduct technology-focused professional development programs to help instructors become skilled users of smartphone technology. These programs could include workshops and seminars on how instructors can work productively to use smartphones so that they are better positioned to handle mobile technology to serve the needs of the students for whom the smartphone has been an effective tool to address academic needs. Further, standing close to Stuart A Selber, the instructors should also be adept enough to help their students become both questioners and producers of
computer technology and not just continue as mere users by accepting them for face value. Selber (2004) conceives that digital spaces are political and stresses that English departments should “help position human-computer interaction as essentially a social problem, one that involves values, interpretation, contingency, persuasion, communication, deliberation, and more.” (p.235). Hence, making instructors literate in computer technology, including smartphone technology which is governed by the same technology to a large extent, has become necessary so that they serve their students justly.

It is not hard to assume that the number of students using smartphones for their academic endeavors will surge in the coming days. The fact that “smartphone ownership has become a nearly ubiquitous element of teen life: 95% of teens now report they have a smartphone or access to one” (Anderson & Jiang, 2018, n.p) already offers us a glimpse of this possible scenario in the near future. Keeping this in mind, higher education academic institutions should pay attention to conducting seminars aimed at helping students reap the maximum rewards of smartphone technologies. To elaborate, Technology Centers at universities, which so far have been heavily centered on dealing with computer technology-related issues, should have a different unit set up to deal with mobile technology issues. This unit can help both instructors and students- and, in fact, anybody at the university who has some stakes in this technology- resolve mobile technology-related problems. Further, it can also provide training and workshops on how mobile technology can be maximally harnessed to benefit its users. This may benefit international students, particularly during their early days in the U.S., as possessing a laptop no sooner do they arrive in the U.S. might not be viable since they generally tend to be confronted with the budget constraint. This will also count as an extra step the university takes in conferring justice to the minoritized student population.
7.8 Designer Takeaways

The experiences these participants have using smartphones also have distinct takeaways for designers. For example, the dissertation is mainly focused on localization at the user’s end. However, the designers may consider fostering developer localization at their end as this may have directly benefited minority student groups. For Sun (2012), developer localization is the "localization work that occurs at the developer's site to which we commonly refer. These endeavors of user localization continue from developer localization and often determine the market success or failure of an I.T. product" (p.xiii). Hence, in addition to attaining greater financial rewards, by continually engaging in developer localization, which also influences user localization, the makers and designers of smartphone technology may be serving justice to the underrepresented student population.

Next, the difficulty of typing fast and easy on relatively smaller smartphones and the users’ preference for larger screens, which would help them see and type better, could be implications that smartphone designers should carefully think about. It is worth noting that "most mobile devices such as smartphones and tablets are equipped with keyboards and have some word processing software available for them so that they can be used in both document production and document reviewing” (Udell, 2014, p.116). However, heeding user experience stories, the makers of mobile phones need to expand their research in designing smartphones that specifically help address the concerns of those willing to use this technology more extensively in their everyday teaching-learning activities. Similarly, participants’ views on localization and user experience in relation to uses of different apps and features can also provide some feedback to designers and makers of mobile technology, which in turn will help them reconsider smartphone sizes, prices, features, and apps. In light of this, the designers and producers can also work towards offering
special-priced phones to the international and other minoritized students so that their access to this technology is better enhanced and that they also help provide justice in some way. Similarly, if the designers and makers can also offer some training and workshop sessions through their outlets, specifically designed to serve minoritized students, that would be extra beneficial to this student category. On the other hand, it would also have the reciprocal advantage to them since this will give them a chance to directly listen to localization and user experience accounts, which will help them continually revisit their design processes.

7.9 Translation, Navigation, and Fitting In

Some research participants have strategically used translation apps on their smartphones to adjust to the U.S. culture in addition to using them to enhance their academic performances. Although it may take some time before apps that can address complete translation needs are developed, which fully take into account holistic cultural connotations in translation practices, international students in the U.S. have strategically used mobile phones to obtain the available translation benefits. So, with a rapid increase in the number of translingual students in academic institutions across the globe, designers of translation apps must invest extra in developing apps that come with up-to-date translation features that go beyond mere word-for-word translations and provide culture-sensitive translations.

My research participants have abundantly employed navigation options on their smartphones to explore physical and virtual sites in the U.S. and profited out of doing so. For example, these apps have helped them select routes and make travel plans in the U.S., particularly during the beginning days of their university life. Whether traveling to far-off locations for academic and personal reasons or locating parking spots, navigation apps have always eased their U.S. stay. In addition, navigation apps have also smoothened their online and in-person shopping
experiences and enhanced career prospects with apps such as LinkedIn. By allowing the participants to virtually select the desired items and services, along with suitable shopping outlets, and hunt jobs and internship opportunities, these apps have helped reduce stress on many fronts. Further, navigation apps have also helped them spice up their hobbies and manage monthly expenses. My research participants have employed utmost tactics in localizing these apps so as to make the most of mobile technology. This is evidence of how international students in the U.S., particularly in their early days, heavily rely on smartphones to navigate virtual and physical spaces. Some pre-conceived perceptions of the U.S. culture that some participants nursed - that one is expected to do things themselves here- also encouraged them to use mobile technology to travel around El Paso independently. Hence, the compulsion to acclimate to a different cultural site “motivated” my research participants to use their cell phones and transcend some of the “cultural barriers” mainly in terms of seeking help from people when navigating places.

The navigation experiences, which entail how the research participants used different apps on their smartphones to explore different physical and virtual sites, shared by students must be of importance to university and designers and makers of apps and mobile phones. These will help them think of ways to support students by developing navigation apps and features that make international students' lives in the U.S. relatively easier. For example, they might particularly focus on developing apps that offer extensive information on travel and accommodation and ones that work uninterrupted even in the absence of internet connectivity. These also gesture towards a possibility of collaboration between students, academia, and designers-to everyone's benefit. Further, their views on navigation will also have important takeaways for the universities in that they can revisit their online navigation platforms, such as learning management systems like Blackboard, and Shuttle Service, and work on making them more seamless from a user experience
perspective. The views about smartphone translation and navigation apps, shared by international students, will not only benefit this group of students but will equally help a greater spectrum of the university student population.

7.10 COVID-19 and Smartphones

The use of smartphones for various purposes during the COVID-19 pandemic rose exponentially. Whether it is academic engagement or shopping, which largely happened online, and many other types of activities, people's reliance on digital technology increased heavily as they struggled to adapt to the new normal. And in this scenario, the importance of smartphones was further accentuated as they played a key role in helping my research participants grapple with various unforeseen complexities of U.S. life. From taking online asynchronous and synchronous class sessions to teaching and shopping and communicating with their loved ones back home, smartphones assisted them in probably one of the most challenging junctures of their lives. These devices helped the students retain their social and emotional well-being during the pandemic. According to Cochran (2019), “Well-being refers to long-term, optimal social and emotional health” (n.p), and their smartphones, to an extent, helped them stay socially and emotionally fit.

Smartphones also helped the participants practice self-compassion at this point. Neff (2003) states that “self-compassion entails seeing one’s own experience in light of the common human experience, acknowledging that suffering, failure, and inadequacies are part of the human condition, and that all people—one self included—are worthy of compassion” (p.3). With smartphones taking care of so many of their academic and personal undertakings, my research participants were able to offer some kindness towards themselves. Amidst the challenges of wrestling against the pandemic-stricken world's adversities, resorting to this technology to stay in
touch and engage in the exchange of consolation and support with the people that mattered to them was an act of kindness towards themselves.

Some scholars have affirmed how smartphones helped people network and stay connected. Citing different scholars such as Garfin et al. (2020), Huckins et al. (2020), and Nguyen et al., 2020, Stevic et al. (2021) state that “during the pandemic, individuals increasingly relied on smartphones both to follow information about the pandemic and to keep in touch with their social network" (p.2). So, with this acknowledgment, it is time to invest a greater amount of time and resource into how this technology can be better harnessed to serve in times of special needs, such as the still “ongoing” COVID-19 pandemic. Mella-Norambuena, et al. (2021) state that “the COVID-19 pandemic has given educational researchers a unique opportunity to study the use and utility of smartphones in the context of teaching and learning processes. Mobile learning via smartphones allows access to learning in different contexts...” (p. 12). Hence, with the realization that mobile phones could come to the assistance of users, particularly in times of catastrophes such as the ongoing COVI-19, more should be done to stretch the use of this technology at universities.

The focus groups discussion and artifact-based interviews taken with South Asian international students from Nepal and Bangladesh on different themes cast some light on how, in addition to using smartphones for "general purposes," they have specifically localized them to enhance their entertainment, banking, education, translation, and navigation experiences. Kwon et al. (2013) posit that “smartphones have become a vital part of university students' lives since they use them the whole day for communication, productivity, entertainment, utilities, social networking, and gaming purposes (Kwon et al., 2013). Drawing on this, the views and experiences of my research participants using smartphones, which entail user localization and user experience aspects, have many implications on their academic and personal lives in the U.S. At the same time,
what my participants share also contributes to technical communication, technology design, and academia overall.

7.11 Smartphones and Universal Design

My research also presses for the need on the part of the mobile technology designers to adopt the universal design. To me, universal design is the phenomenon of making products that users can seamlessly access regardless of their differences in terms of cultural and economic backgrounds, among others. My dissertation does not focus on universal design. However, based on what some of my participants shared about their experience using smartphones, along with different apps and features, universal design should be considered to foster social justice, which, according to Rebecca Walton (2016), is a concept that hinges on human rights and human dignity. According to Gjøsæter et al. (2018), "Universal Design (UD) concerns the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (p. 1213). Hence, universal design should be aimed at celebrating diversity.

The universal design stands close to human-centered design, which "is required to prioritize the requirements of diverse user groups" (Gjøsæter et al., 2018, p. 1215). Referencing Buchanan (2001), Walton (2016) states that human-centered design "is an ongoing search for what can be done to support and strengthen the dignity of human beings as they act out their lives in varied social, economic, political, and cultural circumstances" (p. 409). From a social justice point of view, designers must design technologies that address the concerns of culturally diverse people. Mulberg (1993) posits that "Designers must recognize that what is right for some people may be drastically wrong for others" (p. 209). Therefore, although the universal design does not fully apply to the student population of my research, the designers and manufacturers associated with
smartphone technology must seriously consider working on the font, size, color, language, and interface aspects of smartphones to ensure that South Asian international students in the U.S. can enjoy "ownership" over them.

7.12 Finally

The dissertation concept that stemmed from my positionality as an international graduate student instructor in the U.S. had me explore how South Asian international students used their smartphones to simplify the complexities of their professional and personal lives in the U.S. This exploration not only centered around how my research participants used smartphones to acclimatize to a culturally and geographically unfamiliar landscape but also harnessed the features of these devices to refine their academic and professional skills, which perceptibly increased their life opportunities. The study gave me a peek at various dimensions of South Asian international students’ lives at the University of Texas at El Paso, situated on the U.S.-Mexico border, including the visible variations within this student population which looked homogenous in so many regards from a distance. The research exposed me to various slices of their lives that had been quite profoundly impacted by the use of mobile technology. This ranged from translingualism and multimodality, which they practiced through smartphone supported apps and features, teaching and learning practices to a whole array of smartphone uses for entertainment, banking, and navigation practices.

The research also helped me understand the participants’ takes on cultures and languages along with their receptivity when it came to making sense of smartphone related ideas and skills. While cultures and budgets influenced the brand choices and smartphone uses, my research participants apparently seemed to align more with cosmopolitanism and remained willing to serve as innovators and critiques of mobile technologies. They seemed quite cognizant of how this
technology could be tweaked so that it would tailor better to their needs and were open to learning further on how they could maximally reap its benefits. The research also helped me understand, to an extent, how smartphones could promote justice in academic settings and ease their lives in everydaystic locations beyond the confines of academia. Their user experiences they shared and localization practices they demonstrated using their smartphones in the course of the discussion and interviews, contribute to academia and industry in terms of how these sectors ought to invest further in adopting greater smartphone friendly approaches as the popularity of smartphone technology increases unprecedentedly today affecting countless dimensions of our lives.

The prospective researchers on topics related to smartphones can investigate how these devices can be used to promote tranlingualsim and multimodality in writing classes, and how they can significantly contribute to fostering equity and justice in academia. There is also ample space for researchers to investigate how smartphones can help break the traditional classroom boundaries and serve as sustainable digital platforms to facilitate online educational practices, which was starkly visible during the COVID crisis. The role and effectiveness of smartphone assisted translation and navigation practices could be yet other areas open to researchers interested in the pertinence of this technology.

To conclude, I argue that academia, technical communicators, and instructors should collaborate to “include diverse and underrepresented history of technological use, production, and expertise in our disciplinary conversations” (Haas, 2012). Therefore, it has become imperative for the technical communicators to serve as a bridge between diverse student populations and technology designers, helping ensure that mobile technologies offer seamless user experiences to those student populations.
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# Appendix A

## Affinity Diagram

<table>
<thead>
<tr>
<th>Education</th>
<th>Banking</th>
<th>Entertainment</th>
<th>Translation</th>
<th>Navigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoom/Online Classes</td>
<td>Pay at stores</td>
<td>YouTube</td>
<td>Nepali-English Translator</td>
<td>Locating Fish</td>
</tr>
<tr>
<td>B.B. Collaborate Communicate with professors</td>
<td>Online Banking</td>
<td>Netflix</td>
<td>Nepali Translation Apps</td>
<td>Restaurant/Store Apps</td>
</tr>
<tr>
<td>Screenshot</td>
<td>Deposit Checks</td>
<td>Movies/Music</td>
<td>Intercultural Appreciation</td>
<td>G.P.S./Uber App</td>
</tr>
<tr>
<td>Screen Recorder</td>
<td>Pay Cards</td>
<td>Cooking videos</td>
<td>Bonding</td>
<td>Sun Metro/Miner Metro App</td>
</tr>
<tr>
<td>Google Information/ Scan Documents</td>
<td>Buy and Sell Stocks</td>
<td>Hobby Tutorials</td>
<td>Hamro Keyboard App</td>
<td>Route to important locations</td>
</tr>
<tr>
<td>Share notes/ Record Meeting</td>
<td>Pay Bills</td>
<td>Spotify</td>
<td>Translate to English</td>
<td>Navigating Blackboard</td>
</tr>
<tr>
<td>Edit stuff/ Correction extension/ Google Drive</td>
<td>Banking Passwords</td>
<td>Interactive Games</td>
<td>Communication with different language speaking people</td>
<td>Navigating Job sites/ LinkedIn</td>
</tr>
<tr>
<td>YouTube tutorial/iMovie</td>
<td>Insta Cart</td>
<td>Cameras</td>
<td>Language Translator App</td>
<td>WeGo Offline App</td>
</tr>
<tr>
<td>Read texts/Upload on B.B.</td>
<td>Instant Money</td>
<td>S-10 wide-angle features</td>
<td>Concepts of one language into another</td>
<td>Parking Apps</td>
</tr>
<tr>
<td>Free access to online classes</td>
<td>Wells Fargo App</td>
<td>Alarmy App with math games</td>
<td>Siri</td>
<td>Avoiding Traffic Congestion</td>
</tr>
<tr>
<td>Language Apps/ Dualingo App</td>
<td>PayPal</td>
<td>Fun/Health</td>
<td>Google Translator</td>
<td>Independent/Self Reliant</td>
</tr>
<tr>
<td>PowerPoint/ Multimodality</td>
<td>Robinhood App</td>
<td>StarMaker Smule</td>
<td>Typing in one language, receiving in another</td>
<td></td>
</tr>
<tr>
<td>Twitter/ Instagram WhatsApp</td>
<td></td>
<td>Instagram/TikTok</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Appendix B

Focus Group Discussion Questions

1. Can you tell me a little bit about the phone that you use? What kind of phone do you have? What kinds of things do you use your phone for?

2. Do you use your phone differently now than you did when you first arrived in the U.S.? If so, how?

3. Would you say that your phone contributes to your learning in any way? If so, how? Do you think cultural, linguistic, and economic backgrounds influence brand choices and usages of smartphones? If so, how? Is this influence the same in the U.S. as it is in your home countries, or does it differ?

4. Have you tweaked or played around with any features or apps on your smartphones to maximize their use? If yes, can you share with us how and for what purpose(s)?

5. What are some of the apps and features that have significantly helped you grapple with various complexities of personal and academic lives in El Paso?

6. What kind of apps, if developed, would simplify things for you in terms of making sense of your academic needs and navigating physical sites?

7. Have smartphones influenced your verbal and written communication skills?

8. What factors do you think designers should consider when designing smartphones so that users from different backgrounds can use them smoothly?

9. Do your instructors support your use of smartphones in reading and writing activities?

10. Are your classrooms and courses smartphone-friendly in terms of usability?
## Appendix C

### User Journey Map

<table>
<thead>
<tr>
<th>Participant Pseudonyms</th>
<th>Sonam</th>
<th>Mukesh</th>
<th>Aalam</th>
<th>Anil</th>
<th>Sameer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Themes</strong></td>
<td><strong>Entertainment</strong></td>
<td><strong>Banking</strong></td>
<td><strong>Navigation</strong></td>
<td><strong>Education</strong></td>
<td><strong>Translation</strong></td>
</tr>
<tr>
<td>Based on my participants’ views on how they used smartphones to avail different sources of entertainment, I labeled it as entertainment.</td>
<td>Based on the participants’ experiences of localizing smartphone for various economic activities, I labelled it as banking.</td>
<td>I labeled it as navigation based on how my participants localized smartphones to explore various physical and virtual sites.</td>
<td>Based on how my participants localized mobile phones to help them learn in different ways, I labeled it as education.</td>
<td>Based on how my participants localized smartphones to communicate across languages using mobile phones, I labelled it as translation.</td>
<td></td>
</tr>
<tr>
<td>“Smartphones have impacted the way people entertain themselves in Bhutan, especially today’s generation preoccupied with this device.”</td>
<td>“My first mobile banking started when I came to the U.S., with Wells Fargo and PayPal Apps.”</td>
<td>“When I left Bangladesh back in 2016, so basically four years before, there was not much use of navigation using cell phone still at that time.”</td>
<td>&quot;For South Asian students, cell phone technologies are portable and help investigate the U.S. culture.”</td>
<td>&quot;In Nepal, I did not use a smartphone for any other purpose except voice and text communications.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Cultural events are live-streamed on Facebook, which I can easily view on my mobile phone. It helps me stay connected to my culture.&quot;</td>
<td>“It made deposits and payments, and shopping and supporting friends and&quot;</td>
<td>“When I went back last year, people had started using Google Maps.”</td>
<td>“I could promptly respond to the people from here, and the mobile technology helped.”</td>
<td>&quot;I try translating on my own first, and if that does not work, I use the internet. My priority is not using technology or mobile. I try,&quot;</td>
<td></td>
</tr>
<tr>
<td>Relative, both in India and the U.S., very easy through apps like Western Union and PayPal.</td>
<td></td>
<td></td>
<td></td>
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<td>Dhaka, with 20 million people, sees heavy traffic jams, and it could take hours for one to reach their destination. In this scenario, Google map helps find shorter routes or give information on traffic jams.</td>
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<td>Most translations are based on my own knowledge.</td>
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<th>“Bhutanese TikTok really helps promote our culture, and also bring back the old traditions and everything.”</th>
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<td>“I think anyone who plays with banking apps for around 15 minutes can easily learn to use these apps effectively.”</td>
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<td>“In orientation programs, I could use a smartphone to google information to get ideas about their culture.”</td>
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<td>“I feel that more research is needed before developing translation apps, so they give accurate translations.”</td>
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<th>“I do not face difficulties using entertainment apps because they are very convenient and very easy to use. So, there are no technical barriers in using entertainment apps.”</th>
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<td>“I think that that creates a big psychological difference that I can live with a single touch.”</td>
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<td>“Which languages people use for navigation apps depends on different cultures and different classes of people.”</td>
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<td>“Translation has been particularly benefitting academically. It has helped me grow.”</td>
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<th>Apps such as Instagram, Spotify TikTok, Netflix, and YouTube, among</th>
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<td>“I am more comfortable using the English I know the Bengali language is available for Google Maps, but I have never</td>
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| “New technology, new phone technologies Most translations are based on whatever language knowledge people
<p>| Others, are not only entertaining but also informative.” | Language other than Hindi or other languages. But for the ones who are not comfortable using English, these language features help a lot.” | Tried it. I've always used English. Using other languages than English always confuses me. | Should be able to satisfy the needs of our current students.” | Have, and technology is not used by many. Uses a translator app to double-check his translation. |
| Designers are constantly working to improve so that these apps become as easily usable as possible to users across cultures and contexts.” | Notifications of deposits and withdrawals mainly motivated me to mobile banking.” | “In Bangladesh, you would be commuting together with heavy traffic on the road, which is very risky. So, basically, when I got here, it was like, I am lost, and the apps are the only things I can use.” | “I think for multilingual students, multimodal assignments give justice to them, and I encourage them to localize mobile technologies to produce multimodal assignments.” | Motivated to use smartphones for translation as they are handy and portable; reduce the need to look for language books and dictionaries. |
| Some of the apps are very, very addicting, especially TikTok and Instagram. It became very, very addicting. Like, to the point that I lose track of time.” | Navigation apps make you a little bit more independent. So, as long as you have a map here, you’re never lost; you can always find your way back home.” | Prefer using Roman font over Devnagari. Has Devnagari script on his mobile phone, but because it has many characters, a lot of time has to be spent.&quot; | Normally use translation for academic reasons such as when reading journals |</p>
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<th>Possible to users across cultures and contexts.</th>
<th>Problem to navigate in English.</th>
<th>and writing manuscripts. Types in Roman to get the meaning of some difficult words</th>
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<td>“I think the current apps satisfy all my requirements. For me, as a student, I think things are fine.”</td>
<td>“Helped navigate different physical and academic sites within and beyond UTEP, such as O.I.P., Social security office, apartments, and other useful locations in El Paso.”</td>
<td>“Motivated to use smartphones for translation as they are handy and portable; reduce the need to look for language books and dictionaries.”</td>
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<td>“While traveling to Kirkland, got stuck in a roadblock, and Google Map came to rescue.”</td>
<td>“Navigation helps learn cultures and socialize with peoples across locations.”</td>
<td>“Translation has been particularly benefitting academically.”</td>
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<td>“Cholo app in Florida helped locate parking spots.”</td>
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<td>“Used Google Maps to see when I would be able to catch Sun Metro. I was not accustomed to the U.S. culture here, so I did not know who to approach for help when I first came. So, basically, that</td>
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was the motivation to use navigation apps. Didn't know anything, so had to rely on Google maps.”

"Now, apps are being designed to make them more flexible and easy at the user's end."

"Some of the apps supported by older phones are no longer supported by the new ones. New apps are swifter and do not heavy in terms of RAM."

“They also help navigate jobs through different apps such as LinkedIn.”

"Navigation apps help connect with people from your country in the U.S. and help them in so many ways."

“It's developing more for your comfort, and I think sometime in the future, Google Maps will help you get anywhere.”
“Navigation has simply enhanced my growth. It has helped facilitate more social engagement and more Community Engagement.”
Vita

Suresh Lohani holds a Master of Arts degree in English (Pokhara University) and a Master of Philosophy degree in English (Pokhara University). Dr. Lohani enrolled at The University of Texas at El Paso (UTEP) in 2016 to pursue a doctoral program in Rhetoric and Composition. His research interests include user experience, user localization, multimodal composition, standard language ideology, translingualism, and technical communication. He has a number of scholarly works published in Nepal and the U.S., which manifest his research interests, skills, and experiences. He has also presented his research projects at over a dozen international, national, regional, and local conferences and workshops, including the Conference on College Composition and Communication (CCCC) and the Biennial Conference on Writing Critical Thinking. He has received some notable awards in recognition of his research and teaching endeavors. He won the 2022 CCCC Scholars for the Dream Travel Award and the 2020 Council for Programs in Technical and Scientific Communication (CPTSC) Diversity Scholarship Award. Dr. Lohani has more than two decades of teaching experience, in both online and face-to-face modalities, instructing graduate and undergraduate writing courses in Nepal and the U.S. He is currently a career track lecturer at the University of Arizona (U.A.). Dr. Lohani’s dissertation, “Smartphones as the Tools for South Asian International Students to Navigate Academic and Non-Academic Sites in the U.S.,” was supervised by Dr. Beth Brunk-Chavez.

Contact Information: sureshlohani2000@hotmail.com