GENDERED DIMENSIONS OF MOBILE PHONE USAGE:
THE CASE OF A GROUP OF ROMANI WOMEN FROM SOUTHWESTERN
BULGARIA AND THEIR INFORMAL LEARNING

A Dissertation in
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This participatory and grounded theory ethnography focuses on mobile learning practices of a group of adult Romani women and their families. Framed through the lens of cultural-historical activity theory (CHAT) and technofeminism, these practices challenge existing integration programs with their binary approach as insufficient to analyze informal learning of other women. From the theoretical analysis, two activity systems emerged as guided by two separate objects conceptually overlapping under a common motive - wellbeing of the Roma family, while mobile phones emerged (in part of the cases) as essential media in pursuing the two objects. The two activity systems where Romani women used (or did not use) their mobile phones brought forward other women’s informal learning as shaped by complex gender relations. By focusing on informal learning and gender relations, this dissertation expands our understanding of mobile technology usage by adding specific gendered dimensions to the existing mLearning models.
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CHAPTER 1. INTRODUCTION

Coming to the Question

Coming to the question was a personal journey full of re-realizations and reconceptualizations that were shaped by my own experiences as a woman and my work and research in the field of adult education, lifelong learning, and comparative and international education.

I first felt as one of the other women when we moved to the North American continent. As a female newcomer from Eastern Europe on unpaid maternity leave and with no work permit, I was no longer a breadwinner and became one of the other women who “lack social, political and economic power in society” (Merrill, 2005, p. 44). The term other women was first used by Puigvert in 2001 to refer to Gypsy (a common but incorrect name for Romani people) and other minority and working class women in Spain (Merrill, 2005; Puigvert & Elboj, 2004), but it fitted my otherness on this continent as well. As one of the other North American women, I connected better than before with other women here and in Eastern Europe.

From the position of being one of the other women, I began to look differently at the concepts of otherness and gender inequalities and saw a difference between other women’s struggles and the fight of academic women against otherness in academia. Compared to the concrete everyday struggles, academic women’s concerns of being discriminated and unappreciated contributors to the traditionally male-dominated field, although important, have become too ideological and divorced from other women’s daily issues (Merrill, 2005). I also researched Merrill’s (2005) idea to update academic feminism by combining two approaches - radical adult education and dialogical feminism. This updated feminism, also called dialogical, universal feminism or feminism for all (de Botton, Puigvert, & Sánchez-Aroca, 2005) increases
participation of other women in adult learning classes in order to increase their chances for integration. When further researching the tendency to treat formal classes as a recipe for successful integration, I was bothered to see how this tendency frames other women as mainly illiterate and ignores their informal learning, which in reality forms majority of adult learning.

I was inspired to study how Romani women use their mobile phones beyond formal class settings for the following reasons. First of all, I was personally fascinated with mobile phones and was inspired by their potentials for change and integration. Mobile phones looked like the portable technology other women own and play with as a way to “domesticate technology” (Handapangoda & Kumara, 2013, p. 361) without attending formal classes. Following Balasubramanian, Thamizoli, Umar, and Kanwar (2010, p. 196), who use Silverstone, Hirsch, and Morley’s (1992) domestication of technology framework, I decided to look at mobile technology and its ability to challenge otherness, change power relations, and defy technological gender stereotypes about women’s technological incompetency (Wajcman, 1991).

Secondly, many Romani girls and women I met and saw in Eastern Europe were freely using their mobile phones in everyday settings. Unlike computers, technology which is not widely domesticated and around which females are reported as feeling higher anxiety level and less competent than the males (J. Cooper, 2006), mobile phones are relatively cheap and are widespread gadgets. Mobile phones are part of women’s everyday lives, and we, girls and women, have plenty of opportunities to take them apart, peek in, and develop and demonstrate our technological mastery. Mobile phones help many women I know in their informal work of raising families. The Romani pilot study I conducted in 2013 also confirmed mobile and smart phone usage in women’s everyday work. By using mobile phones, women check on children anywhere and anytime, organize and record family events, coordinate schedules (examples are
from the 2013 pilot study and my own), and strengthen external social networks (Handapangoda & Kumara, 2013). This mobile technology was clearly “overcoming spatial, physical, and temporal boundaries” (Handapangoda & Kumara, 2013, p. 369) and provided me with a glimpse to adult women’s learning not in formal class settings but in their informal everyday life.

Finally, with my Eastern European background and knowledge of Bulgarian language and culture, I was connected to this region and was interested in studying the role mobile phones (and mobile technology) played in other women’s life and integration during the post1989-Bulgarian transition from government-owned production economy to free-market economy (also referred to as a wild capitalism of the Eastern European countries by Upchurch & Marinkovic, 2011).

Since this project’s conception, my position about mobile technology evolved into two directions. Early in the study, instances of technology resistances were pointing to a more complex picture of technology usage. My enthusiasm about mobile potentials receded, and I was no longer the techno-zealot who believed in the power of technology to bring social change and gender equality. I was still enthusiastic about mobile technology and its potentials, but my position became closer to that of a techno-structuralist who saw phones as tools that function in established structures with predetermined usage (Boshier & Onn, 2000). The second transition in my position resulted in refining this position closer to the stance of a Vygotskian and constructivist technofeminist who considers technology as a medium (Vygotsky, 1934) without ignoring the existing technological gendered web (after Wajcman’s 2007 term gendered technoscience). This refined position guided me to study the nuanced mobile technology picture and the reasons behind the recorded technology resistance.
Problem Statement

Throughout the 2013 pilot interviews and later during my informal conversations with Romani women, I noticed that study participants did not find their learning important, worth studying it, and repeatedly underplayed it. For example, phones or GSMs (as the mobile phones are called in Bulgaria after the mobile network standard used in Europe) were perceived to be easy to learn and easy to use, so simple that even children could learn them, as one of the study participants Tsveta commented: “there is nothing hard in the GSM […] It is easy to use. My 9-year old grandchild who also works with a GSM. Very well. And she is only 9” (Tsveta, p. 13). Vlada, another study participant, adds: “it is very-Ve-e-ry easy phone to work with. I simply like it...Simply. It is easy to work with (2 times). ” (Vlada, p. 4) and Ruzha, a third participant recalls: “Started using GSM when very young” (p. 1).

Next to Vlada’s answer to my question about how she heard and learned about mobile phones, I added a line in the transcribed interview: “She sounds that she is annoyed with the simple questions”, and I also added: “Vlada is acting out the conversation like a play for ignorant me. It is so obvious to Vlada how to buy a phone” (Vlada, p. 10). It was obvious to Tsveta how to use a phone as well: “I take the phone and push the green button, and you talk” (Tsveta, p. 1), and later I added a comment to Tsveta’s interview: “a bit frustrated with me for the silly question” (p. 1). When I asked Tsveta how she learned to know to press the button, she asked me back: “But why ‘how I learned it’?”, and I reflected later: “Continues to be a bit frustrated with me for the silly question” (p. 2). When I asked Nada, a different study participant, what happened after she received a mobile phone for her birthday, she also asked me back: “What ‘next’?”, and I wrote after the interview: Nada was ”perplexed about my question. My questions seem so silly” (Nada, p.1). Vera, a young Romani woman who also took part in the
study, was perplexed when I asked her how she knows whom to call for free and how she knows the difference between different providers. She exclaimed: “You don’t know these basic things!?” (Mira and Vera, p. 3).

In my notes about buying a phone, I reflected: Vlada “does not want me to ask “stupid” questions such as where to buy a phone or what kind of mobile plan and voucher I need. She warns me against the owner ’s [of the local store] mockery […]” (Vlada, p. 19).

Some of these recorded reactions and conversations directly echo dominant discourse from dialogical feminism’s books. When increasing other women’s chances for integration (also to include or to ‘normalise’ excluded, Preece, 2001, p. 202), informal and everyday is unimportant, and the tendency to favor formal over informal learning persists.

This tendency, also discussed and critiqued by Hager and Halliday (2009); Lave (2008); Livingstone (1999, 2011); Preece (2001), continues to focus on formal education in the form of learning in adult learning centers. Favoring formal learning relies on the knowledge society discourse which, as pointed by Livingstone (1999), is built on the unidirectional (‘privileged’, after Lave, 2008) move towards formalization of learning away from the local and everyday knowledge and learning.

Learning how to use technology also follows the tendency of formal studies in dialogical adult education classes. In one of the testimonials of de Botton et al.’s (2005) study female participants, the classroom was the place where the participant could learn about technology:

And then we get modern technology... and we want to play a video and we don’t know how to do it! But yet, we demand more and more of ourselves. But here, we are acquiring knowledge, we are not as shy as those people that think they don’t know anything and are afraid of ridicule. (…) We’re increasingly more competent,
and now we start with the new technologies. (Isabel – Participant in Adult Education or AE as used in the original, de Botton et al., 2005, p. 89)

This focus on formal settings to learn about technology leaves other women with the feeling that they are technologically illiterate and need to sign up for a class to learn about technology. The dependence on formal or non-formal technological classes imposes an always-catch-up-with-technology game on women since, because of the ever-changing nature of the current technology, by the time the women sign up for a class, technology would have already changed. Other women’s dreams to go to school is fulfilled by these formal programs which also provide spaces for discussing gender issues. However, feminism for all and its projects with formalizing a top down approach to technology and knowledge often miss the opportunity for change since this feminism follows a formal curriculum often unrelated to other women’s lives and leave out their informal technological knowledge.

These formal classes obscure a body of rich learning, much of which is learning “outside of 'normalised' notions of knowledge” (Preece, 2001, p. 206) and through family practices and socialization process (Schied, 1993), learning that is part of identity and being (Lave, 2008). Some of this knowledge is socialized through the predominant discourse. Other women, for example, learn about otherness through the projected dominant discourse and/or resisting it (Preece, 2001). In the case of women’s attitude towards their informal learning about mobile phones, Romani women echoed the dominant discourse to underplay their informal knowledge, thus the communities’ and Romani women’s ease with which they incorporate into their everyday life the non-Roma culture, available resources, and tools, including mobile technology, remain unappreciated.
Formalizing the informal follows the binary theories where knowledge is discussed in regards to hierarchy and legitimacy (Avari, Jones, Mashengele, & Patel, 1997; Semali & Kincheloe, 1999). Binaries divide learning into formal and informal, favor formal, and underplay informal. Deeply rooted in the Western tradition, the tradition of separating learning away from the routines of everyday life elevated the lonely intellectuals to the inspirational heights of spiritual geniuses, and it was the only direction, away from everyday life, that learning was theorized to occur (Lave, 2008, p. 8).

Even conceptualizing about mobile technology that has reached the most private spheres of socialization is favoring this direction. The proposed models theorizing about the new type of learning - mobile learning (M-Learning or mLearning) (de Waard, Abajian, Gallagher, Hogue, Keskin, Koutropoulos, & Rodriguez, 2011; Kearney, Schuck, Burden, & Aubusson, 2012; Kukulska-Hulme, Sharples, Milrad, Arnedillo-Sánchez, & Vavoula, 2011; Kukulska-Hulme & Traxler, 2005; Park, 2011; Sharples, Taylor, &Vavoula, 2005) also try to formalize informal mLearning or completely ignore it.

The Decade of Roma inclusion 2005-2015 (discussed in details in Chapter 2), similar to earlier inclusion programs (Flecha, 1999; Oliver, Soler, & Flecha, 2009), follows the same predominant discourse. It builds on the logic that since the number of illiterate unemployed is the highest, formal education and training is recommended for increasing the chances for employment (Ministry of Education and Science of the Republic of Bulgaria, [Ministry of Education and Science], 2008) and in taking part in the knowledge society. In knowledge society, “education becomes an activity with a clear function for developing the capacity for selecting and processing information” (Flecha, 1999, as discussed by de Botton et al., 2005, p.
Education here approaches learning and lifelong learning with the assumption that adults are not equipped to deal with information.

In addition, women’s informal work is also ignored and disregarded. Researchers from different fields have focused on men’s and women’s informal learning primarily in paid work settings (Hager & Halliday, 2009; Kaptelinin & Nardi, 2006; Kim, Joo, & Schied, 2010; Lord, 2009; Sawchuk, 2003a, 2013; Semali & Asino, 2012), but research studies on adult women’s informal learning in everyday work are scarce. This can be explained by the fact that outside the free market economy, unpaid everyday work of women, who, as many others, “only indirectly contribute to the labor market” (Preece, 2001, p. 202), and their work is hard to measure and hard to quantify, therefore is not counted toward formally contributing to the economic wellbeing of the family.

Examples of different type of overlooking women’s everyday work are the studies where women are reported to spend less time with technology and use it more for socializing (Kennedy, Wellman, & Klement, 2003; Lin, Tang, & Kuo, 2012). Socializing with technology is not discussed as something important and part of informal everyday work to connect with family and friends. Framed this way, women’s everyday work and learning often lands in the excluded illegitimate realm of free market economy, rendered unimportant and invisible. As is usually the case with informal work and everyday learning, they are framed outside of the formal and schooled society that “devalues many other kinds of human capabilities” (Baker, Eslinger, Benavides, Peters, Dieckmann, & Leon, 2015, p. 155).

To sum up, women’s informal everyday learning and work and also informal mLearning remain undervalued, and learning in formal settings continues to dominate even when dialogical
feminism and off-limit-curriculum (Preece, 2001) are applied. Furthermore, Romani women also follow this tendency and doubt the value of their own informal learning.

The problem is that in spite of the push away from the informal and the millions spent on formal education and training, the reality of today’s Bulgaria shows that the Roma decade and other integration programs have little to report on overall Roma poverty reduction, achieving Roma women equality (Rorke et al., 2015) or improving Roma education (REF, 2015). Then the following questions become important: Why the Roma decade did not reach its goals? Why did not the technological training translate into social changes and gender equalities for Romani women? What did the Roma decade miss?

And also, if everyday learning is so significant but dominant discourse deems it insignificant, how can we study it beyond the dominant discourse? How did women in reality learn to use (or resist) mobile phones? What was the role of family and Roma culture in this learning? How did they learn how to use the space created by mobile devices? How to cross this space or ignore it? How to coordinate and expand their networks? What dimensions of this everyday learning will help emphasize the everyday and serve as steps towards understanding the relationship between informal and formal learning beyond binary theories? How can we bridge formal learning and the communities (Preece, 2001; Mukute and Lotz-Sisitka, 2012)?

**Study Purpose and Research Questions**

To address the shortcomings of the Roma Decade and binary discourse that favor formalization of learning and mLearning, this study follows its main research interest: to focus on the rich body of other women’s informal and mLearning in their everyday lives and, by doing so, to create a more nuanced picture of mobile technology usage. It aims to uncover obscured instances of a group of Romani women’s informal learning and technology usage, including
instances of technology resistance and usages pointing away from mobile phone’s potentials to bring social change and gender equality. Instead of using binary theories, a combination of two frameworks, cultural-historical activity theory and technofeminism, are used to analyze these potentials as mobile phone usages (or lack of usages) that are interwoven in a complex, often invisible, gendered web with its “material, discursive and social elements” (Wajcman, 2007, p. 294).

The study addresses the following main research question and three subquestions:

How do everyday life and informal work of a group of Romani women from Southwestern Bulgaria orient the use of their mobile phones and their informal learning?

a. In what types of activities are these Romani women involved or recall being involved while using their mobile phones?

b. What are the objects of these activities?

c. How are gender relations enacted within the use of mobile phones in everyday life of these Romani women?

**Roma/Rroma. Definitions of Terms**

**Roma/Rroma**

Roma/Rroma (also Romani, although throughout this work Romani is primarily used as feminine adjective) are peoples representing a heterogeneous ethnic group that is estimated to consist of 4.9% to 10.33% of the population of Bulgaria (Council of Europe [CoE], 2010).

**Gender Relations**

Gender relations in technology usage are defined by technofeminism, a branch of feminism, as an invisible gendered web (after Wajcman’s 2007 term *gendered technoscience*) that follows traditional social arrangements of who owns and uses what kind of technology and
artifacts. This study looks into gender relations and how they have influenced the way mobile phones and other digital artifacts were used (Wajcman, 2004).

**Activity**

Following the tradition of cultural-historical activity theory, activity is defined as a “minimal meaningful context for individual actions” (Kuutti, 1996, as cited by Park, 2011, p. 89). This context includes dialectical interaction between human needs, passion, and desires (Vygotsky, 1934, 1934/2005) on one hand and complex web of tools/artifacts, rules, community, and division of labor, and object on the other that shape and direct these activities (R. Engeström, 2009; Engeström, 1987, 2001; Kaptelinin & Nardi, 2006; Leontiev, 1975, 1978; Sawchuk, 2003a, 2003b, 2006, 2013). This study analyzes mobile phones as artifacts and studies their use as gendered web negotiated and resolved in a network of Romani women’s activity systems historically embedded in Bulgaria between 2013 and 2015.

**Everyday and Informal Learning**

Everyday and informal learning is learning beyond structured formal education. It is not led by an expert, usually is unplanned and not formally assessed (Hill, Domizi, Hannafin, M. Kim, & H. Kim, 2007; Wedemeyer, 1981; W. Wu, Y. Wu, Chen, Kao, Lin, & Huang, 2012). Everyday and informal learning is big part of personal knowledge and is a result of socialization and human everyday activities (Hager & Halliday, 2009; Lave, 2008, 2011; Livingstone, 1999; Schied, 1993; Schugurensky, 2000).

**Mobile Learning**

Mobile learning involves learning using mobile devices regardless of time and space (Y. Wang, Wu, & H. Wang, 2009). The majority of literature talks about four constructs of mobile learning - “pedagogy, technological devices, context and social interactions” (Crompton, in
press, as reported by Crompton, 2014, p. 8). In Chapter 2, these constructs are discussed in the light of five mobile learning frameworks and technology theories.

**Dissertation Organization**

This dissertation consists of additional five chapters. Chapter 2 discusses in details literature related to three areas: (a) Roma context, (b) informal and everyday learning and informal learning with technology, and (c) mobile learning and the five major mobile learning frameworks. Chapter 3 lays out the two theoretical frameworks that have guided this study - cultural-historical activity theory (CHAT) with its generations and current issues of conceptualization of activity and artifacts and technofeminism as a branch of feminism that looks into the gendered nature of technology and artifacts. Chapter 4 includes details about research design, pilot testing, and research choices I made during data collection and data analysis. It discusses translation and ethical issues I considered and steps I took to maximize validity of the study. Chapter 4 also includes changes to the study design that were initiated by the Romani women as active participants in this research. Chapter 5 contains data analysis, both demographics and mobile phone information and study text. Also included in Chapter 5 are the study findings that are discussed as informed by the reviewed literature and the two theoretical frameworks. Chapter 6 concludes this dissertation with in depth discussion of the study’s main contributions and its theoretical and practical significance. This last chapter concludes with study implications, its limitations, and suggested future research plans.
CHAPTER 2. LITERATURE REVIEW

Introduction

This chapter consists of three literature review sections: (a) Roma context, (b) informal and everyday learning, and informal learning with technology, (c) mobile learning and the five major mobile learning frameworks.

The literature review devoted to Roma context sheds light on the Roma community of this study and Romani women’s status in post-1989 Bulgaria. It starts with historical overview of ethnic relations of Roma and non-Roma in Bulgaria and continues with issues relevant to Roma communities such as poverty, high school drop-out rates, and unemployment, discussed in the light of Roma traditions as complicated by the post-1989 economic collapse of Bulgarian economy and post-2008 global market crash. In the second part of this section, I discuss two main Bulgarian national frameworks with their Roma integration directives - CONFNETEA VI Bulgaria National report and Decade of Roma inclusion 2005-2015, referred to as the Roma decade. I illustrate how these frameworks follow the tendency to disregard Roma informal learning and to systematically ignore gender relations. I conclude this literature review with a discussion about how the Roma Decade resulted in little improvement of Roma women’s lives and even in worsening of Roma status during the 2005-2015 period.

Informal and everyday learning and informal learning with technology part of chapter 2 reviews several works devoted to this broad and often invisible learning. I discuss different approaches to informal learning and introduce an open list of its characteristics, leaving space for the study to expand on these characteristics. In conclusion, I reintroduce the case against formalizing informal learning. The literature review also introduces several studies of informal
learning with technology and touches upon their contributions to the field of informal learning and their shortcomings.

The mobile learning review section analyzes several frameworks that are most known and accepted in the field of mobile learning. This part of the chapter also critiques the fact that informal mobile learning is left out of this theoretical work and argues for the need to expand the frameworks and include important gender dimensions of informal mobile phone usage.

**Roma/Rroma Context**

**Origin of Roma**

In Europe, the origin of Roma (also Rroma and Romani) peoples is recorded in a number of legends, myths, and historical manuscripts that are primarily based on the Bible and frame the Roma as sinners and others. For example, Roma are presented as either successors of Canaan who was cursed for the sins of his father Ham, one of the Noah’s sons (Pamporov, 2006) or as related to the Roma who forged all or stole the fourth nail of the Christ’s cross, thus were cursed to roam stateless “for seven years or seven centuries” (Liegeois, 1986, p. 19). These legends have been used by Roma to explain their nomadic way of living but also have helped to build stereotypes reinforcing the peripheral status to which they have been and are still assigned in the European societies (Liegeois, 1986).

Based on linguistic and historical analysis, many of these origin myths have been refuted, but the stereotypes and otherness persist. The origin of Roma has been traced to India, not to Egypt, as has been wrongly believed for centuries (Amalipe Center, n.d.; Liegeois, 1986), and it has been proven that Roma could not have committed some of the Biblical sins because they first arrived to Palestine and the region long after Christ (Liegeois, 1986), but feeling as being others and resisting the otherness persists, and examples were recorded throughout this
study. For example, Gyula, one of the main study participants and key informant, shares that she knows Roma have come from India and have spread throughout the entire world. She retells the story of another study participant Eva, who has told her that Roma were especially protected by St. Basil. St. Basil, who is celebrated by the Roma in parts of Bulgaria as Bango Vasil on January 14th (also called Roma New Year), “has protected Roma a lot since they are humans like the rest of people” (Gyula, p. 69).

**Basic Demographic Statistics**

Although for centuries Roma have lived in almost all of the European countries, currently Roma reside more in some European regions than others, and this has resulted in their different proportions to the non-Roma population across Europe. Of the 10-12 million estimated Roma population in Europe (CoE, 2010), the majority (3/4) live in Central and Eastern Europe, as illustrated in Figure 2-1.

![Distribution of Romani people in Europe and Bulgaria](https://en.wikipedia.org)

**Figure 2-1. Distribution of Romani people in Europe and Bulgaria.**

The Bulgarian National Statistical Institute (Bulgarian NSI, 2011) reports that in Bulgaria, Roma are the third largest ethnic group and represent 4.9% of the overall population, a
0.2 percentage points increase from 2001 (p. 23). According to the CoE (2010), this percent is estimated to be much higher - 10.33%. Even with the average 7.6% of the total population of Bulgaria, the ratio of Roma to the rest of the Bulgarian population is one of the highest in Europe, which creates a very complex social dynamics. Bulgarian NSI (2011) has recorded that majority of Roma (85%) report using Roma as their mother tongue and having Bulgarian, Turkish, and Romanian as their mother tongue (7.5%, 6.7%, and 0.6%, respectively) (p. 4). The same document has also indicated that 37% of Roma report being East-Orthodox, 18% - Muslims, and 10% - Protestants, with the remaining 35% representing the “no religion” or the “no stated” groups (p. 27).

Roma communities in Bulgaria are not a homogenous group but peoples with a “kaleidoscopic identity” (Pamporov, 2006). When classified by the semantic borrowings from the non-Roma languages and phonetic specifics of the Roma language used at home, ethnic Roma can represent one or more of the five main subgroups: Daskane or Bulgarian Roma, Horahane or Turkish Roma, Kalderashya or usually called Serbian Roma, Kalaydzhes (often grouped with Kalderashya Roma), and Ludari or Romanian Roma (Pamporov, 2006).

**Roma in Bulgaria**

In general, Bulgaria prides itself on the ethnic tolerance and exemplary intercultural relations (Simeonova, Korudzhieva, & Petrova, 2007). In Bulgaria, 300 000 Roma were not sent to the death camps in Germany (Open Society, 2008), whereas during the WWII in the rest of Europe, estimated between 400,000 and 1.5 million Roma were killed (Hayes & Acton, 2007). April 8th, Poraimos (also Parrajmos, a coined word from Romani language, meaning devour-destruction), is a designated day to commemorate Roma killed in Holocaust. In Bulgaria, this day is celebrated as a Roma solidarity day with activities highlighting Roma achievements. As
an example, in spring 2015, Gyula was compiling a list of highly achieving Roma children, so “the nominated children and their families would be recognized at the special ceremony for the Roma day on April 8th” (Gyula, p. 54).

Higher level of tolerance is also recorded in Bulgaria when surveyed 7,748 Roma report less discrimination (in Romania and Spain, as well) when looking for job, compared to the Roma in Italy, Czech Republic, and Poland (European Union Agency for Fundamental Rights [FRA], 2012, p. 19). Relatively low percent, 34%, of the Bulgarian Roma, report discrimination because of their Roma origin, compared to 65%, 62%, 62% reported by the surveyed Roma in Italy, the Czech Republic, and Poland, respectively (FRA, 2012, Figure 17, p. 26).

An example of Bulgarian recent commitment to inclusion and anti-discrimination is the 2012 National strategy for Roma integration 2012-2020, a strategy coordinated by Discrimination Protection Commission and the highest government institutions in accordance with the national policy of “guaranteeing equal opportunities for the Bulgarian citizens” (Republic of Bulgaria Council of Ministers, 2012, p. 1). Earlier documents, such as the 2004 Bulgarian Protection against Discrimination Act (PDA) overall complies with and even expands the anti-discrimination aspects of this directive such as “material scope, the list of protected grounds, forms of discrimination banned, powers of the equality body, and special judicial redress” (European Roma Rights Center, 2013, p. 4).

**Roma in pre- and post-1989 Period - Otherness in Bulgaria**

In the 1944-1989 socialist Bulgaria, *otherness* and *differences* as divisive concepts were officially non-existent and were considered officially resolved since all Bulgarians were to be equal under one nation. In Bulgaria of this period, similarly to the Eastern European socialist regimes, it was important that males and females were equal (Durndell & Haag, 2002) as well,
and in fact Kristeva (1981) remarks that under socialism “three of the main egalitarian demands of early feminism have been or are now being implemented despite vagaries and blunders: economic, political, and professional equality” (p. 21). A study participant who lived and worked in pre-1989 Bulgaria recalls:

Life and love was not a bother then [before 1989] since we were all equal…we were among the Bulgarian women. It was nice. Nobody divided us. We all worked equally [in the tobacco processing plant]… The bosses did not treat us differently, either. They paid us equally - same for everybody. (Eva, pp. 4-5)

After 1989, this model of equality for all under one nation collapsed along with the collapse of the government-run economy. The transition to market economy was marked by economic hardship affecting the entire society, but the heaviest burden fell on women and ethnic groups. Unemployment rate among the Roma population almost doubled and reached 59.9% among the 16-60-year olds, compared to 30.2% in 1991 and compared to 21.9% and 39% in 2001 for Bulgarian and Turkish populations, respectively (Tomova, 2009, Table 2). With the high competition at the labor market, Roma were with the lowest chances to be employed (only 50.2 % of the Roma in active employment age were employed in 2011) due to their low technical and professional skills (Republic of Bulgaria Council of Ministers, 2012, p. 6).

During the economic hardship of never-ending transition to free market economy (years after the 1989 transition and beyond), ethnic tensions, intolerance, and discourse of exclusion heightened both in Western European context and in post-socialist Eastern Europe (Hayes & Acton, 2007), and one ethnic group in Bulgaria emerged as the face of the excluded others (Mihova, 2009). Roma became the others in post-1989 Bulgaria, and many old stereotypes of sinners and aggression, especially about boys, re-emerged and were supported by the media and
some anthropologists, which resulted in mutual distrust and hatred and only served corrupted politicians to “buy” Roma voices on election day (Traykova, 2014).

Socially excluded others were the Roma as a whole, but Romani women have been experiencing the hardest economic hits because of the traditional roles they play in the patriarchic structures of the Roma society. Early marriages (the majority of Roma marry between 15 and 20 years of age), one of the highest rates of early childbirth in Europe (with very high percent of mothers aged 13-16) (Hajioff & McKee, 2000; Hyuseinov, 2009), and Romani girls’ early engagements in family responsibilities (Hyuseinov, 2009) all are reported as the causes for Romani’s girls’ high school dropout rates (between 40 and 70% despite the required and guaranteed education, 8th grade) (Mihova, 2009, p. 181). As a result of these dropout rates, 60% of all illiterate Roma are Romani women (illiteracy traditionally considered not able to read and produce text), i.e. their illiteracy 1.5 times (Hyuseinov, 2009) and even three times (Republic of Bulgaria Council of Ministers, 2012) higher than that of Roma men. Romani women are either unemployed (34.1%) or when working (only 14.3%), usually working low-qualified jobs (Hyuseinov, 2009, p. 217). Often Romani women opt for the housewife survey choice instead of unemployed option, although many of them are not satisfied with this role (27%) but rather have accepted it as the only option (Tomova, 2008, as used by Hyuseinov, 2009, p. 218). Many Romani female children marry very young also as the only option left for them, perpetuating the poverty circle and cementing already assigned loser position of Romani women and their children (Mihova, 2009).

Participants of the study confirmed some of these statistical data. Four women reported being married at around 14-16 and living in and out of traditional or formal unions with their partners. Elopement is still practiced among some Roma and was recorded two times during the
study. Early marriages are seen as an escape from house work and babysitting in parents’ house:

“There were many siblings, and nobody to watch them, so I did not go to school…I married around 14-15 years of age…How wrong I was to think I was escaping from babysitting, without thinking that I would have children of my own…” (Eva, p. 8).

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The devastating post-1989 reality for some Roma has shocked many stakeholders inside and outside of Bulgaria. The new 1991 Bulgarian constitution, 1995 European Framework Convention for the Protection of National Minorities, the earlier mentioned 2004 PDA, and the Decade of Roma inclusion 2005-2015 (or Roma decade see details below) have all tried to mitigate the outcomes of the transition period.

Bulgarian adult learning and education (ALE) was envisioned to play important role in these plans, with Bulgarian government planning series of educational and training programs, practicum and apprenticeship to address Roma unemployment, including literacy courses for 4 500 adults and “courses for vocational qualification and entrepreneurship skills” (Ministry of Education and Science, 2008, p. 64). Also, to increase Roma employability, labor authorities have recruited Roma mediators to serve as a liaison between the Roma employees and the non-Roma employers and labor services. Success of these mediators also rely on the ALE. Finally, Roma integration programs, guided by the national Strategy for Integration of the Ethnic Minorities 2005-2015 and the national Program of Integration of the Roma 2010 - 2020 aimed at full literacy for adult Roma by the end of 2015 (Ministry of Education and Science, 2008, p. 57).

Decade of Roma Inclusion - 2005-2015 (The Roma Decade)

In 2005, in the capital of Bulgaria Sofia, the prime minister of Bulgaria Simeon Coburgotski (also Saxe-Coburg-Gotha, the former last king of Bulgaria, Simeon II) and the
prime ministers of seven more European countries signed a pledge to provide equal rights for Roma and devoted 2005-2015 to the Roma inclusion. The Roma Decade was initiated by then president of the World Bank James Wolfensohn and the chairman of the Open Society George Soros and was later joined by four additional countries. The Roma decade founders believed in the crucial role of education in the process of inclusion and established Roma Education Fund which focused on reducing the education gap between Roma and non-Roma through including Roma into the main educational system and creating Roma elite (Rorke, Matache, & Friedman, 2015). The Roma decade framed ethnic groups’ inclusion into the main culture primarily through formal education.

The Roma decade started with a lot of energy, optimism, but even in its second year it was reported to have little or no impact on adult education. It was reported overall negative impact on education of Roma in Bulgaria (REF, 2015), and at the end reportedly being mainly about organizing events and meetings and not addressing what the Roma really needed (Rorke et al., 2015, p. 35). Following the end of Roma decade funding, school educational desegregation process looks even more impossible. The Roma decade was emphasizing the importance of “development, partnership, social inclusion and societal cohesion” (Rorke et al., 2015, p. 9) without tackling the deep structural poverty, hatred and discrimination in individual countries and in Europe as a whole (Rorke et al., 2015). In the area of education, school segregation remains the biggest issue for Roma children and their families, and although education level of many Roma was improved, these numbers did not translate into lower unemployment rates and better employment opportunities for Roma (Rorke et al., 2015, p. 57).

From the beginning, the Roma decade framework was criticized for the lack of implementation of individual country constitutions and anti-discrimination legislation documents
of inclusion (Veselý, 2005). It was also noticed that education and housing without decent employment are unsustainable (Rorke et al., 2015). From the beginning, the Roma decade was seen as fragmented plan with sporadic initiatives without structural changes and critical evaluation of structural poverty and discrimination, and lacking support and understanding of changes within the Roma communities (Veselý, 2005).

Gender equality discussions adopted an overall Roma decade position to have gender as a cross-section approach to overarch the main priorities of the decade - “employment, education, health, and housing” (Rorke et al., 2015, p. 36). Without specific expectations and targeted goals, gender equality was left as a wishful consideration and became an ephemeral idea and abstract concept. Without a complex and critical analysis of what gender equality means for Romani women and how gender is embedded in all the other life priorities of Roma, throughout the decade gender equality remained unaddressed. While Roma feminists argued about the importance of gender equality among Roma, it somehow became separate issue and was seen as competing with the main goal of the Roma decade, i.e. the Roma human rights (Rorke et al., 2015, p. 40).

**Everyday and Informal Learning**

L. Cooper (2006) and Lave (2008, 2011) point out that even with a widespread interest and many publications, informal and everyday learning are often used interchangeably and remain without a clear definition. Schied (1993) calls informal learning “[o]ften temporary, sometimes haphazard, and often transitory” (p.7, when discussing radical adult education). According to Wedemeyer (1981), informal learning is independent of institutions, it is omnipresent, and it is non-restricted to specific time or place (pp. 20 - 29). It “results from daily life activities related to work, family or leisure, it is not structured and typically does not lead to
certification” (W. Wu et al., 2012, Table 3, p. 822). Being part of everyday life and occurring in most unexpected times and places, informal learning, and especially everyday learning has not been recognized (Merriam, Caffarella, & Baumgartner, 2007) or valued. It has been “taken for granted as simply day-to-day getting by” (Livingstone, 1999, p. 2) and kept at the backdoor (Jonathan Swift’s metaphor as used in Wedemeyer, 1981, p. 18).

Hill et al. (2007) cite important characteristics of non-traditional and informal learning such as being “unorganized, unsystematic and even unintentional at times” (Coombs & Ahmed’s, 1974, as cited in Hill et al., 2007, p. 277). Hager and Halliday (2009) provide additional characteristics of the informal learning at work:

1. Organic/holistic
2. Contextual
3. Activity- and experience-based
4. Arises in situations where learning is not the main aim
5. Activated by individual learners rather than by teachers/trainers
6. Often collaborative/collegial (Beckett & Hager 2002, as used on p. 30).

This list grounds learning to specific context, accounts for the historicity of adult learning as any other human activity, and helps to focus the research of informal learning.

Schugurensky (2000) on the other hand suggests three types of informal learning (not informal education, p. 2) and evaluates them against learner’s (group’s) intentionality and awareness (p. 3) as illustrated in Table 2-1 below:

<table>
<thead>
<tr>
<th>Form</th>
<th>Intentionality</th>
<th>Awareness (at the time of learning experience)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-directed</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Incidental</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>
The “huge submerged iceberg of informal learning” (Livingstone, 1999, p. 2), the informal learning of socialization (the 3rd form listed in the Table 2-1, above), is the “‘[t]hick’ tacit versions of personal knowledge” (Eraut, 1999, as cited in Livingstone, 1999, p. 2). Always unintentional and spontaneous with no awareness (“at the time of learning experience”, p. 3) and part of everyday practice, this learning is very hard to pin down thus hard to study empirically.

Recently, there have been attempts to formalize informal learning thus validating it. Examples of formalizing learning outside of institutions is manifested through granting academic credits for experience, internships, military service through Prior Learning Assessment Recognition (PLAR) programs. Through the “lifelong learning” and “knowledge society” discourse, more structured learning is expanding by adding non-formal activities, such as clubs and study groups (Livingstone, 1999, p. 2).

This movement towards a single form of learning, also discussed in the Problem statement of this dissertation (Chapter 1) favors formal transfer of knowledge as the most valuable type of learning, but the case against single type of learning has been brought for the following reasons. First of all, formal single learning model obscures the richness of learning in other contexts, separates learning from everyday practice, and ignores informal learning and its importance in identity formation (Hager & Halliday, 2009; Lave, 2008, 2011). Secondly, not paying attention to these practices ignores all the knowledge that has been produced by women and men, especially by women, in their unpaid everyday work, negates the local culture, and perpetuates the mundane and taken-for-granted position of women’s everyday work and the place of their community (after Schied, 1993).
Informal Learning with Technology

Technologies are built on socio-economic relations that are not always as “mutually supportive” as suggested by Sharples et al. (2005); these instruments are imperfect and even impede natural flow of learning, and as discussed below, in different context learning occurs in spite and around them. These three points are important in informing the study of informal learning with digital technology and are examined more critically as follows.

Technology is Built on Relations not Always “Mutually Supportive”

Nardi (2005) and Nardi, Whittaker, and Schwrz’s (2002) talk about the “new challenges that virtuality brings to the workplace” (Nardi et al., 2002, p. 209). In their studies, the authors observed that: “people are just as engaged in human struggles and enmeshed in their histories and intentions as ever” (p. 209). Even the word *intensional [sic]*, they wittingly use to describe networks [*sic*] and the tension and the work behind the networks which demystifies the usual rhetoric of virtuality. Through intensive interviews, they were able to unearth tremendous amount of work, commitment, and tension and the unnoticed informal personal formations behind any virtual team. The work, the commitment, and tension is negotiated, resolved, or ignored by the collective subject, but these notions are usually not discussed by the uncritical rhetoric of worry-free virtual world. As we are embracing the new technology, this type of literature calls for critical examination of technology as a mediating tool that can foster change but can easily replicate and re-enforce traditional settings.

Technology is Imperfect and Often Impedes Natural Flow of Learning

Technology is constantly changing and is often imperfect. For the job of a surveyor, for example, technology that the Australian participant in one of their studies (Hager & Halliday, 2009) uses has undergone drastic changes and is continuously under modifications. This
technology has imposed rejection of old knowledge and creation and negotiation of new learning where formal course learning quickly is outdated, and the surveyor is left with the alternative to mainly informally self-learn. Through trial-and error, “venturing into the software to try out what it can do” (p. 150), and problem solving on the job, the surveyor is part of an informal knowledge system with the characteristics of informal learning at work mentioned earlier. He also spends many additional unpaid hours, but he also talks over the problems in a software user group for which he is paid to participate. This learning is organic/holistic, grounded in the context of solving the concrete everyday problems in everyday surveyor’s job. This activity system is studied as it is organized in Australia; it is contextual, in the situations of everyday work, and not even considered learning (by the participant); it is initiated by the individual learners and often realized with colleagues. This particular learning represents the bottom-up innovation and technology alteration that address technology flaws but are rarely appreciated as such.

**Learning Occurs in Spite and Around Technology**

All these mentioned studies are interesting and useful. They do not, however, fully study the tacit learning with technology or learning that occurs in spite of it. Studies reported in Engeström (2001) and specifically the step by step sophisticated microanalysis offered in Sawchuk (2003b) uncover the tacit informal learning, the invisible, the part of the iceberg that is powerful but yet ignored (Livingstone, 1999, 2011; Schugurensky, 2000). This microanalysis starts at the operation level of an activity (as discussed in Leontiev, 1978) - grabbing, holding, and clicking the computer mouse with the goal to learn the merge function of word document (Sawchuk, 2003b, p. 77). The turn-taking in the conversation between two novice learners of this particular function is studied through conversation analysis (CA) in order to uncover the tacit
informal “tool mediated participation” (p. 77), knowledge creation, and learning which Sawchuk argues is possible without an expert, i.e. challenging Vygotsky’s (1978) zone of proximal development (ZPD) (as discussed on pp. 77-78). This microanalysis, however, is only a snapshot of the operational level of human activity the two learners are involved in. Without the macroanalysis and tracing of the motives of these operations, the research cannot unearth how and why these learners’ skills were defined as such in the first place (p. 79). This careful analysis of the informal learning of two unemployed men is very informative. It views the tacit informal learning as something in its own merit. It studies the creativity and hope of learning in spite of the pressure of the dominant cultural discourse and economics of outside powers.

In the second case study, the technology discussed is more complicated. Tools in this study are viewed not just “as tools of production (in this case, the production of accounting/purchasing records) but also as tools meant for the production of organizations themselves” (Sawchuk, 2003a, p. 80). The computer system Oracle discussed in the study produces purchasing orders (POs) but also reproduces the managerial control through the database where all the entries can be tracked, thus all work can be monitored. As designed, however, the Oracle system with the top-down mentality of its designers misses and could not have anticipated all the demands of the daily work of the local auto parts production in southern Ontario, Canada. As the system is used, contradictions occur between the local needs of the daily ordering procedures and the attempt to centralize and streamline the control within a multinational corporation, i.e. exposes “[t]he local-extralocal relations of production, a feature of globalized capitalism” (p. 85).

In solving these contradictions, the workers learned how to work around Oracle and have (80% of the time) the work done quickly and efficiently but manually by first entering the
required POs number and placing the order, and afterwards making sure all the other paper work matches the computer entry. This order of ordering is not, however, how it was initially planned. Implementing the computer system Oracle, as a designed tool with the idea to create a tighter control of POs, in fact has resulted in triggering unsanctioned type of learning with technology at work (pp. 88-95). Here again, to connect informal learning to the characteristics listed earlier (Hager & Halliday, 2009, p. 30) learning occurs in the activity and the context of daily work of this Canadian worker; it is not initiated by an expert but rather by the learner herself, and learning is not the main goal of the work situation.

This and the previous study are invaluable lens for a fresh look at informal adult learning. This lens does not only acknowledge informal learning and its place in the historical and economic conditions but also treats it as a valid expansive innovative knowledge parallel to the sanctioned system, working against and despite the power and the glitches of the latter. This informal learning adds two characteristics to Hager and Halliday’s (2009) list: parallel and legitimate. These studies, however, focus on informal learning during male and female participants’ paid work. For example, the female participant of Sawchuk’s (2003a) study is a good example of the informal learning of women at their paid work. There is, however, work that this and the other participants do and learn with technology at home and in the community, but this unpaid work and informal learning is not discussed in the studies. The female worker’s mobility options beyond the purchasing order clerk for over 15 years of her life has been also left untouched either for lack of interest or due to gender blindness.
Mobile Learning

Definitions

Based on what is important to different authors, there are different definitions of mobile learning (also mLearning, m-learning, and M-learning; this study uses mLearning, except for sic). For Park (2011), for example, it is important to conceptualize M-learning within distance education field and Moore’s (1997; 2007) transactional distance (TD) theory. Utilizing activity theory, the author uses activity as a unit of analysis and approaches mobile phones as mediating tools (mediation also compared between TD theory and CHAT by Kang and Gyorke, 2008). However, Park (2011) mistakenly analyzes actions rather than activities and continues the tradition of TD theory to look at the learners outside of their social context (also pointed out by Kang and Gyorke, 2008). Park (2011) proposes a four-type framework for classifying mobile learning studies - (a) high transactional distance and individualized m-learning, (b) low transactional distance and individualized m-learning, (c) high transactional distance and socialized m-learning, and (d) low transactional distance and socialized m-learning (socialized m-learning is defined as when students work in groups and their learning activities are supported by a mediating mobile technology, and transactional distances is referring to the different spaces between the learner and the instruction support, p. 89).

For other authors, mLearning is a continuation of e-learning (which at its part was a development of latest forms of distance education, Y. Wang, Wu, & H. Wang, 2009) delivering directly to the students using mobile devices regardless of time and space.

Kukulksa-Hulme and Traxler (2005) compare mobile learning to e-Learning and point out that delivery component or milieu (electronic or mobile devices) is as important as is the learning. The authors conceptualize mobile learning as “learning on the move” and learning as
an “impulse” and consider the importance of the mobile devices to provide the opportunity to check out formal learning materials (Kukulska-Hulme & Traxler, 2005, p. 31) as and when needed. Wu et al. (2012) offer an analysis of the mobile studies and conclude that these studies either focus on mobile device’s effectiveness or their different usage across fields. Mobile learning is also seen as a shift in who accesses and creates knowledge (Keskin & Metcalf, 2011).

Several authors acknowledge the potentials of mobile technology and explore models for conceptualizing the new type of learning - mobile learning (de Waard et al., 2011; Kearney et al., 2012; Kukulska-Hulme et al., 2011; Kukulska-Hulme & Traxler, 2005; Park, 2011; Sharples et al., 2005).

**Frameworks of mLearning**

In this section, the four constructs of mLearning mentioned in Chapter 1 “pedagogy, technological devices, context and social interactions” (Crompton, in press, reported by Crompton, 2014, p. 8) are juxtaposed with additional four frameworks of mLearning and technology theories: (a) the unified theory of acceptance and use of technology (UTAUT) (as adapted by Wang et al., 2009); (b) mLearning pedagogical framework (Kearney et al., 2012), (c) domestication of technology (Silverstone et al. 1992’s framework as used by Balasubramanian et al., 2010), and (d) integrated theory of mobile learning (Sharples et al., 2005). The juxtaposition is presented in Table 2-2.
Table 2-2. Five mLearning frameworks and technology theories.

<table>
<thead>
<tr>
<th>Mobile Learning (mLearning) 4 Constructs</th>
<th>Unified Theory of Acceptance and Use of Technology (UTAUT) 5 Determinants</th>
<th>Mobile Learning Pedagogical Framework 3 Characteristics and 6 Subscales (with Spatial and Temporal Considerations)</th>
<th>Domestication of Technology 4 Elements</th>
<th>Integrated Theory of Mobile Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedagogy</td>
<td></td>
<td></td>
<td>Appropiation</td>
<td>Learning Mediating Technology</td>
</tr>
<tr>
<td>Technological Devices</td>
<td>PE*, EE**</td>
<td></td>
<td></td>
<td>Availability Portability Adaptability</td>
</tr>
<tr>
<td></td>
<td>PP***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SL****</td>
<td></td>
<td>Personalization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context</td>
<td></td>
<td>Authentication</td>
<td>Incorporation</td>
<td>Learners and Others Construct Meaning in Conversations in Context</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contextualisation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Situatedness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Interactions</td>
<td>SI*****</td>
<td>Collaboration</td>
<td>Conversion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conversation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data Sharing</td>
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</tbody>
</table>

*PE (performance expectancy) - how mLearning is expected to contribute to job completion and value adding.

**EE (effort expectancy) - how easy is mLearning expected to be.

***PP (perceived playfulness) - how fun the mLearning is perceived to be.

****SL (self-management of learning) - how autonomous one is in managing own learning.

*****SI (social influence) - how important is to be seen by close friends, family, bosses as using this technology or be engaged in mLearning.

The table is organized from left to right, starting with the mLearning’s four constructs. Following to the right are the rest of the frameworks and their constructs or elements in the corresponding columns. The rows across have been filled to best match the four mLearning constructs. Since Pedagogy construct is not explicitly discussed in the additional four models and theories but is built into the Mobile learning pedagogical framework, the row across for the latter is expanded.
but left blank for all. Some other boxes are left blank if no corresponding dimension is explicitly present in the mLearning framework or technology theories. For example, technological devices construct is present in all but one of the table components, so the boxes are filled with concepts or dimensions for all but left blank for Mobile learning pedagogical framework. When juxtaposed with the chosen four mLearning frameworks and technology theories, the four constructs correspond to the majority of their concepts, but social interactions is present across all the table components. This suggests the social construct is considered across theories and frameworks as important part of mLearning.

Examples of the five table elements and their dimensions are discussed below starting with the unified theory of acceptance and use of technology (UTAUT). Applying UTAUT, Wang et al. (2009) conceptualized five determinants of m-learning [sic] acceptance behavior: “performance expectancy (PE), effort expectancy (EE), social influence (SI), perceived playfulness (PP) and self-management of learning (SL)” (as adapted from Venkatesh, Morris, Davis and Davis’s, 2003 model, Wang et al. 2009, p. 96), with gender and age playing moderating effects on the majority of these determinants. The study fails to support the original hypothesis that men are more likely to be in control of their learning, which seems to be pointing to a trend of women becoming more autonomous learners which is influencing their m-learning decisions. When the UTAUT model was applied, there was also no significant effect of the social influence (SI) determinant for women compared to men. SI refers to the effect of what close family, friends, coworkers, and bosses think about our information technology (IT) behavior. In previous research studying overall intentions to use IT, social influence was reported higher for women than for men (as discussed in Wang et al., 2009, pp. 112-113). Both of these reversed findings point to a possible change in technology acceptance rates among
women, suggesting that mobile learning might be breaking the established technology attitudes and gender stereotypes.

The second framework follows the socio-cultural tradition of learning and tools, summarized by Kearney et al. (2012):

[…] learning is affected and modified by the tools used for learning, and that reciprocally the learning tools are modified by the ways that they are used for learning. Central to our position here is the notion that learning is a situated, social endeavour, facilitated and developed through social interactions and conversations between people (Vygotsky 1978), and mediated through tool use (Wertsch 1991). (p. 1)

Mobile learning’s three distinctive characteristics - personalisation[sic], authenticity, collaboration are proposed by Kearney et al.’s (2012) pedagogical framework. The one characteristic of m-learning relevant to this study is the personalisation since mobile phones provide some opportunities to use them independently and to also take some control of when and how one uses them and for what purposes.

The third framework, summarized by Balasubramanian et al. (2010, p. 196) is Silverstone et al.’s (1992) domestication of technology framework with its four elements: appropriation, objectification, incorporation, and conversion. Balasubramanian et al. (2010) use this framework to look not only at technology ownership (appropriation) but also at its use within the household economy and at its ability to change power relations not only within the household (objectification and incorporation) but outside of it as well - in the public sphere and economy, through conveying and maintaining a household image (conversion). In their project, authors recognize outsider’s imposition of the phones used in their study onto existing social formation
but emphasize phone’s potential for social change when combined with already existing collective agency.

The fourth element is the integrated theory of mobile learning. Kukulska-Hulme and Traxler (2005) list several attributes of M-learning - “spontaneous, personal, informal, contextual, portable, ubiquitous (available everywhere) and pervasive (so integrated with daily activities that it is hardly noticed)” (p. 2). Kukulska-Hulme et al. (2011) use several European Union (EU) projects and claim that their shift in focus “towards socio-technical support for the mobility of learners led to a more expansive framework for mobile learning and a set of innovative projects across a wide range of physical, institutional and social settings” (p. 152). The five EU projects were HandLeR, MOBILearn, M-Learning, and two 2011 Leonardo da Vinci Programme funded projects.

Kukulska-Hulme et al. (2011) propose to study two layers of mediation and their dynamics in the cultural historical activity theory (CHAT) - semiotic tools (cultural symbols) and technological tools (such as mobile devices), and learning (or the “process of coming to know”, p. 1). Based on these layers, learning can be understood as mediated either through language - when somebody more knowledgeable on a specific topic passes the knowledge to the learners by telling (mediated through language) them what and how, or through “engagement with technology” (p. 1). The location, the learning spaces can be created anywhere or on the go, as would be the case of learning something with a friend with or without a mobile phone as we travel. Studying the interactions between these layers, Sharples et al. (2005) suggest changes in Engeström’s (2007) CHAT model for the technological layer, leaving almost intact rules, community, and division of labor for the semiotic layer only. These changes are respectively - control, context, and communication. It is not clear from this model per se (Lonsdale, Baber,
Sharples, and Arvanitis, 2004, are cited to go in further details; the context discussion see below) how these additions move CHAT forward. In contrary, these substitutions and artificial division between tool layers may lead to mechanical separation of the context into physical context and community and might lead to leaving community out when conceptualizing mobile learning spaces.

The conclusion of Sharples et al.’s (2005) study is that M-Learning accounts for the mobility of the learner and of the learning. Authors consider it a distinct learning, occurring in “the mobile age” (p.1) and claim that theorizing about M-Learning complements traditional learning theories, especially informal learning - learning across time and space and beyond the traditional formal learning that is designed and expected to take place with classrooms activities led by experts. They discuss a study where participants report incidents of learning at home or at work (the majority of learning - 51%), and at many other places: “outdoors (5%), in a friend’s house (2%), or at places of leisure (6%)” (Vavoula’s 2005 study as used in Sharples et al., 2005, p. 2). Authors conclude that the learner is moving from one setting to another, which confirms Wedemeyer’s (1981) belief that learning is where the learner is but adds an important component to it - the presence of personal portable technology during everyday learning activities (p. 5), however, their examples of mLearning were primarily of formal type of learning.

According to Lonsdale et al. (2004), “[c]ontext awareness is a highly desirable feature for mobile computing devices” (p. 79). Authors provide examples of a subsystem that can serve the needs of the learners on the go by facilitating their interaction with the physical reality through narrowing and delivering not only the content but also services and additional options for further exploring. In their own words, the study is exploring “mobile technology application to informal, problem-based and work place learning […] to provide relevant and timely learning content and
services” (p. 79). The idea to meet learner’s needs and build an open system that allows for the learner to change is plausible, but again, it fits more the traditional understanding of learning as delivering formal content (or knowledge) to the informal personal space.

This literature review aimed to reach two goals. First goal was to introduce the complexity of Roma communities and the status of Romani women in Bulgaria as shaped by past and current economic, political, and cultural developments. The second goal was to outline and critique the main informal and mobile learning studies on which this research was built.

Chapters 1 and 2 focused on the complicated nature and fluidity of informal learning and how this learning, especially Romani women’s informal work and informal mobile learning, is ignored. The following chapter introduces two frameworks - cultural-historical activity theory and technofeminism, that were found most fitting to approach Romani women’s informal learning, to uncover and appreciate it.
CHAPTER 3. THEORETICAL FRAMEWORKS

This study used a combination of two theoretical frameworks, Cultural-historical activity theory (CHAT) and Technofeminism, to approach Romani women’s informal learning. This chapter outlines the two theoretical frameworks. It starts with the introduction of CHAT and its three generations, touches on the most relevant aspects of CHAT to this study, and concludes with introducing constructivist technofeminism and its study relevance. This chapter also covers some of the translation and interpretation issues of the original Vygotsky and colleagues’ ideas of mediation and development.

Cultural-Historical Activity Theory (CHAT)

The current generation of CHAT is a complex lens for studying and understanding adult learning. With its capacity to account for various relations, multiple voices, tensions, culture and history of a given learning context, CHAT has been used in settings of adult learning (Sawchuk, 2003a, 2003b, 2006), health care (R. Engeström, 2009; Engeström, 2001), human-computer interaction (Kaptelinin & Nardi, 2006), second language acquisition (Lantolf & Genung, 2002).

CHAT and its seven main dimensions of a human activity (included in CHAT’s triangles and the associated diagrams, Engeström, 2001; Sawchuk, 2006) - the subject, mediating tools (instruments and signs), community, rules, division of labor, object and outcomes - provide a theoretical lens to engage with and reveal the complexity of everyday. Similar to Lave’s (2008) framework of everyday learning as part of the legitimate knowledge production process and addressing the ontological question, i.e. what it means to be a human, CHAT pays attention not only to formalized and conscious but to informal and tacit learning as well (Lord, 2009).

To address the informal usage of mobile phones in everyday life and learning, the study uses CHAT and its conceptualization of mediating tools in activity systems to frame the informal
use of mobile phones. The concept of mediating tools is the core of CHAT since humans always interact with objective reality through tools (instruments, signs) to intentionally alter it (Vygotsky, 1934/2005).

CHAT’s multivocedness was an especially useful concept for this study. Since CHAT allows multiple centers of an activity (Lord, 2009; Sawchuk, 2006), analyzing Romani women’s position in the center of their own activities was possible. Once Romani women took the center of their own activity systems, they were not in the constructed position away from the central position, and labels such as marginalized often used to characterize Roma communities became irrelevant and outdated.

**First Generation of CHAT**

Vygotsky and colleagues’ conceptualization of mediation and relations is considered the center of CHAT’s first generation. Vygotsky worked in the years following the 1917 Russian revolution, an extreme period of social changes and personal endurance through tuberculosis bouts (Gielen & Jeshmaridian, 1999). During this intense period of the last ten years of his life, Vygotsky challenged the classical picture of human development by approaching it both theoretically and experimentally. Participating in social activities of the new time, writing intensively, and collaborating with colleagues and friends, Vygotsky himself went through changes. His ideas also changed and, at the end of this period, developed into a completely new theory (Veresov, 2010).

This theory was outlined in a three-step process. The outline of Vygotsky’s work could not have been simpler, and at the same time, it has been misinterpreted and “still […] very poorly used”: “first, collective activity, then culture, the ideal, sign or symbol, and finally, individual consciousness” (Davydov, 1995, p. 16).
Vygotsky’s detailed account behind the outline unveils his concept of mediation as a complex world of interactions and relations at many levels beyond the three simple steps. Through working on the idea of mediation, Vygotsky (1934) introduced dialectical materialism to psychology, the base for sociocultural psychology and CHAT. How exactly Vygotsky’s idea about mediation works can be fully understood only through dialectical materialism.

![Diagram of Tools and signs](Figure 3-1. Vygotsky’s original idea of mediation (1934/2005)).

He looked at the physical object of the real world (S- stimulus in Figure 3-1 above) and at the human perception (R- response) and introduced the concept of mediation (Tools and signs) - a way to explain how human mind connects the two beyond mystics and metaphysics. Using analysis that breaks down the whole, the human thought in this case, not to its separate elements - words, sentences, symbols, as traditionally we would try to part it to the smallest components - but to one unit of the whole, Vygotsky introduced the mediating meaning, generalization - or concept - which is a common unit of all words that represent a specific reality. This concept does not come from a thought but rather from the needs, motives, i.e. the affective rationale and explanation. He uses the metaphor of the heavy with rain cloud (the thought), the rain (the words), and the wind that directs the cloud (the inner need and motivation) to explain the relations between the three (Vygotsky, 1934, p. 314). The unity between the three is not random but dialectical and concrete, maintained through dialectical relations, meaning none can be
dropped, and the whole is a brand new formation. Vygotsky also brings Stanislavsky’s interpretation of a character’s role in a play, the subtext, the desire behind each line (p. 314) and the unity without which the play is dead.

Back to the outline, what is the role of culture in mediation process? In their early experimental work, Vygotsky and colleagues observed children forming their own cultural signs within collective activity (Luria, 1928/1994) and concluded that the meaning is manifested in the words and other cultural signs we use, thus studying language signs can help us understand how historically the mediating concepts have changed. However, the meaning is personal. The generalizations are built on the culture but are conceptualized in the everyday life of each individual, thus comes the last part of Vygotsky’s outline - through individual consciousness. Again, the three smilingly simple steps of the outline are connected dialectically.

Understanding sign formation in early child development is also crucial for understanding Vygotsky and his generation of CHAT. Children come to realize that a word can be used as a symbol to represent a material object that is not physically available to them, but this realization happens not as a result of a habit nor as a creation or discovery but rather as multiple stages of their development. Vygotsky and his colleagues conducted a series of lab experiments which led them to assert that for very young children (3-4 year-olds) words overlap with the function of the material objects they are naming. The “floor”/“glass” example – the stages from the concrete to a “higher” culturally formed behavior. “Higher”, however, does not imply hierarchical structure but unity, and unity does not mean that these functions are the same (Vygotsky, 1934/2005, p. 1120).

In their work on psychological functions, Vygotsky and his colleagues discover the unity of these activities, concrete and abstract, and contribute to resolving the dualism problem in
scientific methodology. It is not either or, higher or lower, but the constant interactions between, is what defines human consciousness. Concrete activities, on which everyday and concrete informal learning is based on, is no longer lower and unimportant, but exceptionally important for them. However, in both the Soviet times and later in the Western translations and interpretations, the linear hierarchical interpretation remain prominent as supporting human development from lower, practical and informal to higher, abstract and formal education and learning, modern approach to development Vygotsky did not support.

From the discussion on mediation and Vygotsky’s idea about human mind and development, Veresov (2010) summarizes that “the social world and social relations for Vygotsky are the origin of mind and of development; they can influence but never define the development”. There is nothing disconnected in Vygotsky’s work. There is nothing mystical about the individual consciousness either since meaning originates from the concreteness of human activities in the social world and is constructed and influenced by them; then the meaning is reconstructed individually at a different level, a dialectical move of creating meaning that is grounded and sweated and still new.

The idea of motives, reflecting “desires, needs, interests and affections, and emotions” - dynamic relations with endless possibilities which unfold during “the transition from motivation to thinking, to inner speech”, showing that in the formed thought, reality is different than through senses; the same goes for the word since the word reflects a generalized image of the reality (Vygotsky, 1934, p. 318).

Vygostky’s genius was to realize that the structures of mental functions could not be studied directly in the human brain and suggested to study how they have come to exist at the
form under investigation, i.e. to study them outside the brain, in the concrete culture they have been formed (Veresov, 2010).

Another concept, closely related to the relationship concept, is the concept of connection between thinking and affection which if disrupted, results in detachment of “the thinking from the fullness of real life (literally alive life), from the motivations, interests, affections of the thinking humans […]” (Vygotsky, 1934, p. 14). Connection between thinking and affection is maintained in the analysis of Vygotsky and his team through approaching ideas as a:

[…] relation of the individual to the reality, as expressed in that idea. [This analysis] allows to uncover directionality of the move from the need and motivation of the human towards the given/known direction of his/her thinking and the reverse movement from the dynamics of thinking towards the dynamics of the behavior and concrete activity of the individual. (p. 14)

**Second Generation of CHAT**

Using the same mediating mechanism, Leontiev (1975, 1978) and colleagues work on a theoretical framework that is considered CHAT’s second generation. They also introduced dialectical materialism to psychology, but their school of thought conceptualized activity to be the medium and the unit of CHAT analysis (Figure 3-2). Activity is never outside of the social; it is always embedded in the social relations and oriented by the object. Although Leontiev expresses graphically Subject→Activity→Object as linear transitions, he discusses these transitions as “circular movement” (p. 78). Leontiev and colleagues’ sociocultural idea of object both explains the connection between subject and the objective world and moves dialectical materialism away from the structural determinism.
Step by step, Leontiev (1975) analyzes activity formation the same way Vygotsky analyzes meaning. Away from abstraction and mystification, he strips it down to biological needs and emotions and back to the human activity through which they are objectified (pp. 33-36). Motive behind any human activity can be both material and ideal but is never abstract. If an activity seems “nonmotivated” (Leontiev, 1978, p. 62), this can mean only one thing - that the motive is hidden. The motive answers a particular need, Leontiev (1978) continues, but the relationship between the motive and need is not random either - a need is objectified, i.e. it meets a purpose, and an object is formed that orients the activity (p. 33). Goal formation for Leontiev is not an arbitrary act either but a long process that follows the logic of the main motive of the activity (Leontiev, 1978, p. 65), after the object of the activity has formed its purpose, i.e. the purpose has been objectified. Thus, the object has the potential to act as a powerful force in forming the purposes of an activity. However, the formation represents an area of possible purposes behind the object.
Subjective isolation of the goals of the separate individual actions, down to the tasks and operations is a completely different field, and the potentials behind it had been insufficiently studied Leontiev admits in 1975 (for examples of in-depth studies since then, see Sawchuk, 2003a, 2003b). Interconnection of operations (even when performed by a machine, since the machine is following subject’s goal driven action, for example, solving a math problem using a calculator, the calculators is performing operations for the individual), actions and activity remain always present in this discussion (thus the double arrows in Figure 3-3 above).

Similarly to Vygotsky, Leontiev (1978) conceptualizes activity as a dialectical whole. The relations within an activity system are concrete and dialectical. The system is fluid, and the whole is not a simple summary of the different elements. In a collective activity (which according to Leontiev, 1978, who follows Marx’s position on object and activity is always collective in the collective societies) the individual’s need is fulfilled a part resulting from the collective object. Who ‘receives’ what part of the product of this collective object is determined by the social relations between individuals and are established through the activity process (discussion on pp. 63 - 64). Once this is determined, the object orients the activity, and cogs-
workers and society of cogs move (cogs as used in Davydov, 1998). Here, individual’s conscious forming is explained as influenced by relations of individuals in the world of material production, by individual’s “place in society” (Leontiev, 1978, p. 51). This is an important theoretical discussion; however, Leontiev (1978) seems to ignore the space of individual consciousness formation that Vygotsky emphasizes.

Relations realized through the “units” of a human activity are the main focus of analysis in the theory formulated by Leontiev. Without the connection of a tool to a particular goal, it becomes an abstraction or words break down into its elements with no meaning to hold them together, like the example Leontiev (1978) uses for words copied by inexperienced hand (p. 67). But these internal relations can be only studied in their fluidity and transformation since one can transform and serve as another; for example, an action can become a stimulus and motivate another whole activity, in the unity of external and internal forms of the activity through the process of interiorization and exteriorization (p. 68). Studying these operations cannot be isolated from the sensory functions but are “subject to relations that are extracelebral, i.e. to external object oriented relations” (p. 73). How the extracerebral relations transition to intracerebral (and vice versa) cannot be done directly (as also suggested by Vygotsky); they cannot be compared directly either. “Its resolution lies in the analysis of the working of the system of objective activity as a whole in which is also included the functioning of the physical subject - his brain, his organs of perception and movement” (p. 74).

Reasons for Simplifying CHAT. Translation Issues

It is not surprising that often simplified versions of CHAT have been used and misused. This can be explained by at least two reasons. First of all, both Vygotsky and Leontiev introduce dialectical materialism to psychology. Out of dialectical materialism tradition, their work is hard
to understand, and often is interpreted using the old tradition of dualism between the structure and individual or the circular dialectics where one shapes and is shaped by the other, where the traditional analysis becomes a quest for ingredients of a system.

Mediation and activity discussion is additionally complicated by the issues of the Russian-English translation, especially of Leontiev’s work. For example, for one of the main concepts *object* Leontiev uses three words. All three words are translated as *object* in English, and reading the English text becomes a really messy endeavor. For example, (Leontiev, 1978, p. 53) the word *object* is used to mean the material world, the *object* of an activity, and *object*, the ideal psychological representation, i.e. meaning of the object through activity. To avoid this problem, I suggest to mark one *object* in lower case *o*, to mean the physical objective world and the other to be written in upper case *O* to mean the representation, the meaning of the object. Object of the activity can be bold, for example. The *Os* can also be color-coded or numbered. This way, the dialectical relations within the activity will be easier to grasp. If we talk about the material *object*, then we are discussing the activity system at the level of desire which is not objectified yet, something concrete but without the operation level and the motives yet.

When discussing *sensuality/feelings*, Leontiev (1975, 1978) following Marx conceptualizes it as a human activity. The word is, however, translated to English in the same paragraph once as *sensitivity* and once as *sensory* human activity (p. 45). This translation is misrepresenting the point Leontiev is making about human activity since *sensitivity* and *sensory* are physical behaviors in the realm of physical reflexes which are following the classic non-mediated direct impact S \( \rightarrow \) R formula in which S represents the stimulus, and R stands for response. This formula imposes the outside reality upon the individual. Even when the “cultural stimulus” are introduced as intermediate (Leontiev, 1978, p. 48), culture and signs are isolated
from human activities, and this translation maintains the direct impact, resulting in “cultural
determination” (Leontiev, 1978, p. 47) which both Vygotsky (1934) and Leontiev (1975)
vigorously rejected in their works.

Some of these translation issues have been long discussed and dealt with in the literature,
such as “education”, object”, “activity” (Cole, 2009). Some issues have been also pointed out by
Veresov (2010). For example, simple mistranslation of a word “reconstruction” as “structure” of
higher mental function can shift the focus of an investigation (Veresov, 2010).

Russian-English mistranslations and omitted work continue to be used uncritically and
further reinforce misconceptions. Misconceptions and mistranslations that lead to the individual-
social structure dualism where relations are abstracted and hidden, and even in the discussions of
the dialectical interactions of the two (Engeström, 2001) social worlds continue to be treated as
factors of development rather than simple source of development (a structuralist argument
foreign to Vygotskian idea of development and individual creativity). This is important because
in the nitty-gritty of human development (Vygotsky, 1934; Luria, 1928/1994) and the
functionality of creativity, relations at many levels are unearthed and become visible.

Also, the seminal manuscript written by Vygotsky and Luria Tool and sign (1930-1933
estimated publication, Yasnitsky, 2012a, b) is laden with mystery. Published as “Tool and
symbol in child development” in Mind in society (1978) (also “Tool and sign in the development
of the child” in The essential Vygotsky, 2004) and back-translated and published in Russian in
1984 both under Vygotsky’s single authorship (Stetsenko, 2004; van der Veer, 2012; Yasnitsky,
2012a, b), it remains an open opportunity for critiquing and developing the idea of mediating
tools and signs.
Furthermore, “the motivating factors” - the needs, and desires (the likes) are listed as equals in the list and not as needs and desires determining and motivating the individual (p. 47). There is no translation issue in the discussion about “intervening variables” (Tolman et al., as cited in Leontiev, 1975, p. 76; 1978, p. 47) and internal conditions, but the dualism and how these conditions are contrasted to the activity and the outside reality were contested by Vygotsky’s and Leontiev’s experimental and theoretical work.

**Third Generation of CHAT**

Engeström (2001) further develops CHAT into what is considered to be CHAT’s third generation. He theorizes about “interrelations between the individual subject and his or her community” (pp. 134-135). This generation of CHAT adds several new points to already known triangles and develops a network of activity systems where objects 1 and 2 overlap to create a shared object (Figure 3-4 below). This generation of CHAT studies contradictions as elaborated by Engeström (2001) and Lord (2009). Both of these features of the current CHAT were used in the analysis for this dissertation, especially when two of the Romani women’s activity systems were identified during the analysis.
Recently Rückriem (2009) discusses the theoretical idea of the digital, especially Web 2.0 technology as a “collective brain” (p. 108) emotionless and free global systems - a technon- utopian position that supports activity system in the sphere of “Cybernetics myths” (how Leontiev would have called it in 1975). These object oriented activity, relations, and interrelations become too abstract. They refer to the activity system and “its network relations to other activity systems” (Engeström, 2001, p. 136) as “somewhat bloodless” (Nardi, 2005, p. 41) as if the faceless activity networks themselves enter neutral abstract relations.

Concerning technology, Web 2.0 is a special case of digital medium, and its concept, in fact, is underdeveloped. Since mobile phones provide opportunities to access Web 2.0, this under conceptualization, also discussed in Y. Engeström (2009), indirectly related to this study. Rückriem (2009) is right to show his dissatisfaction with categorizing Web 2.0 networks as simply tools (p. 91). However, to call the “lateral world systems” (after Willke, 2001, as used in Rückriem, 2009, p. 91) of finance and trade automated and separated from the subject, goal, and motive is naïve. This categorization is part of the technological determinism (similar to other...
types of determinism) world view that overemphasizes the importance of technology in our lives (Chandler, 1995/2000) also critiqued in this sense in Y. Engeström (2009) since this claim will imply that “media […] determine the nature and possibilities of human activity. This means that the object of activity is of second importance. Here I disagree with Rückriem. I see his insistence on the decisive role of media as a particular form of technological determinism” (p. 310). Digital medium data of his study will be contributing to the discussion of this underdeveloped topic.

Technofeminism

CHAT does not explicitly address gender, thus to theorize about the complex gender relations behind mobile phone usage, technofeminism was used as an additional theoretical framework. This section consists of two parts: in the first part, I introduce technology question in feminism with its two traditional solutions mainly focusing on women’s participation and women’s contributions; in the second part, I introduce constructivist technofeminism and discuss the gendered web of technology usage and its three elements: (a) material, (d) discursive, and (c) social elements (Wajcman, 2007) as they relate to this study.

Technology Question in Feminism

Feminists and technofeminists question women’s lower numbers in decision making positions (as reported World Economic Forum, 2015), women’s underrepresentation in ICT professions (Wajcman, 2007), and low numbers in ICT courses (Valenduc, 2011). They point out that the obvious absence of women from the scientific fields and technological innovation and Industrial revolution has influenced “the design, technical content and use of artefacts [sic]” Wajcman, 2007, p. 293). Since ICT professions influence “work organisation and the organisation [sic] of economy and society” (Valenduc, 2011, p. 497), feminists and technofeminists argue, if primarily male politicians and male ICT specialists plan and design a
society, women’s issues will be approached as an afterthought and will be solved through male lenses.

One of the solutions to the low numbers of women in these fields and professions is to encourage and support more women as science and ICT representatives. This position is of the women-in-technology research which is a non-constructivist view of the relationship between women and technology (Lohan & Faulkner, 2004). However, digging out the contributions of women in the sciences and technology and adding them to the pantheon of genius scientific contributors has been a necessary but insufficient step to address and value of women’s overall participation in human societies (Harding, 1986; Lohan & Faulkner, 2004; Wajcman, 2004).

**Constructivist Technofeminism**

Current constructivist technofeminism development of technofeminism looks beyond numbers of women representations and women contributions and unmasks the reasons for disregarding women’s contributions all together. It analyses the invisible gendered web that is “involving material, discursive and social elements” (Wajcman, 2007, p. 294) and approaches the three elements as being socially constructed.

First of all, history shows that material elements shaping women’s technological involvement are tied to the existence of 19th century property right laws preventing women from independently possessing anything. For example, only in 1883 English women could independently own personal property (Wajcman, 1991). Historically, this lack of funding and property simply had made owning tools and patenting an invention virtually impossible for women, thus many women’s patents were either filed under husbands’ names or under the name of the funder, especially prior 1700 (MacLeod, 1987, as discussed by Wajcman, 1991, “Hidden from History”, para. 2).
Secondly, discursive elements are twined into the gendered web. When carefully examined, the dominant discourse about important and glorified technology emerges as imbued with traditional patriarchic stereotypes and masculine values of machines and technologies being tough, objective, in control (Kennedy et al., 2003; Lohan & Faulkner, 2004; Wajcman, 1991).

Lastly, technofeminism points out that social elements concern with socialization of women which is directed towards acting a certain feminine way and using particular set of tools and technologies. Predetermined behavior is prescribed even around the newest technology such as the Internet, perceived to be too dangerous and hostile for women (Kennedy et al., 2003). As a result, socialization supports the dominant discourse and technological behavior and reproduces the existing status quo.

The dominant definition of technology has shifted towards male bias by excluding inventions created through traditional female activities such as cooking and child rearing. For example, ignoring women’s inventions such as first baby pacifier as a clean cloth dipped in honey (own example) and baby bottle (Ruth Schwartz Cowan’s example used by Wajcman, 1991, “Hidden from History”, para. 5) creates a notion that contributes to “the stereotype of women as technologically ignorant and incapable” (Wajcman, 1991, “Technology as Masculine Culture”, para. 2).

In this study, all elements of the gendered web are relevant, but the exclusion of everyday inventions closely relates to the dominant understanding of women’s everyday life and their informal learning. Many women-driven inventions and innovations remain unnoticed, technofeminism points out. As is the case with everyday learning discussed by Lave (2008, 2011) and informal contributions as a whole, informal technology invented or improved by
women to serve their everyday needs and to help them in their unpaid work is not glamorous and sophisticated enough, thus is treated as unimportant and left out of the books.

For the study’s purposes, mobile phones were conceptualized as technology consisting of both knowledge (know-how) of how to use them, what women use them for, and the ‘hardware’ (Wajcman, 1991, “From Science to Technology”, para. 8), the mobile phone itself, its production, as well. Viewed this way, mobile phones are complex artifacts. Similarly to the complex concept of gender, mobile phones and their usage are fluid and socially constructed and can be reconstructed. This view of constructivist technofeminism sharpened the focus of CHAT on women’s everyday activities by adding special attention on the gendered web of mobile technology usage.
CHAPTER 4. RESEARCH DESIGN

This chapter discusses the study’s design. I begin with the rationale for using constructivist grounded theory and the need for adding the feminist approach to interviewing and knowledge creation. Following this introduction, I describe data collection phases and the evolution of this study from a grounded theory with a simple data collection technique such as participant observation (PO) towards a participatory and grounded theory ethnography with elements of participatory action research (PAR) and action research approach (ARA). This chapter also includes details about pilot testing and translation considerations that were part of data validation process.

Constructivist Grounded Theory with a Feminist Perspective


As a methodological approach, constructivist version of grounded theory treats research as a continuous process of data collection, analyses, and reflexivity and best fitted the qualitative study design envisioned as “iterative, interactive and non-linear” (Baptiste, 2007, para. 3). Being inductive (Butler-Kisber, 2010) without imposing hypothesis for verification, grounded theory with a feminist focus allows to learn “about gaps and holes in [the] data from the earlier stages of research” (Charmaz, 2006, p. 48) and provided an open methodological window to what Romani women’s reality was and how they used their phones in everyday settings.
Supporting open and true to the data research does not mean the research is free of theoretical and philosophical meaning. Actually, bringing own philosophical and ideological stances to the study is typical for the earlier research phase, where a researcher is “defining the analysis” (Baptiste, 2007). Grounded theory deals with this seemingly contradicting approach through its theoretical sensitivity concept (as discussed in Hallberg, 2006, p. 144). Theoretical sensitivity entails being informed about the issues of Roma formal and informal and everyday learning and actively interpreting data, hypothesizing with the data, and forming a theory. This sensitivity, however, might have carried negative effect, had I been committed to an already formed opinion. For example, since I was interested in questioning formal schooling as the main way of Roma inclusion (Flecha, 1999; Ministry of Education and Science, 2008; Oliver, Soler & Flecha, 2009), I could have been tempted to impose this interest on the study, to look and guide the “evidence” to support it, as if Roma did not consider formal learning as the best idea for their inclusion and development.

Instead, I relied on reflexivity (Harding, 1986; Brooks & Hesse-Biber, 2007) and built it into the research through keeping research notes, analyzing, and reprobing (Hallberg, 2006). My notes and dissertation drafts reflected my perception of what was occurring prior the study and as the study unfolded. At this phase, constructivist grounded theory challenged and tested my preconceived concepts.

Also at this early phase, several epistemological decisions were made about the differences between knowledge and data, what constituted knowledge, who created it, and how it was used. Constructivist grounded theory uses somewhat outdated vocabulary in this regard, *probing/reprobing* and *sampling*, conceptualizing collected texts as something to be extracted from a gold mine or gathered as specimen, respectively, thus I have chosen to avoid the former
but used latter to mean collecting data. I also used *sampling* and *collecting data* interchangeably. In the later version of this dissertation, I chose to rethink using *collecting*, as well, and substituted it where possible with *text/knowledge creation*. The rest of the grounded theory dictionary - *participants, experiences, backgrounds* I used unchanged to serve as concepts for recording the knowledge Roma and I created as we informally interacted during this study; *data* is used as shorthand to mean created knowledge and text as mentioned above.

**Adding a Feminism Perspective**

In this sense of knowledge creation, constructivist grounded theory aligns with the science question in feminism. The science question in feminism is about knowledge creation that challenges established object-subject separation and objective knowledge and offers feminist situated knowledge (Harding, 1986, 2011; Haraway, 2007), knowledge that is partial, and always fluid and open. Along with critical reflexivity of my position, partial knowledge allowed me to shift my focus and look from “below” (Haraway, 2007) without romanticizing or appropriating Romani women’s voices or treating these voices as “innocent” (p. 117), but rather with understanding that Romani women’s positions, needs, and their politics are fluid and my view from “below” is constructed and also partial.

Feminists have embraced grounded theory for its strengths to ask new questions, looking into different types of relations, bringing women’s experiences in the center of feminist enquiry (Hesse-Biber, 2012). Both grounded theory and feminist theorists move beyond describing and into how the described functions and works because what one sees on the surface is not enough to understand the complex social world.
Feminist Approach to Interviewing

Overall, our interactions followed a format of an “encounter of women of common interest, who would share knowledge” (DeVault & Gross, 2007, p. 178). As a woman, I connected at many levels with these women but also was disconnected and blind at many other levels. When taking part in informal conversations, Romani women and I were better positioned to negotiate and construct a common meaning (Brooks & Hesse-Biber, 2007) which helped me frame my position as a researcher co-constructing the meaning.

Design

The complexity of the study required a combination of data and text-collection approaches and techniques. As illustrated in Figure 4-1 below, this was a participatory and grounded theory ethnography with elements of participatory action research (PAR) and action research approach (ARA).

Figure 4-1. Study design.
Grounded theory ethnography is different from ethnography since it is not simply interested in describing the culture and its settings but rather engages in what is unfolding in a particular setting at a particular time and conceptualizes about these happenings (Charmaz, 2006, 2014). With PAR and ARA elements, this grounded theory ethnography became participatory, i.e. some study participants and I became involved in actions that were envisioned to bring change to the Roma community. Although I continue to be involved (as of end of 2016) in working with Romani women group on different projects, this study did not collect or analyze PAR and ARA specific data.

Basic grounded theory approach provides variety of techniques. However, combining these techniques with ethnography and participatory action research enriched the study text by bringing forward the context and participants’ views and needs. Components of participatory grounded theory ethnography with the corresponding text-producing techniques illustrated in Table 4-1 were used to complement each other in order to produce, recreate, and validate the study text.

Table 4-1. Methodology components, text-producing techniques, timeline, data/text produced.

<table>
<thead>
<tr>
<th>Participatory and Grounded theoryEthnography</th>
<th>Timeline</th>
<th>Data/Text produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Techniques</td>
<td>Ethnography</td>
<td>Grounded theory</td>
</tr>
<tr>
<td>Literature review</td>
<td>✔</td>
<td>2013-2016</td>
</tr>
<tr>
<td>Pilot phone interviews</td>
<td>✔</td>
<td>2013</td>
</tr>
<tr>
<td>Semi-</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td>Participant observation (PO)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Informal conversations in the field</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Research reflexivity</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Informal follow up skype conversations</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

The data collection section below expands on the study evolution of approaches and supplies details about the corresponding text-producing techniques as used during different data collection phases.

**Data Collection**

As summarized in the timeline of Table 4-1 above, data collection for this study continued from 2013 to 2016. This time period can be divided into four separate and yet connected phases: pilot testing in 2013, two-week field visit in 2014, five-week field work in 2015, and follow up skype involvement in 2016 (bi-weekly and ongoing). To reach saturation of the data (Charmaz, 2006) on gender relations, participation criteria was open to include the entire family when applicable. The total number of participants (16 total; 13 females and 3 males), interview and conversation length, and data techniques were adjusted throughout the different phases of the study.

**2013 Pilot Testing**

Pilot testing was a pivotal part of the text producing process. Prior to the main study on Romani women’s usage of their mobile phone, I had studied women’s involvement with
technology. I designed two pilot studies - one in 2012 and one in 2013. The first pilot tested using online writing tools, such as Google documents (gDocs), and the second pilot study was designed to explore how Romani women use their phones. The study involved interviewing Romani women over the phone. Both pilots were essential in designing the main Roma study, but since the main study naturally developed from the second pilot, only details of the second pilot study is discussed in this dissertation.

For the 2013 pilot study, I recruited four Romani women through friends and relatives who were neighbors and friends with several women from the Roma neighborhood of a town in Southwestern Bulgaria. I interviewed three of the women in Bulgarian over the phone and recorded their interviews on my computer. Transcribed and translated to English 30 to 45-minute interviews were analyzed for themes, and preliminary results of the pilot study were presented at the Researching Work and Learning (RWL) conference, Stirling, Scotland in June 2013. Three of the pilot interviews were further analyzed and became part of the main study. Two of the women’s pilot interviews were complemented with additional observation notes and informal chats as these women continued their study participation.

The main findings of the 2013 pilot study and post-study reflections sharpened the focus of the main study and helped me identify some of the best public places to observe mobile phone usage (streets, open-air weddings receptions, shopping areas).

2014 Field Visit. Participant Observations

During the first field visit in 2014, I visited the Romani study participants’ neighborhood in Bulgaria for two weeks and established initial contact and deeper connection with the community. I met two of the women from the 2013 pilot study, and they continued their participation in the main study. They also introduced me to three additional participants, one of
whom became a key informant and introduced me to three more main key informants (Marshall, 1996) of this study. Because of their influential positions and involvement in the Roma community, key informants provided me with invaluable insights and access to the rest of the women who participated in the study and assisted me with visiting public spaces where Romani women use their mobile phones. They also helped me with translations (from Romani to Bulgarian in one instance of translating a comment on the street) but primarily with understanding the Roma context and interpretations of my observation notes, interviews, and informal conversations (Marshall, 1996; Spradley, 1980).

In 2014 but also in 2015, I collected data by using participant observation (PO) technique (Kawulich, 2005; Spradley, 1980). By being a participant, I observed without interrupting the natural flow of these activities and kept short notes on my Samsung Galaxy Note 4 or on a mini notepad (11/15 cm). Immediately following field visits, I expanded these brief notes to detailed observation notes (See example in Appendix B) and added them to research and reflection notes. Using PO, I recorded actions and inactions alike since what was not happening was as telling as was the actual happening (Charmaz, 2006, 2014). This data collection technique allowed me to add details that were not and could not be expressed by words. After the initial analyses, reprobing (Hallberg, 2006) took place, i.e. I followed-up with chats where I checked the correct understanding and interpretation.

Initially, I chose PO because it best aligned grounded theory calls for adding ethnographic data “by joining our research participants” in their everyday activities (Charmaz, 2006, p. 3). I also found PO to best fit my study since it allowed an access to participants’ community and their activities by playing “peripheral membership role” (Adler & Adler, 1994, as cited in Kawulich, 2005, p. 9) which is not a full group membership but the closest I, as an
outsider, could establish for the limited period of time (Creswell, Hanson, Plano, & Morales, 2007).

Choosing PO was done after weighing it against the alternative methods - online observations tested for the 2012 pilot study where I used Google documents (the gDoc pilot, that involved three international female students using online writing tools) and informal interviews over the phone (tested during the 2013 pilot study for which I interviewed three Romani women). Limitations of the gDoc study were connected to the study’s design which I avoided during the next research study design; the Romani pilot study’s main limitation was interviewing the women over the phone. The conversation was very stiff, there was a huge physical distance between me and the study participants, and over the phone I could not observe anything that was going on in the context of these women’s lives - so important for understanding the mobile phone usage as a whole. I was convinced that the PO could address these issues since it provided opportunities for spontaneous and involved conversations with minimal access to identifiable information.

I visited public places that I had identified during the 2013 pilot study as the places where women use their mobile phones. I did not only observe these women but walked the streets with them and used my own mobile phone. I participated in open-air weddings and used my cell phone and observed who used mobile phones, when, for what purposes. I purchased a phone and a local plan at the store where Romani women usually purchase their mobile phones and engaged in informal conversations before and following the purchase. I was able to observe and participate in activities and interactions around the store. For example, who entered the store, who approached whom, what brand was suggested; what questions were asked; who answered; who also took part in the conversation. I was better positioned to hear and see the context in
which these interactions unfolded. By asking the mobile phone representative my own questions, I was part of the conversations, which shortened the distance between me, as an outsider, and the women and Roma community. PO also helped me to minimize misunderstandings since it provided me with an opportunity to clarify the unfamiliar on the spot.

I used PO for writing qualitative notes by fully engaging in these women’s environments through all my senses. While in the mobile phone shop, I paid attention to all details and later recorded my first impressions of “the tastes, smells, and sounds of the physical environment” (Emerson, Fretz, & Shaw, 2011, p. 24). Since PO in combination with informal interviews and other qualitative data collecting techniques can be used to build theory (Kawulich, 2005), it was a good way to supplement grounded theory and validate the theory I built. I continued to use research notes to reflect on my perception of what was occurring as the study unfolded (Hallberg, 2006).

2015 Field Visit. Participatory Action Research (PAR) and Action Research Approach (ARA)

In the field, during my 2014 and more during my 2015 five-week visit to the Roma community, I took PO notes and intensively reflected each day. I formally interviewed via Skype three more participants for 30-45 minutes each, and informally chatted with the rest of the participants in the field on several occasions and followed up daily with the main three key participants. The interviews were conducted in Bulgarian and were recorded on my laptop. Later these interviews were transcribed and translated to English.

This is when two of the Romani women initiated a change in the PO that I had not initially planned. I was actively involved not only in the PO but in community’s daily lives. Each day these women were assisting me in finding a mobile phone, informing me of good calling card deals, telling me where the next open-air celebration will be and explaining the culture and
rituals behind the events and mobile usage I was observing. After that the women wanted to show me the impoverished parts of their neighborhood, the evicted families and their makeshift houses erected right back after the evictions. They wanted me to have good mobile phone research and on the other hand, they envisioned change for these families through knowing me and brainstorming funding projects with me. Indirectly and directly they were asking me how my research would change these families’ lives. I was challenged to add yet another layer to my Bulgarian woman researcher’s identity, that of a citizen (of Bulgarian, EU, and global), and I realized that PO was insufficient for entering this realm.

This is how my research method became a combination of PO with elements of participatory action research (PAR) (Creswell et al., 2007; Wadsworth, 1998) and action research approach (ARA) (Bradbury & Reason, 2003). I was fortunate to be allowed to enter this Roma community because of Romani women I met through the 2013 pilot study and the key informants (Marshall, 1996; Spradley, 1980) I met later. These women devoted time and helped me reach a better understanding of Romani women’s lives and phone usage, and in return, I was to bring something tangible to the Roma community.

We negotiated two parallel projects. By day I would visit the community, read and write my reflections based on the PO and by night, when women were not at work, we would work via Skype and Facebook on the projects they had in mind to challenge the poverty in the Roma community. This way we combined my research on mobile phone usage phenomenon with the women’s “own social action goals” (Eagly & Riger, 2014, p. 692). The focus of this study, understanding women’s everyday lives and the usage of their mobile phones, could not have been fully illuminated if I ignored women’s interest (and the right, as feminists insist) in having “an equal say in design and administration of the institutions where knowledge is produced and
distributed […]” (Harding, 1987, p. 7). As a result of PAR, we worked towards socially constructed knowledge on one hand, and on the other, co-created a project that was deemed beneficial for the entire community of the study participants (Hesse-Biber, 2012).

Although three of the key informants and I have worked simultaneously on the two projects, proposal writing and PAR were not explicitly analyzed and discussed in this dissertation.

Throughout the 2015 field visit, I followed grounded theory’s characteristic of continuous open sampling with theoretical sampling until I reached theoretical saturation. The grounded theory approach was the artistic balance between the two types of sampling - to start the theoretical sampling at the right time to stay focused but to continue the open sampling until the theoretical saturation was reached, i.e. when “gathering new data does not provide any new theoretical insight” (Charmaz, 2006, p. 113). When some of the promising subcategories developed in the earlier phases failed to develop into theoretical concepts, I used grounded theory to conduct further sampling that was more focused on the study’s research questions.

2016 Follow up Skype Involvement

As I was wrapping up this research, new developments struck study participants directly and indirectly influenced by the local and political events and aftermath of pre - and post-European refugee crisis of summer 2015. Ethnic tensions and intolerance in the country heightened to new levels resulting in Roma program cuts that left some of the study participants and their family members unemployed. Funding for some Roma programs was terminated mid-summer, a blow to the anti-segregation attempts for educational inclusion of Roma children for whom this still remains the biggest issue. The above development and the fact that the two proposals we submitted were rejected was discouraging. However, part of the Romani women
group had more ideas and wanted to submit proposals to different funding agencies, thus our
collaboration and PAR continued. As we continued our work on different proposals in 2016, I
continued to reflect and add to my PO and research notes.

**Data Recording**

Several choices about recording data were made based on Tong, Sainsbury, and Craig’s
(2007) recommendations. Below I describe methods of recording data and my choices of not
recording participants’ own words. Microphones are powerful tools in cases when the structure
and meanings of detailed statements are analyzed (Fossey, Harvey, McDermott, & Davidson,
2002). However, our informal conversations and interviews were not audio recorded since were
deemed “overly intrusive” (Fossey et al., 2002, p. 728). I opted out of audio or tape recording in
the field because I did not want to formalize our visits. In the case of this participatory and
grounded theory ethnography involving Romani women, recording in the field would have
brought the role divisions between us - me as interviewer with authority and interviewees, as
interrogated subjects. In the field, I only took brief notes. I also interviewed three of the study
participants over Skype. These three interviews, along with the three phone interviews during the
pilot study, were recorded.

Units of observation (UO) were the individual Romani women as they used their mobile
phones in the public spaces mentioned above.

**Data Validation**

Following Creswell and Miller (2000) and Tong et al. (2007), I built qualitative data
validation in the study design and kept in mind throughout data collection and data analysis. A
note of qualitative data is due here since no single approach and technique or “procedure” (as
preferred by Croswell and Miller, 2007) can provide adequate validation of a qualitative study.
Table 4-2 below signifies the attention this qualitative study required for establishing its credibility. The table represents nine validity approaches based on the qualitative lens and paradigms as checked against the three main domains for reporting qualitative research (adapted from Creswell and Miller, 2000 & Tong et al., 2007).

Table 4-2. Validity approaches and the three qualitative domains.

<table>
<thead>
<tr>
<th>Validity Approach</th>
<th>Three Qualitative Domains</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Researcher and reflexivity</td>
</tr>
<tr>
<td>Positivist paradigm</td>
<td>Triangulation</td>
</tr>
<tr>
<td></td>
<td>Member checking</td>
</tr>
<tr>
<td></td>
<td>Audit trail</td>
</tr>
<tr>
<td>Constructivist paradigm</td>
<td>Disconfirming evidence</td>
</tr>
<tr>
<td></td>
<td>Prolonged engagement in the filed</td>
</tr>
<tr>
<td></td>
<td>Thick, rich description</td>
</tr>
<tr>
<td>Critical paradigm</td>
<td>Researcher reflexivity</td>
</tr>
<tr>
<td></td>
<td>Collaboration</td>
</tr>
<tr>
<td></td>
<td>Peer debriefing</td>
</tr>
</tbody>
</table>

The check mark indicates that a particular validity approach was used. Throughout this work, I have explicitly included descriptions of own and participants’ lenses (Chapters 1 and 4) and have incorporated peer and advisors’ feedback into this final draft. I openly discuss biases, theoretical assumptions and frameworks (Chapter 3), and although my main paradigm
assumptions were of a constructivist and critical researcher, measures of validity from positivist paradigm were also borrowed, especially during study design and analysis and findings. For example, triangulation was incorporated from the positivist paradigm into the study design since I used different text-producing techniques to make sure different information and angles were included in the study (see above Table 4-2 and Table 4-1, p. 59).

In addition to the mentioned approaches, during this international study, I attended to additional layers of validity to avoid as much as possible “loss of meaning” (van Nes, Abma, Jonsson, & Deeg, 2010, p. 315) across languages and cultures. Translation and ethical considerations are discussed below.

**Translation and Ethical Considerations**

Potential misinterpretations “may be experienced in any communicative action” (van Nes et al., 2010, p. 314), but across languages and across cultures communication can become even more challenging. As Vygotsky’s and Leontiev’s works were discussed in Chapter 3, their misrepresentation were not only due to across language translation issues but also due to conceptual and philosophical mismatches.

Regarding linguistic issues, there were circumstances in this study that worked in my favor, and some that added to the study limitations. Advantageous circumstances were as follows: (a) all Roma participants were bilingual (and multilingual) and were fluent in Bulgarian (participants’ language usage and fluency are discussed in the next subsection); (b) I am a native Bulgarian speaker; (c) our common language was Bulgarian; (d) I am fluent in English and am certified in both English and in Bulgarian (I have MA in TESL and PB TOEFL score of 608 out of 677 and MA minor in Bulgarian) and prepared this work (to the best of my ability) in English, the target language of the final dissertation. There were, however, circumstances that added to
the study limitations: (a) I do not know Romani language and did not use materials in Romani language - literature on Roma I reviewed was in English and in Bulgarian; (b) as a non-Roma, I was an outsider to the Romani culture.

To mediate these two major limitations, I used PO technique to participate at the peripheries of this community (Kawulich, 2005; Spradley, 1980) and heavily depended on the key informants. Key informants provided me with community entry (Marshall, 1996; Spradley, 1980) and helped me convey concept and cultural meaning across cultures and languages (Smith et al., 2008; Shklarov, 2007). I primarily focused not on word-by-word “literal translation” (Buil, de Chernatony, & Martínez, 2012, p. 228) of the produced text but rather on how to create meaning equivalence and on how to best present Bulgarian Romani’s usage of mobile phones to US English speaking academia. For example, marriage for Roma means a woman and a man living either in a common-law relationship or in a formal licensed marriage recognized by the state. The couple is recognized by the community as married when the girl first moves to her partner’s house. If and when to formalize the union, the couple decides later. In English, I used traditional Roma union for the former, and formal union for the latter, but since the phone and internet rules apply to married woman, independent of the type of their marriage, in both occasions I classified women as married when discussing mobile devices and their usage.

The phone and skype interviews were recorded and transcribed in Bulgarian, but I wrote my observation and reflection notes and my lit review in English. Different levels of coding was also done in English. I transcribed the six recorded over the phone and skype interviews and was in a constant contact to refine the meanings during transcription and translation process and also to verify my understanding of the context. For example, I was working on some notes and needed to verify my observation. On March 25, 2015, I wrote about one of the informal visits:
…we decided to set up an EU commission account for […] Serafim. Vlada, Gyula (three of the study participants), and I visit Serafim to work on this. Serafim’s house is a two-story building, nice and well organized, the room is warm with the electrical wall heater on. The TV set is also on. Serafim’s granddaughter (a nine grader) is sitting on the floor, studying first English and then math. (Serafim and Dimo, p. 1)

When we next talked on Skype with Gyula, I asked her why Serafim’s granddaughter was studying in the kitchen and whether her studying with us had something to do with the heater in this particular room. “The heating was on only in the kitchen”, Gyula simply replied (p. 78). As I suspected and Gyula confirmed, in this early spring evening the heater was on only in the common room, a reminder of the austerity measures by which Serafim and his family lived in 2015 Bulgaria.

Additionally, in 2013 I pilot tested the relevance and adequacy of the Conversation and Interview guide (Smith et al., 2008; Buil, de Chernatony, & Martínez, 2012). I wrote initial questions in English, later translated them directly to my native language Bulgarian, and tested and adjusted them during the pilot study conducted over the phone. Some of the questions, for example, the questions about future of technology and family attitude towards technology were too general and sounded very formal in Bulgarian. They were confusing and did not add new insights to the study. I adjusted these questions to be about ideal phone (instead of future of technology) and about family members’ usage of mobile phones (instead of family members’ attitude towards technology).

Crossing across languages and cultures means crossing ethical paradigms as well. In this case, crossing across Western and non-Western concept of what is ethical in research, what is consent and what type of consent was most appropriate in the Roma context. For example,
during the pilot study I recorded the phone conversations on my computer and followed a strict protocol approved by the Institutional Review Board (IRB). After introducing myself and study procedures, I noticed an immediate change in women’s tone and stiffness in their answers. For the field study, I chose a verbal consent with no video or audio recording in the field in order to keep our conversations informal (Fossey et al., 2002). I used my phone or a mini notepad only for brief field notes. As required by the second IRB approved protocol, I still included information about myself, the study, and the ethical principles of voluntary participation and participants’ rights. This intro, however, was mostly unnecessary since people already knew who I was. By finding the most appropriate consent and data collection procedures in the field, I attempted to remain both sensitive to the local context and still follow the standards of the target culture (Shklarov, 2007) (in this case, the US English speaking audience), mediating and interpreting ethical standards across three cultures.

**Bilingual and Multilingual Participants and Multilingual Researcher**

This international study would have been impossible if the study participants and I did not have Bulgarian as a common language. As illustrated in the excerpt below, participants were bilingual or multilingual speakers and were all fluent in Bulgarian. When discussing the language Gyula and Serafim use when they communicate with me, and in what language they think, they said:

that they use Bulgarian for this type of communication. When talking about work and tradition, the Romani words are 100%. When using Romani language beyond that, usually the Romani is sprinkled with words of the official language of the country they live in - 50/50 [50 Romani/50Bulgarian in this case]. For example, Serafim can communicate with a Greek Roma but only until the Greek Roma uses the main Romani
words, when he starts using Greek words, communication fails because Serafim does not speak/understand Greek, and vice versa - when he speaks, he uses his Romani language, he freely borrows Bulgarian vocabulary and cannot be understood outside of Bulgaria, as a matter of fact, even outside of the Southern region, where some Romani words are different. Even pronunciation of the word “maro” (bread) is different, rolled more in Northern Bulgaria. (Serafim and Dimo, p. 1)

One of the participants’ teenager “sings in Romani and in Bulgarian. Knows Romani and uses it with the kids in the neighborhood. Family speaks Bulgarian at home, but Romani with the neighbors and other Roma - mostly in Romani” (Gyula, p. 81). Eva (70-year-old Romani) “speaks three languages - Romani, Turkish, and Bulgarian and is dreaming of studying English” (Eva, p. 35) and believes that “if Romani children do not know the Bulgarian language, and are not educated, what would they do, it will mean that they have no knowledge” (p. 31).

Being a multilingual researcher trained in both linguistics and translation and in research methods, I was aware of the “double vision” of a bilingual researcher (Shklarov, 2007, p. 532) (in my case, triple vision of a trilingual because I am fluent in Russian as well) and my potential mediating role when dealing with the meaning of concepts and interpretations. As an active instrument in this qualitative research who was simultaneously a researcher and a translator, I was not impartial and “impersonally neutral” (Shklarov, 2007, p. 533) because I was crossing different cultures and interpreting cultural concepts across Roma, Bulgaria, and US.

As Shklarov (2007) points out, “the case of a bicultural researcher is unique, in that he or she might personally identify with both conflicting views, because both cultures are part of the researcher’s identity” (p. 533). For example, Western concept of otherness does not translate directly to my non-Western original language and culture, and I had to mediate between the two
world views (Buil, de Chernatony, & Martínez, 2012) but knowing and seeing both, comparing how discrimination based on race and ethnicity is persisting in both countries, I had to struggle through it and digest it first.

I was not born but became one of the other women. In pre-1989 period Bulgaria some of the Roma participants and I were raised to believe to have achieved gender equality and to be equal under one nation. From the Western angel, I could see that this equality was a political slogan and a never achieved ideal because of virtually no Roma representatives and very few women in high-level political and managerial positions in pre-1989 Bulgaria. However, when asking about how Romani identified themselves, I myself felt uncomfortable. I felt that I was imposing otherness and that some participants were offended to be viewed as different. This study recorded concrete instances of how participants struggled with this concept as well and how they used mobile phones as media to object otherness and Roma stereotypes. These examples are provided under Romani women’s second activity system.

To sum up, as suggested and practiced in the field (Shklarov, 2007; Smith et al., 2008), a bilingual researcher working with key informants is one of the preferred approaches which I used to addresses the cross-linguistic and cross-cultural challenges of this study.

**Research Questions**

The main research question and subquestions of the study were:

How do everyday life and informal work of a group of Romani women from Southwestern Bulgaria orient the use of their mobile phones and their informal learning?

a. In what types of activities are these Romani women involved while using their mobile phones?

b. What are the objects of these activities?
c. How are gender relations enacted within the use of mobile phones in everyday life of these Romani women?

Conversation and Interview Guide

Questions included in Appendix A guided our informal conversations with Romani women and families. I wrote the guide in English and translated into Bulgarian in 2013 (for translation details, see sections Translation and ethical considerations and Bilingual and multilingual participants and multilingual researcher above) and tested and adjusted it during the 2013 pilot phone interviews as needed (Maxwell, 2005). Since some of the questions were confusing to the pilot study participants, I either rewrote or deleted them. I also included additional demographic and phone usage questions for the face-to-face conversations. When discussing mobile phone usage in the field, these conversations were closer to semistructured interviews (Creswell et al., 2007) and covered the main topics of the phone usage from the interview guide but also included topics regarding general Roma context and Bulgarian national and international politics.

Chapter 4 reviewed study design details, including translation and ethical considerations of this international study, the combination of methodological approaches and techniques that were guiding this study throughout the pilot testing, and the data collection and validation procedures before, during, and after the field visits with Romani women and the Roma community. The data, both demographic and mobile phone information and study text were analyzed using grounded theory. Data analysis and study findings are discussed in Chapter 5.
CHAPTER 5. DATA ANALYSIS, FINDINGS, AND DISCUSSION

This chapter details the data analysis and study findings, and it is divided into two sections. The first section, called Data analysis and initial findings, details the type of data analysis I used to sort and understand the study data, both demographic and mobile phone information and text. Demographic and mobile phone information analysis and findings open this section followed by text analysis which includes initial coding, focused coding, and axial (categories as placeholders) coding.

The second part of this chapter is called Two activity systems. It first discusses the first main finding of the study which addresses the first two research subquestions about the type of activities Romani women were involved in and the objects of these activities. Two main activity systems emerged from the data: (a) Being a good Romani woman with an object Keeping family safe and (b) Surviving the Post-1989 transition and the raw capitalism with an object Keeping family fed with an overlapping object as Wellbeing of the Roma family. This chapter discusses outcomes of resolved and unresolved contradictions. It also expands on the way I used CHAT and technofeminism to facilitate grounded theory theoretical coding and concludes with the second main finding of study which addresses the last research subquestion about how gender was enacted in the phone usage in Romani women’s everyday life.

Data Analysis and Initial Findings

The Town and its Roma Neighborhoods Through my Observation Notes

The town is symbolically divided into non-Roma and Roma neighborhoods by the town’s beltway. The Roma neighborhood itself is dived symbolically by the street pavement. Below the beltway, the rich Roma neighborhood starts with several blocks of 2-3 story buildings, balconies, and paved roads. Where the pavement ends, the other part of the Roma neighborhood begins
with dirt roads lined up with one-level housing and add-ons attached to them. At the very end of the unpaved street, there are temporary settlements surrounded by mud and raw sewage. Some of these temporary houses had been torn down due to the complains of the farmland owners who had filed complaints against the Roma temporary inhabitants but had been erected back again. The families who live at the edge of town are called Travelers (Chergari/Nomads). Some of them had come from Northern and Central Bulgaria, I was told, and were awaiting to cross the border for seasonal work. One Sunday when I visited, these streets were packed with young children playing soccer and tag. It was lunchtime, and streets smelled of sautéed onion.

In 2014, the highway construction had diverted the nearby highway traffic to the town beltway, and the road was crowded with transit tracks and vans in addition to the local cars and horse-pulled wagons. During one of my visits, this street was also busy with pedestrians and cleaning crews dressed in florescent jackets, carrying brooms and dust pens. Also on this busy beltway, I saw a woman belly dancing. She was wearing a dark aqua sport suit, sleepers, and a scarf tied on her hips with dangling yellow-gold coins, making the jingle sound to her hip moves. The woman was taking her time and space to dance her soul out (for 20-30 min) to traditional music competing with the surrounding noises. Cars and tracks were passing by and did not slow down, but the woman was ignoring the vehicles and was dancing in order to announce a birth of a baby in the family. There were two young males who were trying to start a coal barbeque. It took them some time to start the fire. It looked like there would be a big family party a bit later to celebrate the occasion. There were several standbys - on the right side of the street and on the opposite side. There was a middle-aged woman who seemed to be the grandmother or a relative of two little girls (between 5 and 6). They all watched and danced at the curb of the sidewalk.
The lady was keeping an eye on the girls, so they would not step off the sidewalk onto the busy street. Nobody was visibly using their cell-phones.

**Study Participants. Demographics and Mobile Phone Information**

All study participants resided in different parts of the so called Roma neighborhood. They belong to one or more of the three main Roma subgroups as classified by Pamporov (2006): (a) Horahane or Turkish Roma, (b) Daskane or Bulgarian Roma, and (c) Kalderashya or usually called Serbian Roma.

As pointed out in Chapter 2, Roma identity is kaleidoscopic, thus the classification based on linguistic influences is not always straightforward, and in the field, the subgroup names were recorded to carry a different, local meaning. For example, although some Roma participants use more Bulgarian than Turkish words in their Roma language at home, they self identify not as Daskane but rather as Horahane to differentiate themselves from the Bulgarian Roma, who they call the Mules (the mix between Roma and Bulgarians). In addition, groups’ religion practices are also intertwined and complex. The second and the third subgroups are usually associated with Christianity, and the first subgroup - with Islam. However, some Horahane do not practice Islam. Both Horahane and Daskane visit Evangelical churches, and they all often celebrate the main holidays of both religions. Some study participants openly self-identified as integrated Roma (1), some - as Roma (4), and some as Bulgarians (2), but due to the complexity of Roma identity and the ethical considerations discussed earlier, for the majority of the study participants it was not found appropriate to explicitly record their ethnicity (9).

**Demographics**

As part of the conversation guide, I had included several demographic and mobile phone questions. Answers to these questions were entered as cases into NVivo (11), the data analyzing
tool I used to organize and visualize study data. I chose the ready person case classification in NVivo with one of the default attributes, such as Sex, and adjusted or added additional attributes. For example, I changed attribute Age to Age group attribute, and added Marital status, Employment status, Number of children, Owning a phone, and Phone usage. Also in NVivo, I added individual values to the attributes for each of the study participants accordingly and visualized each attribute by charting it in by value. Visualized data are presented below in Figures 4-2 to 4-6, and findings and discussions are summarized in Tables 4-3 and 4-4.

Study participants were ranging in age from 18 years to 74, with the majority representing middle-aged group (35-50) (Figure 4-2):

![Figure 4-2. Age groups of the participants.](image)

A slight majority of participants (9) were married with children (1-4) living in traditional Roma (informal) or formal marital unions. Marital status was recorded as single if the participant was not married, separated, or divorced (7) (Figure 4-3):
Figure 4-3. Marital status of the participants.

Majority of study participants were self-employed (8) or were working part- or full-time (6). One participant reported being a homemaker and unemployed, and one - retired (Figure 4-4):

Figure 4-4. Employment status of the participants.
Majority of participants reported that had worked as migrant workers or had family members who work abroad currently, were preparing to work abroad or to permanently leave Bulgaria.

**Mobile Phone Information**

Different types of mobile phones are available to Romani women and are widely spread among the entire Roma community. This was obvious during the 2013 pilot study over the phone and was confirmed during the following 2014 and 2015 visits and skype interviews. One participant reports buying a phone after seeing first TV adds: “You know, they have TV adds. That we already have cell phone connection […] When did they start, the GSM? 1993? […] Since then I use GSM” (Vlada, pp.14-15). Some women reported having two phones (Ruzha). Some women have three phones (Tsveta) - one for each of the main mobile phone carriers (Mtel, Vivacom, and GloBul): “my daughter has one. My grandchild (9-years-old) has one. GSM in their pockets have all the first graders. And this is very fashionable in Bulgaria. Very trendy!” (Tsveta, p. 17). Vlada reports: “Everybody [has one]. My sons, my daughters-in-law” (p. 3). Also: “Yes, everybody, [has a mobile phone] and even the grandkids[…] The older grandkids. We all have but the young one” (Nada, p. 3). Study participants reported taking their phones when they travel: “when I go abroad, I need to have connection there, too” (Vlada, p. 2), when singing on stage or when going to hospital (Gyula’s relatives).

Romani women reported several options for acquiring a phones: purchasing at the providers’ stores (Gyula’s son), from a second hand store (Vlada’s son), from a friend or neighbor (Vlada, Gyula’ first phone). Some of the women bought their first phones (Ruzha, Tsveta, Vlada); some women received their phones as a present from their husbands or relatives.
(Nada, Mira, Sandra, Gyula’s second phone). Nada accepted and used her phone, but Mira and Sandra did not use their presents.

Only one woman (retired) did not own a mobile phone and had no direct immediate access to a phone (neither mobile nor landline). She was classified as not having a phone, along with two more women who had chosen not to own a phone because their husbands each had a phone (total of 3); some women owned phones but found them irrelevant (3), but the majority of study participants (10) replied yes when asked whether they owned at least one mobile phone (Figure 4-5):

![Figure 4-5. Participants owning at least one mobile phone.](image)

The majority of participants used their phones in their everyday lives to make variety of calls (10). Some women would ask the husbands or family members to call or take pictures for them as needed (3) (even when having a phone) (Figure 4-6):
Table 4-3 below summarizes the phone usage based on participants’ technology adoption approaches and attitudes. When data were available, study participants represented early (3) and late technology adopters (2) (Norris & Conceição, 2004); technology resisters, defined as adults who find technology irrelevant (Norris & Conceição, 2004; Selwyn, 2002) (3 participants); also, four-way-communicators who communicate “person-to-person mediated by machine with facilitator” (Sawchuk, 2003a, p. 77). An example of the four-way communication in this context was when women were not needing a phone because they asked their husbands to call for them (2). In the case of these two women who are four-way communicators, when needing to call somebody, the two-person communication, i.e. when women wanted to talk with someone, their call was not only mediated through the phone but through the husband, who served as a facilitator.
Table 4-3. Type of technology adoption and attitude.

<table>
<thead>
<tr>
<th>Type of Technology Adoption and Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Adopters</td>
</tr>
<tr>
<td>Number of participants</td>
</tr>
</tbody>
</table>

Findings based on study participants’ demographics and their phone usage and technology adoption information is summarized in Table 4-4:

Table 4-4. Study participants - summary.

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Sex</th>
<th>Age Group</th>
<th>Employment Status</th>
<th>Marital Status</th>
<th>Number of Children</th>
<th>Owning a Phone</th>
<th>Phone Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vlada</td>
<td>Female</td>
<td>50 and over</td>
<td>Self-employed</td>
<td>Single</td>
<td>1</td>
<td>Yes Early adopter</td>
<td>Variety of calls</td>
</tr>
<tr>
<td>Tsveta</td>
<td>Female</td>
<td>35-50</td>
<td>Self-employed</td>
<td>Single</td>
<td>between 2-4</td>
<td>Yes Early adopter</td>
<td>Variety of calls</td>
</tr>
<tr>
<td>Roza</td>
<td>Female</td>
<td>20-35</td>
<td>Employed part-time</td>
<td>Married</td>
<td>between 2-4</td>
<td>Yes</td>
<td>Variety of calls</td>
</tr>
<tr>
<td>Dano</td>
<td>Male</td>
<td>35-50</td>
<td>Self-employed</td>
<td>Married</td>
<td>between 2-4</td>
<td>Yes</td>
<td>Variety of calls</td>
</tr>
<tr>
<td>Gyula</td>
<td>Female</td>
<td>20-35</td>
<td>Employed full-time</td>
<td>Married</td>
<td>1</td>
<td>Yes Late adopter</td>
<td>Variety of calls</td>
</tr>
<tr>
<td>Serafim</td>
<td>Male</td>
<td>50 and over</td>
<td>Employed full-time</td>
<td>Single</td>
<td>1</td>
<td>Yes</td>
<td>Variety of calls</td>
</tr>
<tr>
<td>Dimo</td>
<td>Male</td>
<td>20-35</td>
<td>Employed part-time</td>
<td>Single</td>
<td>NA</td>
<td>Yes</td>
<td>Variety of calls</td>
</tr>
<tr>
<td>Sandra</td>
<td>Female</td>
<td>35-50</td>
<td>Self-employed</td>
<td>Married</td>
<td>between 2-4</td>
<td>Technology resister</td>
<td>Phone irrelevant</td>
</tr>
<tr>
<td>Snezha</td>
<td>Female</td>
<td>35-50</td>
<td>Homemaker</td>
<td>Married</td>
<td>between 2-4</td>
<td>Technology resister</td>
<td>Asking family</td>
</tr>
<tr>
<td>Petra</td>
<td>Female</td>
<td>35-50</td>
<td>Self-employed</td>
<td>Married</td>
<td>between 2-4</td>
<td>No phone 4-way-communicator</td>
<td>Asking family</td>
</tr>
<tr>
<td>Gizda</td>
<td>Female</td>
<td>35-50</td>
<td>Self-employed</td>
<td>Married</td>
<td>between 2-4</td>
<td>No phone 4-way-communicator</td>
<td>Asking family</td>
</tr>
<tr>
<td>Eva</td>
<td>Female</td>
<td>50 and over</td>
<td>Retired</td>
<td>Single</td>
<td>between 2-4</td>
<td>No</td>
<td>NA</td>
</tr>
<tr>
<td>Name</td>
<td>Gender</td>
<td>Age Range</td>
<td>Employment Status</td>
<td>Marital Status</td>
<td>Age at Marriage</td>
<td>Technology Adoption</td>
<td>Phone Preference</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>-----------</td>
<td>------------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>-------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Nada</td>
<td>Female</td>
<td>50 and over</td>
<td>Employed full-time</td>
<td>Married</td>
<td>between 2-4</td>
<td>Yes</td>
<td>Late adopter</td>
</tr>
<tr>
<td>Mira</td>
<td>Female</td>
<td>35-50</td>
<td>Self-employed</td>
<td>Married</td>
<td>between 2-4</td>
<td>Technology resister</td>
<td>Phone irrelevant</td>
</tr>
<tr>
<td>Vera</td>
<td>Female</td>
<td>18</td>
<td>Self-employed</td>
<td>Single</td>
<td>NA</td>
<td>Yes</td>
<td>Early adopter</td>
</tr>
<tr>
<td>Ruzha</td>
<td>Female</td>
<td>18</td>
<td>Employed part-time</td>
<td>Single</td>
<td>NA</td>
<td>Yes</td>
<td>Early adopter</td>
</tr>
</tbody>
</table>

**Analyzing Study Text. Types of Analysis**

The section below describes in detail how I analyzed the study text using grounded theory as formulated by Charmaz (2006) with elements of works of Glaser and Strauss (1967), Strauss (1987), Maxwell (2005), and Butler-Kisber (2010). Grounded theory helped me sift through the data and construct concept and theoretical codes that were all conceptualized as grounded in the data. Main stages of grounded theory analysis are discussed as follows.

**Initial Coding - Line-by-Line, Meaning Units, Condensed Meaning Units, and Initial Qualitative Codes**

After transcribing the six phone and skype interviews (recorded over the phone during the pilot study and skype interviews conducted during my 2015 field visit), I compiled observation notes from the two field visits and informal discussions for all the 16 participants first separately and later in one document and started the initial coding. I chose line-by-line initial coding technique for the first phase of dealing with data since it was easier to understand and more straightforward than incident-to-incident coding. It also seemed faster than the word-by word coding (as discussed by Charmaz, 2006, p. 50 example). I understood the lines to mean the physical formation of a line in the text. Going through each line helped me stay open to the data and was essential in identifying patterns that had slipped my mind during the actual interview. For example, during Nada’s skype interview in March 2015, details about calling only
during breaks at work, such as: “I use my breaks to call” (Nada, p. 8). These data pointed to an additional category which without going through line-by-line coding, I would have easily missed.

Charmaz (2006) admits that line-by-line coding can get confusing since a line can hold an unfinished sentence, or might even be irrelevant to the study. To focus on the study, I found the following concept of *meaning units* helpful: “words, sentences or paragraphs containing aspects related to each other through their content and context” (Graneheim & Lundman, 2004, p. 106). My research questions served as the connecting aspect for the meaning units which I identified. There were parts of interviews and notes pulling data away from the main focus, mobile phone usage, but they were still connected to the whole through the study context. Many of these data were about the context, without which technology and its usage could not have been fully understood. Although not directly tied to the mobile phones, I marked some lines regarding Roma traditional elopement and Roma marriages as meaning units which later uncovered important arrangements and rules behind mobile phone and other technology usage.

So in this early line-by-line coding stage, I highlighted anything meaningful that was connected either directly or indirectly to the study of mobile phone and other devices usage. I created a table for each participant and entered the meaning units below the original text in order to keep myself focused and grounded in the data from the very beginning. This process felt very tedious and mechanistic but was useful because I became even closer to the data, was able to reflect more, and detected gaps in the data which I filled by following up with skype calls and discussions.

The meaning units were condensed in the next step. Condensed meaning units were very close to the text and were still very descriptive. However, I was ready to lift many of these
meaning units to qualitative codes. For example, the following text consists of three lines in the
original skype interview transcription:

I use free minutes. With my sister, I have free minutes. When I call often to check on my
mom. I use my free minutes. I click and they return, to my daughter, to my husband…I
have free minutes with them, and we talk. (Nada, p. 4)

I treated these three lines as one meaning unit and reduced the unit to the following condensed
meaning unit: Saving minutes off the voucher by using free minutes with family members.

And to an initial qualitative code Saving minute tips, which served as a naming mechanism to
summarize what these three lines were about (or “label” and “handle”, as called by Charmaz,
2006, p. 3). Another initial qualitative codes were: Not calling the boss and Calling female
foreman, which were derived from Nada’s recorded skype data as well: “No, I don’t call my
boss. I call my female foreman, when we are home on call, I call to check whether there is work
or not, to tell me whether I need to go” (Nada, p. 4).

I continued these three basic steps: meaning units, condensed meaning units, and
qualitative codes, throughout the interviews and observation notes until I sorted out all the study
text.

Categories

Through Strauss and Corbin’s axial coding as discussed by Charmaz (2006) and Butler-
Kisber’s (2010) usage of categories, I was able to move to the next stage. At first, I resisted the
open and axial coding because I wanted to avoid any notion of forcing data into categories by
answering the typical axial coding questions listed by Charmaz (2006): “when, where, why, who,
how, and with what consequences” (Charmaz, 2014, “Axial Coding”, para. 4). I found “if”
question (Charmaz, 2014) relevant to this study since some Romani women were not using their
mobile phones or internet, so first question to ask was if the women were using their phones, and where and why they were not using their mobile phones or internet.

Treating categories, as a folder, however, made me more comfortable with the categories than before. Although mechanistic, this placement metaphor worked better for me at this stage. Also, since coding in grounded theory is a non-linear process, these categories were conceptualized only as preliminary and open to reanalysis.

During the 2013 pilot study, I recorded emerging categories - Invisible information technology services (ITS) network of support and Phone usage in invisible everyday unpaid work. For the purposes of the study, I assigned aqua color to the latter and magenta color to the former but expanded usage category to include any phone and mobile device usage in both paid and unpaid work under the new name - Phone and other devices usage and theme. I also added three more categories as holders of the initial qualitative codes emerging from the data. These three categories were called Variety of digital devices, Context general, and Roma context and were color coded green, yellow, and red, respectively (examples provided in Appendix C).

Finding a placeholder for many other initial qualitative codes was not so straightforward for these codes were interesting but challenging to deal with at this stage. I gave a name No category or more than one category for this placeholder and highlighted them in gray to symbolically represent the gray area of their initial meaning and the potential to develop into many directions at the next stage. Examples of the additional code-holding categories are as follows (qualitative codes from Dano’s informal interview, pp. 2 - 3):

- **Mounted electrical heating is on** (Variety of digital devices)
- **There is an issue with the law** (Context general)
- **Women have high morals, do not cheat** (Roma context)
Birth rate is dropping. (No category or more than one category)

I started to treat the initial coding and emerging categories as provisional devices to hold my own research reaction notes to and associations with the data as well and “as representing one view among many” (Charmaz, 2006, p. 54). For example, when analyzing Tsveta’s 2013 pilot phone interview, I have coded Tsveta’s answer about having the newest Nokia with internet under the Variety of digital devices category. After my informal visit with Tsveta in 2014, I included the following note next to this code:

It is important for this beautiful intelligent working woman to mention this; Why is that? Portraying as not different from me, the rest of the BG people! When I look at her and hear her, she has the right to feel this way [not different]. (Tsveta, p. 2)

And next to Everybody does it code, this is what I commented later: “Tsveta considers herself as everybody else - people outside her neighborhood. She usually does not communicate with (close) neighbors” (Tsveta, p. 9). These data and the comments I have included later helped me to add a subcategory I called Objecting stereotypes, which later grew to become one of the main actions under Romani women’s second activity system.

**Focused Coding**

In order to move to the focused phase of the coding (as proposed by Charmaz, 2006), the initial codes had to be elevated “to capture, synthesize, and understand the main themes in the statement” (Charmaz, 2006, p. 59). The six category placeholders, as initially created, were very broad. Next to each other, they looked like a random collection of disconnected labels. The six categories I created served as heuristic device and helped a lot for the initial coding, but they had to be unpacked and reshuffled. The amount of codes belonging to these six category placeholders
was overwhelming (initially 159 subcategory were coded for Phone and other devices usage and theme, and 169 subcategories were placed under the No category or more than one category), and it was hard to relate the codes from the tables back to the original data in a word document.

This is when I uploaded all coded interviews and notes into the computer software NVivo Pro (11). I connected all categories and their subcategories as originally coded to the original data and intensively used NVivo to visualize the coding. For example, I used the software to create six visual buckets, NVivo nodes, to transfer the codes created in Microsoft Word tables. These nodes were also color coded using same or similar (when the same colors were not available) colors. Since I had used NVivo to organize and code some of the literature review, I already had nine initial NVivo nodes identified as emerging category placeholders, such as Artifacts, Domestication of technology, Feminist, Gender divide, Lifelong learning, Mediation, Phones and development, Phones and lifelong learning. In the context of NVivo, a node serves as a collection of all codes under a “theme, place or other area of interest” (NVivo Pro 11). The collection concept in NVivo is similar to the category bucket metaphor I had adopted to hold my initial codes which were not analytical categories just yet.

This early stage of focused coding felt as if I was coding anew but with data more organized and better contained. I also had research notes to help me in this early stage. Using Memo links in NVivo, I added additional reflection notes. I started studying and unpacking the first main category placeholder called Phone and other devices usage and theme since it was the closest to the purpose of this study. To unpack this broad place-holding category, I revisited the rule for inclusion as used by Butler-Kisber (2010, pp. 32-33), a process of inclusion also called “dimensionalizing” of the categories (Glaser & Strauss, 1967; Charmaz, 2006). I wrote rules of
inclusion for this category based on the mLearning literature review summarized in Table 2-2, Chapter 2.

The frameworks and technology theories are listed here again:

1. Mobile learning constructs (Crompton, in press, reported by Crompton, 2014, p. 8)
2. Unified theory of acceptance and use of technology (UTAUT) (as adapted by Wang et al., 2009) with its 5 determinants
3. Domestication of technology (DT) framework (Silverstone et al., 1992, as used by Balasubramanian et al., 2010)
4. Mobile learning pedagogical framework (Kearney et al., 2012)
5. Integrated theory of mobile learning (Sharples et al., 2005) with specific requirements for technology: its portability, availability, adaptability (Sharples, 2000, a complete list as used by Kukulska-Hulme et al., 2011, p. 154).

All five mLearning frameworks and technology theories were used for the inclusion rule and were incorporated in Table 4-5 below which I called Four Known mLearning Categories, but one framework, Kearney et al.’s (2012) mobile learning pedagogical framework, was found most suitable to serve as a base for this table. Each of the three original characteristics of Kearney et al.’s (2012) mLearning framework and their subscales were included in the inclusion rule. These three focused categories were: (a) Personalisation with agency and customization subscales; (b) Authenticity with contextualisation and situatedness as subscales (contextualization was used in the table as a more general term for the context); (c) Collaboration with the two subscales conversation and data sharing.

Since mobile technology itself plays significant role in shaping mLearning and the majority of other frameworks explicitly discuss it, a fourth component of the rule was added to
the category table, the physical characteristics of the technological devices. To simplify the table entries, the above framework and theory numbering is used. For example, when relevant, number four was entered in the table to refer to Kearney et al.’s (2012) mobile learning pedagogical framework; number two was used to refer to the Unified theory of acceptance and use of technology (UTAUT) (as adapted by Wang et al., 2009), and etc. Only explicit concepts from the frameworks were used. There were several concepts that could be listed under more than one category of the inclusion rule. For example, PE, EE, and PP are individual perceptions about technology, and they can be listed under both Physical characteristics and Personalization, but I chose to list them under the former since the perception is about the physical characteristics, and the individual is not actively incorporating or altering the device.

Table 4-5. Four known mLearning categories.

<table>
<thead>
<tr>
<th>Frameworks Explicitly Deploying Construct (numbers refer to the 5 frameworks, see below)</th>
<th>Physical Characteristics of Technological Device</th>
<th>Personalization</th>
<th>Contextualization</th>
<th>Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1, 2, 4, 5</td>
<td>2, 3, 4</td>
<td>1, 3, 4, 5</td>
<td>1, 2, 3, 4, 5</td>
</tr>
</tbody>
</table>

**Original Concepts**

<table>
<thead>
<tr>
<th>Technological Device Objectification Learning-mediated Technology Material elements</th>
<th>Personalisation Appropriation</th>
<th>Context Authenticity Incorporation Discursive Elements</th>
<th>Social Interactions Collaboration Conversion Learners and Others Construct Meaning in Conversations in Context Social Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability Portability PE*, EE* PP* Adaptability SL* Agency Customization Contextualization Situatedness SI* Conversation Data Sharing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Abbreviation legend provided under Table 2-2, Chapter 2.

Once I created Table 4-5, I used the categories in it from the mLearning literature to finalize the inclusion rule and elevate the existing codes to analytic concepts. During this more advanced stage of focused coding, I organized the codes for each of the participants’ data
separately under the identified four mLearning categories: physical characteristics of technological device (physical characteristics for short), personalization, contextualization, and collaboration. These were etic categories (outsider’s view vs. emic, insider’s view, as discussed by Butler-Kisber’s, 2010). The concepts were connected to the broader world of mobile phone usage in general mLearning frameworks that can be tested for their generalizability when understanding mobile phone usage is framed under the known constructs. For example, PP and PE were illustrated with the perception of mobile phones as being fun (especially at the beginning, Tsveta) and “useful. They are a great connection. You see the world. Everything. Whatever you want” (Vlada, p. 16), “such a convenience” (Tsveta, p. 12).

The outsider’s view, however, was not telling too much about the local specific, i.e. the emic story of this study. These four categories account for only part of the mobile device usage data and did not account for many coded subcategories, such as using family ITS and support, not using phones/internet spaces, staying out of trouble, using phone on a tight budget. The known categories and their dimensions as compiled in Table 4-5 were not encompassing the entire Romani women and their families’ emic story of mobile phone usage. As presented, the model was tracing a unidirectional movement from accepting mobile phones, interacting with them, and integrating them in the existing family and social structures. They represented categories that seemed bloodless and as if operating in a vacuum.

This was far from the picture emerging from the data, therefore I had to rethink and add several new dimensions to account for the Roma specific codes. For example, one of the dimensions I created I called Phone economics. This dimension was serving several purposes: (a) to account for the codes not fitting the known models, (b) to bring forward the emic insights, and
to challenge the usual mLearning models by anchoring mobile phone usage in the economics of study reality. Data provided below could not fit any of the categories directly.

Data about Tsveta having internet on her phone but not using it: “Because in Bulgaria we have [economic] crisis, and we cannot pay for internet” (Tsveta, p. 16), was beyond all the dimensions under Physical characteristics in the original mLearning models. Data regarding high mobile charges (Roza, p. 3), people pawning their phones when not able to pay their phone bills (Gyula, p. 54), Vlada avoiding some of her mobile phone features: “It has internet. There is this and that. There are cameras. But they don’t excite me, and they don’t interest me. Internet takes all your money” (Vlada, p. 2) had no place in the original mLearning dimensions but fitted perfectly under the newly created Phone economics dimension.

**Theoretical Coding**

When focused coding was completed, I treated all organized data as dimensions of the four categories discussed above. Some of these dimensions were etic; some, especially the newly created dimensions, illustrated the specific emic, local meaning of informal mobile phone usage, but the categories still assembled a list of mobile learning themes.

Theoretical coding in grounded theory is the next level of grounded theory abstraction which is essential in moving data beyond the list of themes and beyond answering the what, where, and how questions (Charmaz, 2014). I created several theoretical codes to help me theorize about the relationship between all the focused codes, answer the main why questions, and expand on existing mLearning concepts.

Here is how some of the why questions were formed first. Very early in the study, data revealed that some women had chosen to avoid using mobile phones even when they owned a mobile device. These women were exhibiting agency, one of the dimensions of mLearning
Personalisation category, but agency against mobile phones and mLearning. Also, some women were making constant calls to specific family members. It became critical to ask why some women were resisting this technology and why some were making the particular calls.

**Two Activity Systems**

In what follows, I expand on how CHAT and technofeminism were used to answer the why questions through addressing study’s research question and subquestions. I begin with an NVivo visualization note and continue with a discussion about the two main activity systems, their emergence, involved resolved and unresolved contradictions, and how these activity systems assisted me in uncovering the reasons behind the mobile phone resistance and the specific phone calls women were making. A list of theoretical codes and theory building directions conclude this chapter.

The main findings of this study address the main research question how everyday life and informal work of group of Romani women from Southwestern Bulgaria orient the use of their mobile phones and their informal learning. The two activity systems that emerged from the data answered the first two subquestions: in what types of activities are Romani women involved while using their mobile phones? What are the objects of these activities. The two main activity systems are: (a) Being a good Romani woman with an object Keeping family safe and (b) Surviving the Post-1989 transition and the raw capitalism with an object Keeping family fed with a shared object identified as Wellbeing of the Roma family. The two systems are shown in Figure 5-1, which was created using the concept mapping feature in NVivo (11).
A Note on Visualizing Activity Systems Using NVivo (11)

In Figure 5-1, the two activity systems are represented by two ovals with small bluish dots inside the ovals and at their edges. The two ovals, the left and right, stand for the first and the second system respectively. The oval shapes and dots were chosen over the usual triangle of third generation CHAT (Figure 3-4) for the following reasons: (a) I did not use CHAT to analyze data since I find the triangle overused as oversimplified version of CHAT, with its elements used as ready themes pushed onto data; (b) ovals represent eternity, and I accepted the shape to be better fitting the gender concepts and everyday life; and (c) since I used NVivo to visualize and organize data, I employed the bluish dots and the maps to click and interact with the coded dimensions of the two systems and revise and export them as needed.
The small circles at the edges of the two ovals were placed, however, to correspond to the points of the usual CHAT triangle. For example, the subject of both activity systems is the entire group of women and their families, but the systems are presented from women’s angle, thus graphically the subject is shown here as a female shape placed on the left side of the left oval (Figure 5-1) where the usual CHAT subject is depicted. On the left edge of the left oval a small circle is pinned called Romani women’s everyday life, containing all texts as coded under the subject of the first activity system. Since Romani women functioned differently and carried different dimensions as subjects of the second system, the node for these dimensions called Romani women and changes was placed at the right end of the second oval, straight across from the female shape.

In addition, dimensions related to Phone and Variety of digital devices are placed at the top of the ovals, where usually tools/artifacts are located in the traditional CHAT triangle. Dots called Romani women and tradition, Gender relations and ITS support within family represent dimensions of concepts such as rules, community, and division of labor and are located at the lower end of the first oval, as per the CHAT triangle’s points. Dimensions illustrating the same concepts under the second activity system follow the same logic and are organized under the three blue dots at the lower edge of the right oval. Two dots located within the ovals represent several actions grouped under two main actions Checking on family and friends but mainly on children and Objecting stereotypes.

The two objects, Keeping the family safe and Keeping the family fed with the overlapping shared object Wellbeing of the Roma family, are represented by the three overlapping long ovals drawn in the middle between the two activity systems. Since the Outcome - working with and around mobile technology, was a result of resolved and unresolved
contradictions between the two systems, the oval is not located at the usual CHAT place at the right of the activity systems but instead - above the activity systems and their objects.

**First Activity System - Being a Good Romani Woman**

**Operating Mobile Phones**

Women’s activity systems and the objects were not obvious right away (Foot, 2001), and since operations are usually the visible part of an activity, I used the operation-activity-activity analysis (Sawchuk, 2003a) to help me uncover and analyze the activities. Operations are defined as the concrete steps in dealing with conditions in order to achieve a purpose (Leontiev, 1978). Women talked about operating their phones as following simple steps: “I take the phone and push the green button, and you talk” (Tsveta, p. 12). “Press-press [click-click]. You enter one button, and you see. You enter contacts and you see phones, and you see who has called you and everything” (Vlada, p. 2). These operations seemed very simple when we discussed them, but learning how to operate a phone was gradual, and since the phone is a personal possession, women are not afraid to explore it. With time Gyula reports that “gradually, as I got it [the phone], I played with it here and there (messed around with), and I learned how the things work” (p. 11). Gyula also reflects on her practical hands-on learning how to operate her phone: “before that I have never used a phone”, and adds more details: “And with time, I started to delve into it, to see what there is. To get into the messages, apps, alarm clock, and then day by day I learned things, by myself. There was no manual, no” (p. 61). Gyula shares as being not afraid:

- to dig around (play with it) until I got it, but at the beginning, I did not know anything…. At the beginning when I would enter the app, I had no idea how to dial or when people call me. Did not know how to pick up, how to write. So when my friends and acquaints[called], I started to experiment and add contacts, and I
got used to it and could find my way in the phone. …I have not used any manuals or have not looked up online. (p. 65)

When I asked what happened if she made a mistake, Gyula simply replied: “I just went back, and started from the beginning” (p. 65). Ruzha reports “…gradually, as I got it, I played with it here and there ( messed around with). I dug here and there, and I learned how the things worked. Yup, like that[…] And this is it” (Ruzha, p. 2), and “At the beginning it was interesting to me” (Tsveta, p. 13).

By the time of this study, these practical operations and learning have become automated for the study participants; knowledge has become tacit and no longer fun. Operations remain important and meaningful, however, since they provide the means to realize these women’s concrete actions.

**Two Major Actions with Mobile Phones**

Pressing the green button on a simple Nokia or on a smart phone, digging and playing with the phone was the way women dealt with the conditions of the newly introduced tools. These operations were not isolated and meaningless; they were connected through several major actions serving two particular purposes. The first group of actions was guided by the motive of the object of the first activity, Keeping family safe, and was labeled Checking on family and friends but mainly on children. The second group of actions emerged as closely tied to the object of the second activity system and was called Objecting stereotypes.

The first group of calling actions is illustrated with the examples that follow: “I call my kids, my sister, my brother, I don’t call other people” (Nada, p. 6). Vlada shares: “From the morning to late in the evening. Look (call) for my kids”, and again: “I called a nephew. And went to see one of my sisters” and she is calling all the kids - up to 8 times (p. 1). Tsveta likes
her phone because: “You can look for your kids (call them) at any time” (p. 9) and not worry about them. Gyula shares that she uses her phone “at least 10 times [a day]. Mainly to call my close ones - to call my mom, my husband, my kid… But for business as well, approx. 70% personal calls and 30% business calls. At work, I have a business, landline phone“ (p. 60).

Women report that they make sure that the phones are charged: “When I get up… First thing, I plug it in the evening to charge it” (Tsveta, p. 14) so they have a charged phone to be reached when needed and that the phones are on them: “and the first thing is when I go shopping, to put it [the phone] in my pocket. … When the kids look for me, they know that I am shopping” (Tsveta, p. 14), and “so I am ready, so people can call me” (Nada, p. 8).

Women call, check, but they also receive calls from families as recorded at the church or at the open-air wedding (Vlada), while skyping with me (Gyula) or as we were having coffee (with Roza). They also receive calls from friends: “Friends call me. My work is such that friends call me for work” (Vlada, p. 1), or friends would call each other if they have not seen each other (Tsveta and Vlada) because “we give each other support [literally, give each other a shoulder]” (Tsveta, p. 17).

Many of the women call because they want to know where family members and friends are. They do not just use their phones for conversations or data sharing - they want to know the closest people’s whereabouts: “Called one of my sons. I called my other son. What they are doing? Not doing. Each of them - 3, 4, 5, 6, 7, 8 times” (Vlada, p. 1). Tsveta recalls what the situation was before the mobile phones were present in Bulgaria: “We used to worry about the kids. We did not know where they were. All night we would worry sick and not sleep a wink. …” (p. 13), but now “you can look (call) for your kids at any time. Peace of mind […] Now you call them, and you know where the kids are, and you are at peace (Tsveta, p. 13).
Nada calls:

3-4 times, for example today. To my daughter, to my brother, to my husband, like that, to my son, sometimes, when I am at work, I am asking/ checking things - this and that. […] Not about work. I am asking her [my daughter] what is up, what she is doing […] I call my daughter, my son - my kids, my sister, my brother, I don’t call other people… I only call the kids (grandchildren) when they are at school. What they are doing, (I check), whether they have come home. I am calling the children, the grandchildren, this is it. (Nada, p. 5)

Nada also calls to ask where the teenager is and whether the teenager grandchild has come back

“Until our teenager is back home, my mom does not go to bed” [AH’s note during March 2015 skype interview]. (Gyula, p. 67).

Using the technology to check where everybody is can grow into a subtle family and partner control. Through checking on one member, for example, Nada checks on other family member as well. Nada shares: “I called and called… to ask where [the teenager] was because [the teenager] goes with grandpa usually, so I wanted to check where grandpa was, where they were” (Nada, p. 5). Some women share that it is a good idea to have accurate phone bills to see the phone calls. They were frustrated that now this option is not available. My notes following our conversation read: “And it is hard to check on the partner, one adds, smiling, as a needed measure for family stability” (Roza, p. 31, also Appendix B).

The second major action was labeled Objecting stereotypes. It emerged as guided by the object of the second activity system, Keeping family fed. Examples below were grouped together as Romani women’s way to fight otherness and stereotypes through buying, learning to use, and using mobile phones, discussed in that order below.
Tsveta proudly announces: “I do have internet connection on my phone, but I have not used it at all […] Yes, the newest. Nokia, with internet, but I don’t use it” (Tsveta, p. 12) because internet is too expensive. Both Tsveta and Vlada adopt the phones very early, as soon as the phones are advertised in Bulgaria. Tsveta bought her first mobile phone “when the first cell-phone was available in Bulgaria, I bought one for myself” (p. 12).

Computers are a different story. Tsveta’s family, for example, has rejected them as unimportant and another way to fight stereotypes. In Tsveta’s opinion, they are more for entertainment for kids or for people who do not work. “My children. They have not expressed desire because they are grownups. They work. They do not stay at home. I have a TV set. And this is it” (Tsveta, p. 14) and also: “She [her daughter] works” (p. 16). With high unemployment rate among Roma and high percentage of inactive Roma young people, Tsveta is emphasizing the fact that her children are not idling at home or in the streets, as many Roma youth are portrayed to be doing.

Next, I provide more examples of objecting stereotypes. Romani women are distancing themselves from the stereotype of Roma being involved in criminal activities. They did not want to be associated with the slightest issue and clearly wanted me to stay out of trouble as well. When asked to consult me on a phone purchase, they all favored buying phones from the store or through trusted friends and not from illegitimate sources like street peddlers. My notes from this discussion read (also in Appendix B):

They warn me against the second hand option because they might be stolen or illegal. The media have exposed stolen phone business in some pawn shops in 2014 (http://koi.offnews.bg/news) and have advertised the EU campaign Ringtone to retrieve stolen smart phones and tablets. Roza and Vlada share a story where
one’s account was showing under somebody else’s name when paying at the office; and the police has tracked them down and has informed them that the phones had been stolen. Vlada was very disappointed and returned the phone back to the seller, a very good friend, giving the family a piece of her mind. Vlada was extremely against the idea to get a second hand phone. (Roza, p. 12)

After Tsveta’s response that mobile phones are very easy to learn, my notes read: “she [Tsveta] emphasizes her level of expertise; and that there is nothing to it - you just push the green button” (Tsveta, p. 6), making sure that I hear and understand this. She was frustrated when I asked her how she learned to use her mobile phone: “But why how I learned it? We are literate. Whatever everybody else does, we do the same” (Tsveta, p. 12). I reflected about Tsveta objecting the stereotypes and commented that: “[Tsveta considers herself as] not different from me, the rest of the Bulgarian people!” (p. 2).

The operations and actions discussed so far together are meaningful and connected and are serving the broad motives of the emergent two activity systems discussed separately.

**Being a Good Romani Woman**

Serving as the same subject and using same tool (their mobile phones), women act differently for each of the two activity systems because they move to a different terrain for achieving different goals. For example, when using a phone in the first system Being a good Romani woman, the main action of Checking on family and friends but mainly on children is shaped by the traditional expectations and the rules established in this community and the particular families. These community specifics and arrangements are discussed below.

Being a good Romani woman traditionally means marrying very early (between 14 and 15 years of age) (4 of the participants). According to Dano, Romani women “depend on Roma
men […] This is how the tradition goes. It is a close community” (p. 1) with still existing “tradition to steal brides or elope when very young” (Snezha, p. 1). Since the legal marriage age is 18 in Bulgaria, traditional unions are not recognized by the state but are ruled through family and community arrangements. Gyula comments on this old Roma custom:

   Early marriages - there is no way to influence them [one of the Roma groups].
   [Early marriages come] from old times in Roma community. You need to be educated, to have a job, yes. There is nobody to tell them because their parents, they follow into their footsteps. There are 20-21 year-old Roma women who are not married but from the integrated groups. (p. 55)

and adds later:

   There is a trend that a winner of the Miss Romani within the next 2-3 months gets married. I am sure, the boys single them out during the contest. In the past, we had more girls participating, this year, some parents I am sure did not let their daughters to participate. (p. 74)

   Majority Roma live in traditional common law arrangements but “[a relative of Gyula’s formally] married last year, since in order to receive social assistance, they have to be formally married […] and ] at a local restaurant (celebrated) after two kids. Were all joking - the newlyweds” (p. 71). “Signing the formal certificate would not make any difference…”, Gyula continues “[but by signing, the wife] will have [property] rights. Otherwise the wife does not exist on any property documents” (p. 72).

   Traditionally, it is expected a lot from Romani women. Their daily routines include planning daily meals, cooking meals for everybody before or after work (Gyula and Nada). Nada shares how she balances her formal and informal work: “I cook the evening, so he [the husband]
has a meal for the next day. So then again, evening I cook again, so he has the next day. So I make my plan. …(we both laugh) […] He does not enter the kitchen (we all giggle)” (p. 7). If and when needed, women help with grandchildren (Vlada, Tsveta, Snezha, Petra, Nada). Romani women also visit with friends, watch TV shows for fun, and the next day, repeat everything.

Some observations complicate these traditional roles and division of labor. Especially among the couples belonging to the below-50 age group, the relationship was recorded more as a partnership and interdependence rather than simply Romani women depending on Roma men. For example, I write in my observations notes that, “Roza’s husband offers to take over making sandwiches when Gyula, Vlada, and I are about to leave the café, so Roza can join us” (Roza, p. 11). During our informal visit at the coffee shop, I noticed and reflected later that, “[while we were all chatting] Petra was holding her granddaughter (2-3-year old) on her lap for some time. Then she hands the girl to the granddad, and she is ready to relax and participate” (p. 1). After the same visit, my notes also read: “Petra and Gizda are going to work, going home - together [with their husbands]. If they need money, they ask, and they get. Sandra holds the money, and as Dano [her husband] leaves, he asks for some money [from her]” (Petra and Gizda, p. 1).

Within these complex gender relations, expectations of women are still very high. Women are expected to be “the neck and the head of the family” (Petra & Gizda, p. 1), and for that, Romani moms are expected to “know where and how the kids go (develop)” (Eva, p. 8). As a family mirror, a mom reflects the entire family successes and failures. Not the dad, the mom of the family “should know this and should stand by it since she is the God” (Eva, p. 8).

These expectations from the community to know create the need to know and forms the object of Keeping family safe, which orients the entire activity system realized through the concrete operations and actions. Everybody has changed, Eva shares: “Unemployment is high,
people have changed, so the consequences are horrible, a lot of killings, people are divided, people complain in the villages and in the cities, cannot leave their doors and windows open” (p. 1). Crime rates in Bulgaria have increased, and activities in which children can get involved, such as drugs, prostitution, human trafficking, killing, are all very dangerous. Knowing family members’ whereabouts and especially the whereabouts of the children and grandchildren in these dangerous times is priority for the women. They want to call several times a day to look for everybody and to check where family members and friends, especially children are and what they are up to.

Deemed very easy and useful, mobile phones were widely spread among the entire Roma community. With their ability to reach a person anywhere, they served as a medium in the first activity system and provided the needed constant contact. Some women are used to the phones to a point that when leaving her phone at home by accident, one Romani woman reports that she “feels uneasy. I need to call, to ask, to check…[if] I don’t have the phone, so I am not happy without it. I am used to it, and … better never forget it… we cannot do without them” (Nada, p. 6), and shares: “we are used to the phones already” (Nada, p. 2).

So far, I expanded on the traditional division of labor within the group of Romani women that participated in the study. I also touched on how the women incorporated their mobile phones into the activity clearly within the traditional gender and generational division of labor patterns in the community - women act on the expected women and mom’s chores of raising own children and helping with grandchildren when and as needed.

The following paragraphs describe situations where the table is turned and children and grandchildren are helping. Visualized as a dot at the lower edge of the first activity oval, these situations were coded under a node called ITS support within the family and are discussed as
digital division of labor that is primarily unidirectional from the younger to the older generation. As shared by some women, they rely on informal ITS support systems within the family, where:

“If I don’t know, I ask my kids when I don’t understand anything…We have young kids who do this” (Tsveta, p. 14). Vlada also resorts to her children for technical support: “If I don’t know something, I ask the kids” (p. 15). Gyula’s teenager helps with all electronics:

Then my teenager showed me. I did not have viber, and the teenager created it for me. Messenger, everything my teenager all he fixed for me […] If my teenager is next to me, the teenagers shows me. Because knows more than me […] Then my teenager was next to me, and when the phone rang, I asked the teenager, and the teenager showed me exactly how to pick up. The teenager knows everything on the smart phone […] In fact, the teenager does help with all electronics and software - fixes skype camera, checks for programs. (Gyula, p. 66)

Nada shares how her grandchildren help her with technology:

Kids start it (giggles), and I watch it, some songs, movies, they play, I don’t get involved […] Even the young one. She plays for me. She knows everything on the computer […] She knows everything (very proudly). And then the other grandson from my daughter, and the other grandson from my son, they start, but I don’t concern/touch […] the young one, she plays songs for me […] the granddaughter takes a picture. She does everything. She takes pictures. On the computer. Everything […] takes pictures. So she says, wait, grandma, and she takes a picture. And so next […] she shows the pictures, yes, and I tell her. If I don’t like it, tell her to erase it. (pp. 3-6)
For their first phone lessons, Gyula and Nada depended on their husbands: “My husband showed me. He had a phone before me […] He first showed me how to answer the phones. And how to hang up” (Gyula, pp. 61 - 62) and “he showed me how to work with it, how to call, and then I got used to it” (Nada, p. 1). Snezha shared that when she needs help “she asks her older granddaughter (age 10-11) to take a picture of something she likes, [but she also asks] her husband or kids to fix the phone and to transfer pictures from the old to the new phone” (p. 1).

Women also seek IST support outside the family. For example, Ruzha recalls: “The workers there [at the mobile phone office] showed me” (p. p. 2). Vlada acted out the ITS support at the store:

You go to the store and you say. Can I buy a phone? How much is that phone?
Where does it connect? And so on. And I bought it. How I use it? Or if it breaks, I go to the service shop or whoever works with the GSM, I ask them. (Vlada, p. 15)

When in doubt, in the store about the type of calling card, though, Vlada refuses to consult the owner about what to buy, “[she] calls her son instead. He advises us to buy the right mobile supplies” (p. 3), and I reflect later that “family seems to be the first choice for Vlada to ask and learn” (p. 10).

Different generations use different devices and apps. As reported by adults, younger generation (5 to 18-year-old children and grandchildren) own or use newer and more sophisticated devices than the rest of the study participants - laptops, computers, tablets, and smart phones. They use variety of apps, Facebook, and other social media to post pictures, play music-video clips off internet. Younger women (20 - 35 age group) own older devices, usually passed to them by other family members mobile phones, smart or flip phones, but some women representing this group freely use different apps, phone cameras and the social media, especially
if single. Women representing the 35 and above group were with the oldest and simplest usually basic flip phones with no data plans.

Explicit and implicit digital rules are also different across generations. For example, following our chat about Facebook, I add to my observation notes: “Facebook and social media, all agree, are for young, unmarried, to meet up young people. Married women only use it to connect with family and friends” (Snezha, p.1). Following the same informal meeting, I write: “Young post on Facebook. They hear about Advent, and they follow stories about baby Jesus although the church forbids Facebook” (Petra and Gizda, p. 2) because in Gyula’s opinion recorded verbatim during a skype conversation: “for women get corrupted (tainted) there [in Facebook, Viber]” (Gyula, p. 70). Vera, one of the younger participants, uses her phone for the family business and to post pictures on Facebook, but once married, she told me, “will no longer be using her facebook account” (Mira and Vera, p. 3).

Second Activity System - Surviving the Post-1989 Transition and the Raw Capitalism

The second activity system emerged from the analysis of women’s particular actions. The actions were oriented and guided by the motive of its object Keeping family fed.

Although Romani women are the subject of both activities, they act differently in the second activity systems since the rules, community, and division of labor that influence their actions are shaped by global forces outside Bulgaria, specifically the EU labor market and the integration programs under the Roma decade 2005-2015. In this second system, Romani women’s actions are analyzed beyond tradition, within the context of change, thus the node with all the coded text was called Romani women and changes and was represented by a blue dot across the female shape in Figure 5-1.
Integration and modernity have promised to bring development, higher employability, and change. In the field, when we discuss changes, our discussion at Sandra’s coffee shop is very heated. My notes read:

The discussion is about corruption, […] unemployment, options to only work in Greece, and the lame changes over the last 26 years of transitions that brought the only thing to this community - the change in their name - from Tzigani to Roma. This is it - nothing else. Gizda says that it was nice before - there were jobs. Now she goes to the unemployment center to look for seasonal jobs. (Sandra, p. 1)

Unemployment rate being almost 60% among Roma, women appreciate their jobs. They hold tight to their jobs when available and try to keep them for as long as they can. For example, Nada is often laid off, especially during winter months so she often checks before work:

I call my female foreman, when we are home on call, I call to check whether there is work or not, to tell me whether I need to go.[ …]Yes, if we are at home and have not work (laid off for some days?), so she would call the evening before if they have brought work, so …like that yes, they call, and we go. (AH: Does this happen often?) Winter time - often. (Nada, p. 4)

If she is needed, she goes to work and still stays connected with the family but calls only during her break time and never while working: “I can call on my break, at 10 or noon, [but] during work… No-o-o” (Nada, p. 8).

Vlada has not changed her number for years: “I can’t switch. Because I work with people, and they know my number to call me for work… I need the phone to ring. To hear nicely. And to talk. So I have a clear sound. Good signal. So people can hear me, and I can hear them” (p. 17). How Vlada determines what phone to get is not based on esthetics or additional
features - she needs a phone with her old number, so her clients can call her back since they know that number. She also needs a phone with clear connection to communicate efficiently without miscommunications. As we were chatting, Tsveta was waiting for a business call, so she was a bit rushed at the end of our visit.

Gyula shares that she gets phone calls:

…about unemployment declarations, social assistance, unemployment benefits, based on number of kids. [On the day of our skype call] so they call me on my mobile phone, they were late with the documentation to be filed on the 8th (Friday). (Gyula, p. 74)

Ruzha receives calls about her work schedule: “Yes, they call me if anything comes up. Urgently. They call me” (Ruzha, p. 9). My notes that followed an informal visit on March 19, 2015 read that “Snezha does not call for work - she does not trust the phone. She walks to the BLS (Bureau of labor statistics - or DOL - Department of Labor) office downtown, checks job adds but not now, later - for some cleaning jobs; or to work abroad” (Snezha, p. 1).

When the jobs are lost or unavailable, many Roma and non-Roma Bulgarians plan and seek migration to other EU countries. The free EU movement for all Bulgarians was possible after 2009, the year when Bulgaria and Romania officially joined the expanded EU but especially after 2014, when the Schengen inclusion took place. This mobility freedom was soon restricted for the citizens of the two countries, after using criminal activities of some Roma and non-Roma from the Balkan region to stereotype about these countries’ entire population, and especially to enkindle old gypsy myths (Jorna, 2014).

Evictions and anti-Roma sentiments are often awaiting Roma migrants, and with Western Europe in general unwelcoming and close space, Roma rely on relatives to help the migrants as
needed. Gyula’s sibling, for example, is moving to Western Europe; the sibling will be working on a contract there. A family member is local in the small town where they are all moving. During the summer months, Dimo and Roza and family work abroad; Tsveta has relatives in England and an adult child also working abroad; Vlada’s grown up children have worked abroad as well.

Integration programs, their discourse, and the Roma Decade discussed in Chapter 2 have shaped women’s actions in this activity. The pressure of the outside forces has created the need to oppose the reality and the stereotypes imposed on the Roma. During an informal conversation in March 2015, Roza and Gyula share that “there is paralyzing poverty [among Roma which I also witnessed]. There are many Roma like this. A lot of hunger. One elder Romani woman often approaches them starving, ready to faint” (Roza, 12). Roza and Gyula share their frustration about integration. I have written in my notes that for them “integration is only a word. Nothing really has changed. They bring the topic about education. How important it is for the Roma who remain illiterate” (Roza, p. 13). In a skype conversation later on, Gyula summarizes her view about integration, which I wrote verbatim and later translated:

…less educated, who don’t have contact (with the mainstream), they feel more isolated. […] Integration means inclusion. I am. It means to have equal rights and access to education and health care, and this way you are part of the society. […] It is important the environment where people end up in - for example, where I work, they accept me. In a mixed school, if they [children] have not had anybody (support as a group) a chance to adapt […] those who are not…the ones that look more unkempt are pushed away; when they see they are not accepted, they withdraw completely. (Gyula, pp. 55-56)
My skype notes further read: “Gyula sees some progress through taking the Roma children out of the neighborhood and placing them into mainstream schools but with unemployment so high among Roma, she sees nothing afterwards”, and I comment: “Gyula sees no real change as a result of integrating kids into the mainstream schools. At the end, the fight for integration seems meaningless to her” (Gyula, p. 60).

Although Roza and Gyula echo the Roma decade discourse about schooling and integration, they understand the complexity of integration and the importance of broader support and major social and economic changes. Participating in this study was the way for these women and some other study participants to be more successful through integration but also be personally involved and bring change to their community the way they see it.

Mobile phones and other digital devices served as mediating tools in both activity systems.

**Contradictions and outcomes**

One of the main principles of CHAT is the focus on contradictions as a driving force for change, development, and learning (Engeström, 2001). Contradictions and clashes are resolved, but often they are not. In this study, both instances were recorded - one of each, and the latter have brought destructions and discomfort as reported to families of women outside of the study. In all cases, though, the outcome recorded was informal learning. Contradictions and the main Outcome - working with and around mobile technology, are exemplified with instances of technological resistance and workarounds that are discussed next.

**First Contradiction Resulting in Technological Resistance**

Although often recycled within the family, phones were available to women and women owned one or more devices. Some women used their second or third phones regularly, but there
were five adult women who, for different reasons, have chosen either not to own a phone or not to use the ones they had. Based on the literature, three women represented the technology resisters (Norris & Conceição, 2004; Selwyn, 2002) and two have chosen to be four-way-communicators (Sawchuk, 2003a) (See Tables 4-3 and 4-4). As observed and reported after an informal visit, Sandra “reaches for her phone in the counter drawer and shows it [the phone] to us. Sandra keeps it in the drawer because she does not really need it (Sandra, p. 1). And also after a different observation, my notes read: “Mira’s husband has lost his phone with all his contacts. So now he is using his wife’s because she tells us she does not really need it (the phone is otherwise in the drawer)” (Mira and Vera, p. 2).

As shared during the informal visit at Sandra’s coffee shop, some women have made conscious decisions not to own phones. My observation notes of the visit read:

Petra and her friend Gizda don’t have mobile phones - they don’t need them because their husbands [each] have phones… [if they] need the phone, no problem, then the husbands call for them. What if you get lost, I ask, and both giggle and say that they hold hands and never leave each other, so no worries.

(Petra and Gizda, p. 1)

Snezha’s older grandchild and husband help her with the phone as needed (Snezha, p. 1).

As reported, these five middle-aged married women (all representing the 35-50 age group) shared that they had chosen to avoid using mobile phones all together either because their husbands had phones (2) or because owning or using mobile was irrelevant to them (3). These women represented different technology adopters with different attitude towards technology (Figure 4-4).
Further analysis of the reasons behind the phone resistance uncovered unresolved contradictions between the two women’s main activity systems. As the mobile technology usage becomes part of most intimate exchanges, technology brings opportunities and carries records of forbidden affairs with serious consequences. Texting was not recorded as being widely used by study participants, but during a skype conversation Gyula shares a story about people from the Roma community exchanging texts. Her words were written verbatim and later translated:

\[\text{…one woman received a text message from her lover, and the husband saw the text - he caught her with the text. They [the lovers] were arranging where and when to meet. They [the couple] have a 6-year-old child. And he [the husband] chased her [the wife] away.}\]

And:

\[\text{It is trendy now for women to cheat. I do not know why this happens. This is a recent trend - through Facebook, they find contacts from there. (Gyula, p. 70)}\]

Another study participant shares, and my informal notes read:

\[\text{Sometimes you hear stuff and trouble caused by this Facebook - somebody meets someone who they were not supposed to meet. Stay online all night long. Trouble. And then you hear things - houses are so close, you hear and know. (Snezha, p.1)}\]

This is divergence from the traditional Roma values and high morals reported by Dano although he also acknowledges that “there are changes. Women in their 20s-30s, every second woman uses internet” (p. 1).

For some of the women, mobile technology’s irrelevance and technological resistance were the informal learning about how to deal with this new technology. The clash between the two activity systems, Being a Good Romani woman by using the phone to check on one’s family
members and Surviving the Post-1989 transition and the raw capitalism by trying to be like others, fighting the stereotypes, and embracing the new technology and be successful and developed. Through using the new technology, younger generation of Romani women have pushed the tradition of being dependent on their partners. They have used mobile phones to reach more people outside of the closed community without planning for the unintended consequences and have paid high price for this challenge. As a result, some middle-aged women have decided to reject the phones completely. The culture has pushed back, and the church and the respected elders have spoken against the temptations of the new technology, especially Facebook. It is forbidden for married women although it is acceptable for young and unmarried to meet and socialize online, a digital rule that has resulted from this contradiction.

As a compromise, young Roma have found a way to stay in Facebook even after the marriage since it is not uncommon to have a joint family facebook account where young Roma post their wedding announcements. This was the case with one of Gyula’s relatives, as written in my September 22, 2015 skype notes:

The couple has known each other, and they were dating. Everybody knew that the next step would happen soon. As is usually done in the Roma tradition, the announcement was made in the morning after the girl stayed over at the boy’s place for the first time. Facebook page that belongs to both as a family announced change of status - Got married, that day right after 10 am, and the first congratulation notes poured a few minutes later, followed by 90 plus likes and many messages congratulating the couple, wishing them happiness, long life together, a son. (Gyula, p. 73)
Second Contradiction Resulting in Workarounds

Price for internet and phone vouchers came several times to our conversations with the study participants. Being on a budget is a phenomenon many people experience, but it is especially relevant to struck by austerity-forever Bulgaria. Economic crisis has been affecting the majority of people in Bulgaria, but the crisis has been felt by the Roma the hardest, and many have learned how to survive on tight budgets. The calls women need to make deplete their already limited funds, and keeping the phone handy and charged with a calling voucher with enough minutes becomes a challenge and one of the contradictions that many of the women have faced and have successfully resolved.

Although the phones are not a luxury, services the mobile phone providers offer are expensive, and if not paying attention to the calls made, one can cause further financial distress to the family or simply will be left without a phone. So there were several solutions recorded to this deeply rooted in the market economy contradiction. First, women are with a high level of unemployment, struggle to make ends meet, but on the other hand, it is so dangerous for everybody that they need to stay in touch by using their phones.

Three solutions were recorded:

The first solution was to avoid internet or limit data plans:

There are cameras. But they don’t excite me, and they don’t interest me. Internet takes all your money. Because the internet takes up all your minutes (money) in the card. All the card […] but I don’t use [internet]. …How I pay? With a sim card. I am not on a monthly plan. I buy for 10 lv….I talk, talk, and it will swallow your money. (Vlada, p. 16)

Also: “I do have internet connection on my phone, but I have not used it at all” (Tsveta, p.16).
The second solution was to use several calling plans and use the free minutes to call different subscribers. This solution was reported by Nada’s daughter: “Nada is on a voucher card to use GloBul phone. She gets a 5 lv/month ($2.91 as of Oct 13, 2015) calling voucher, which includes 250 free minutes to GloBul subscribers. She is very careful to call only GloBul on this card, because otherwise the calls are 50 st/min (29 cents/min)” (Gyula, p. 77). Nada confirms: “I use free minutes. With my sister, I have free minutes. When I call often to check on my mom. I use my free minutes. [...] I have free minutes with them, and we talk” (Nada, p. 4).

Final solution to this contradiction was to work around the expensive plan by making announcements calls. The minutes are quickly used up, and the Roma reported an innovative way to deal with this problem: “Once the minutes are gone, she only makes announcements calls - she clicks, and her daughter returns the call” (Gyula, p. 77). “I click and they return…” (Nada, p. 4). These solutions are exhibits of the instances of everyday learning which happened in the natural flow of Romani women’s everyday life, where mobile phones were adopted as needed, used as needed, and rejected when deemed dangerous or unnecessary.

The CHAT-guided theoretical discussion achieved the first two goals of the theoretical coding formulated earlier. The two activity systems theoretically outlined the relationship between all the focused codes and answered the why questions that surfaced early in the study: why some women were not using their phones and why some women were making specific calls. CHAT, however, does not usually theorize outcomes as shaped by gender specific rules, community, and division of labor of the activity. Using technofeminism lens, I added the gender specificity and constructed a node called Gender relations as an example for one of the activity systems and was placed on the lower end of the left oval. Gender details are obscured or missing
in the mLeaning frameworks, thus technofeminism lens was also used while expanding the
known mLearning concepts through constructing four additional theoretical codes.

**Gendered Dimensions of Mobile Phone Usage**

The four mLearning theoretical codes address the last research subquestion about how
gender was enacted within Romani women’s everyday use of their mobile phones and were
constructed as follows: Technology recycling with gender and generational twist; Technological
resistance as an agency in spite and around mobile technology; Generational-gender specific
usage; Gendered calls, and Direct and subtle partner (family members) control. The four
theoretical codes are compiled in Table 5-1 called Gendered Dimensions and are listed below the
four known mLearning concepts and their original dimensions. Four gendered dimensions are
illustrated with the examples below the table.

Table 5-1. Gendered dimensions.

<table>
<thead>
<tr>
<th>Physical Characteristics of Technological Device</th>
<th>Personalization</th>
<th>Contextualization</th>
<th>Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Concepts</td>
<td>Technological device Objectification Learning-mediating Technology</td>
<td>Personalisation Appropriation</td>
<td>Context Authenticity Incorporation</td>
</tr>
<tr>
<td>Original Dimensions</td>
<td>PE*, EE* PP* Portability Availability Adaptability</td>
<td>SL* Agency Customization</td>
<td>Contextualization Situatedness</td>
</tr>
<tr>
<td>Gendered Dimensions</td>
<td>Technology Recycling with a Gender and Generational Twist</td>
<td>Technological Resistance Agency in Spite and Around Mobile Technology</td>
<td>Generational-Gender Specific Usage</td>
</tr>
</tbody>
</table>

*Abbreviation legend provided under Table 2-2, Chapter 2.

The calls discussed in the activity analysis were not gender neutral. As part of their
everyday informal work, these women were expected to play a specific role - to keep family safe
and fed. Many women have found mobile phones to serve them very well in this task and even beyond, thus the theoretical codes named Gendered calls and Direct and subtle partner (family members) control were added. Roma specific outcome discussed in the analysis was coded as Agency in spite and around mobile technology along with Technological resistance, a learned reaction of Romani women to the distress mobile devices have brought to some of Roma families in the Roma community.

Technology ownership also followed specific gender patterns, thus the Technology recycling with a gender and generational twist was added since some phones were given to women from other family members who had updated their phones. This was recorded in Sandra’s case, for example: “She has a used phone that was given to her two years ago” (Sandra, p. 1), and in Gyula’s case as summarized in my notes:

The story of Gyula’s first phone: A neighbor resold a secondhand phone to Gyula’s husband, who becomes the second owner of that phone. Gyula did not have a phone then. The husband used the phone for some time. When the husband bought a new phone, he gave the old one to Gyula as her first phone in 2007 (so she becomes the 3rd owner)…Later the teenager likes Gyula’s phone and borrows it for 1.5 year. The teenager gives the phone back and gets a new phone. At the end, Gyula’s first phone is traded it in at the store (4th owner buys it to use or for parts). (Gyula, p. 9)

This chapter discussed data analysis and the two main study findings. It included the operation-action-activity analysis (Sawchuk, 2003a) that was used in conceptualizing the first main finding - the two main activity systems that emerged from the data: (a) Being a good Romani woman with an object Keeping family safe and (b) Surviving the Post-1989 transition
and the raw capitalism with an object Keeping family fed with a shared object identified as Wellbeing of the Roma family. Using CHAT’s concept of contradictions (Engeström, 2001; Lord, 2009), I reported on how Romani women and their families approached contradictions that resulted in intended and unintended outcomes as examples of informal learning. In this chapter, I also used the technofeminism lens (Wajcman, 2004) to summarize the construct four mLearning theoretical codes and argued that Romani women and their families’ emic story of mobile phone usage and the four categories of mobile phone usage discussed in Chapter 4 (and listed in Table 4-5) are imbued with gendered meaning.

Significance of these findings and their implications are discussed in the next chapter.
CHAPTER 6. CONCLUSION

This chapter serves as an overview and conclusion to the dissertation. First, it discusses the usefulness of the two theoretical frameworks, CHAT and technofeminism, for this study. It continues with the study’s contributions and its theoretical and practical significance. The chapter concludes with the study’s summary, limitations, and future research.

Usefulness of CHAT and Technofeminism

This study’s research interest was to uncover instances of informal (expansive) learning and complicate the idea of tool usage. CHAT was useful in looking for learning beyond the Roma Decade dominant discourse and binary theories, learning that is fluid and invisible and many, including Romani women, consider unimportant. CHAT guided me to treat this learning as situated in this Roma community influenced by Roma traditions on one hand, and changes and forces inside and outside post-1989 Bulgaria, on the other, and driven by the need and feelings (after Roth, 2009, as used by R. Engeström, 2009) specific for the other women.

Using CHAT, I was able to record instances of different types of informal learning by capturing first the visible, the concrete operations, thus I was often asking the question about learning and using mobile phones. Learning operations can be one type of informal learning. However, only after studying what was behind the operational learning, women’ actions emerged. For example, women were not simply pressing the green button, but they were doing so in order to primarily call family members. After further analysis, the reasons for intensively calling family members and the motive and the need behind making these calls emerged.

CHAT was used to conceptualize the type of informal adult learning that is most invisible, the expansive learning. In the case of the two systems that emerged from the analysis of the Romani women’s data, there were two contradictions between the two systems (Being a
good Romani woman and Surviving the post-1989 transition and raw capitalism), which resulted in the main outcome, i.e. working with mobile technology in their everyday realities. For example, women needed to call and check on family members, but the economics of the post-1989 Bulgaria and the raw and never-ending transition period were imposing restrictions, which the women resolved by making announcement calls or exploring different payment options to save money.

Another example of the main outcome was working around mobile technology, exhibited in the case of some middle-aged women’s learning to resist mobile phones. It was the unresolved contradiction between the two systems that resulted in women dropping the medium all together in order to maintain the two activity systems. For example, temptations that the new technology has brought to the Romani community have created tensions that were not resolved in some of the cases where the activity system of Being a good Romani woman was challenged or altered by some women in the broader Roma community. The outcome of this unresolved contradiction was learning about what a Romani woman can do or not do with her mobile phone, informal learning that was part of the cultural and Romani identity learning. CHAT involved analysis helped me uncover hidden relations, and conflicts with real emotions and consequences (R. Engeström, 2009; Nardi, 2005; Nardi, Whittaker, & Schwarz, 2002).

However, since CHAT rules, community and division of labor were broad and masking gender specific rules and realities, this study built on known CHAT studies but emphasized gender relations and the need of technofeminism lens (Wajcman, 2004). To fully understand human relations, this study looked at what activity mobile phones were used (or not used) for and how gender relations have shaped this usage.
Contributions

This study’s contributions are both theoretical and practical. Its theoretical significance here is discussed in the areas of my disciplines of study adult education (ADTED) and comparative and international education (CIED) and in the wider contributions to the theories of CHAT and mLearning. Study’s practical significance is connected to Roma communities, integration programs, and mobile technology usage.

First of all, since majority of adult learning occurs in their everyday lives or at their formal work (Sharples et al., 2005) but remains ignored and informal work at home is hardly counted, uncovering adult women’s informal learning as part of their everyday work adds to the informal-formal learning discussion in the ADTED field.

In everyday phone usage, instances of Romani women involvement in formal learning defined by Schugarinsky (2000) as guided by an expert for formal certificates were not recorded. Learning as delivered to Romani women to their phones as usually mLearning is conceptualized as delivering to (Y. Wang, Wu, & H. Wang, 2009; Park, 2011) or accessing formal knowledge by the learner (Kukulska-Hulme & Traxler, 2005) was also absent.

On the other hand, informal ITS knowledge transfer within and outside family were ample. Mobility of learner (Sharples et al., 2005) and the belief that learning occurs where the learner is (Wedemeyer, 1981) were confirmed by the data. The study captures several self-directed informal learnings of Romani women’s everyday life (Schugarinsky, 2000, see Chapter 2, Table 2-1, first form of informal learning) which can be traced back to the informal learning at work and its six characteristics (as used in Hager & Halliday, 2009) of being part of women’s activity, unorganized, activated by women themselves. These were the instances of informally learning how to use mobile phones. At the time of this study, this learning was already
internalized as a tacit knowledge and was deemed easy to a level that Romani women were frustrated with my questions about this learning and phone usage. To them, it was so obvious and simple to learn mobile phones, to pick them up and make calls that women were perplexed when asked “stupid” questions such as: how did you learn how to use your mobile phone. It was recorded that at the very beginning, Romani women had intentionally and consciously initiated this type of learning, and throughout the process of buying and figuring out the phone glitches, Romani women have relied on a wide network of both formal and informal ITS support consisting of mobile providers’ staff, family, friends, and neighbors. They have found mobile phones interesting to play with on their own, especially at the beginning. When discussing this learning, however, women underplayed it, echoing the mainstream discourse of unimportance of informal learning and everyday life.

The study also uncovered instances of Romani women’s personal tacit learning which are part of their socialization (Schugarinsky, 2000, Chapter 2, Table 2-1, the third form of informal learning). This learning is unintentional, and women do not recognize it as learning, but it is in the heart of everyday life of many adult women, and especially of the other women, who they are, their belonging to the Roma and the broader community in post-1989 Bulgaria. Since this knowledge is taken for granted, thus invisible, capturing the richness of everyday socialization learning illustrates not only its existence but its importance as well.

Being fluid and flexible, these women’s everyday learning is freely incorporated into both informal and formal settings around them. The two activity systems illustrated the free move from one to the other. There were examples recorded when women participated in both activity systems at once - being a good Romani woman and surviving the Post-1989 transition and the raw capitalism. Following the work schedule, one woman has learned to do her informal
work, checking on the family, and call from work only during her coffee and lunch breaks. Some women were not using their phones as a way to contact the employment office, which is a formal setting outside of the home and in the wider society, but many used the phones to make phone purchases from an online store. Women did not stop to think which is formal or informal usage of their phones or in what type of learning and activity they were involved, which can be tied to the unity of the two types of human development and mental functions as suggested by Vygotsky (1934, 1934/2004), the practical and the abstract, informal and formal behavior, different and still connected and interacting together.

In my study discipline of CIED, the contribution is in the area of culturally specific mLearning constructs. This study was an international study and naturally might provoke comparison between Roma and non-Roma mobile phone usage. It might be tempting to say, for example, that a good Bulgarian or a good US woman would use their phones the same way and that they, similarly to the Romani women, would have also learned to use their phones informally. This is highly possible. As often is the case with informal learning, non-Roma women’s informal learning of operations might be spontaneous, unorganized, self-directed as well. However, the non-Roma women’s activity systems will look different, and may or may not have to deal with the same contradictions, specific to the Romani women’s everyday lives, and might not have the same informal learning as the outcomes. As country and culture specific, Romani women’s study has established emic mLearning constructs (functional, conceptual, and categorical aspects of equivalences, Raivola, 1985) specific for this group of women and can serve as a base for future comparative studies.

Regarding the wider theoretical contribution, this study adds to the discussion about CHAT mediation concept in “mobile” era. Rückriem (2009) asks legitimate questions about the
adequacy of CHAT to explain digital media when the theory was conceptualized long before the
digital media and was trapped in the book medium myths and assumptions. The study recorded a
few examples of mobile technology used to informally contribute or access the “collective brain”
of the human knowledge stored digitally on the Web 2.0 (Rückriem, 2009, p. 108). The uses
were generation specific - mainly younger family members playing video clips from the internet
or younger unmarried women posting on Facebook. Examples of dealing with abstract and
autonomous networks were not recorded. It is clear that the new technology has introduced new
opportunities and new challenges to the Roma communities and new ways to innovate, learn, and
err. Gender and generational differences of acquiring and using the new technology, however,
remind us that activities do not operate in a vacuum and that all aspects of human activity are
important, not only the medium used.

From the gendered dimensions of the phone usage, a techno-structuralist can be tempted
to conclude that mobile phones simply duplicate the established roles (Boshier & Onn, 2000)
these women play in the Roma society. However, the gendered web (after Wajcman’s 2007) of
mobile usage was more complicated than simply repeating the old structures. Mobile technology
served as a medium (Vygotsky, 1934) dialectically interwoven within the relations of women’s
activity systems. Being available to the women, these personal devices provided space for some
women not only to practice their technological skills, but to also negotiate and challenge the old
structures and the technological gender stereotypes (Wajcman, 1991).

Suggested expansion of the mLearning framework is the second wider theoretical
contribution of the study. Since gender relations is not explicitly present in any of the discussed
mLearning frameworks, activity analysis through technofeminism prism uncovered gendered
dimensions of the Romani women’s mobile phone usage and expanded both mLearning and
CHAT concepts. Women’s socialization included learning to navigate a complicated gendered web (Wajcman, 2007) of using (or not using) mobile devices. The gendered web and its gendered dimensions were listed in Table 5-1 as four additional dimensions to the known categories of mobile learning as conceptualized by Crompton (2014), Wang et al. (2009), Silverstone et al. (1992) (as used by Balasubramanian et al., 2010), Kearney et al. (2012), and Sharples et al. (2005). Gendered dimensions of mobile phone usage represent a fuller picture of mobile phone usage and technology as a whole and adds one more characteristic of informal learning at work listed on p. 23. This characteristic can be formulated as imbued with gendered meaning, similarly to the gendered construction of tacit knowledge at work (Evans, Kerch, and Sakamoto, 2005 as discussed in Hager & Halliday, 2009, p. 44).

The study reported examples of learning in spite and around technology similar to Sawchuk’s (2003a) studies. During everyday work, mobile technology often was worked around or rejected as inappropriate. Ample were the situations where mobile phones were not used in specific formal, outside the family, settings where women were seeking personal contact instead. In these examples, women and their families worked around technology or dropped it all together in order to address contradictions the new technology had introduced to the Roma community, and these solutions contested the picture of learning and technology functioning in relationship that is “mutually supportive” (as suggested by Sharples et al., 2005, p. 8).

Also, data pointed out to ethical issues of mobile learning and privacy brought up by Sharples et al. (2005) but not included the mLearning frameworks. Sharples et al.’s (2005) study finding about learner being mobile had been ignored by the models and was not further explored. By bringing back the issue of control and the mobility of the learners in their everyday to the
mobile phone usage, this study contributes to a better understanding of the ethical and privacy issues of mobile technology usage.

This research uncovered Romani women’s everyday activities and gender dimensions that are significant in regards to the Roma communities and integration programs, activities and dimensions that the Roma decade and some of the Roma integration and their binary discourse had missed. This study brought forward instances of technology resistance, workarounds, and usage away from mobile phones’ expected and hoped for potential contributions. For different reasons, some of which were financial (calls and internet were expensive) but also cultural, some women were not using their phones or majority of women were not using their phones to access internet because phones were found irrelevant and internet, especially Facebook, was deemed inappropriate for married women.

When talking about technology and technology potentials for change and success, understanding of local successes, need, and other women’s types of learning is crucial. With the more nuanced local approach to technology usage, these findings will help integration frameworks to better understand what many of the other women do, what they do, how they learn it, and how and why they resist technology even when it is seemingly widely spread and available. Valuing Romani women’s informal work and learning and understanding the gendered dimensions of their mobile technology usage will contribute to a better appreciation of the Roma world.

**Study Limitations**

Being a non-Romani woman, I had an outsider’s view of the Romani women’s everyday lives and their mobile phone usage, a limitation I tried to mediate through key informants’ insights and continuous reflections on my own otherness. This study was limited to participants
who I first met and their friends and families. Although there were no language issues when communicating with these participants, the fact that I did not speak Roma language limited me to access and approach only Romani women who were fluent in Bulgarian. My access to the Roma community was temporary and limited to three out of five main Roma subgroups in Bulgaria and only to small groups of these communities. The time I spent in the Roma community was limited, and I was not able to connect and follow up on the mobile phone usage of the families of beggars and professional recyclers, whom I met briefly on the streets.

**Future Research**

More research will be needed to capture variety of mobile usage among Romani women and their families who are on the go, like the communities temporarily settled at the edge of the towns. Also, future research will need to record more examples of formal-informal fluid incorporation of mobile phone as tools and further conceptualize about the unity of practical and conceptual learning.
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Appendix A: Conversation and Interview Guide

Demographic questions:

1. Age
2. Marital status
3. Number of children
4. Self identifies as…
5. Permanent residency

Context and everyday activity questions:

1. How was your day today?
2. What did you do?
3. How does your usual day look like?
4. How are the house chores divided?
5. If applicable, what do the children do while you are at work?
6. If applicable, what does your husband do while you are at work?

Mobile phone questions:

1. Do you have access to a mobile phone?
   a. If not, why not?
   b. If yes, do you own a phone or whose phone do you use?
2. If you own mobile phone(s)?
   a. How many do you have?
   b. If more than one phone, why do you have more than one?
   c. When did you buy your first mobile phone? Describe in details:
      i. how you heard about mobile phones
      ii. where you bought your first phone
      iii. who helped you make your choice
   d. Do you share your phone with anybody else?
3. In details, describe how you chose your mobile phone (mobile devices):
   a. What phone did you like most?
   b. How did you choose your first phone?
   c. Who decided:
      i. what phone to buy
      ii. how much to pay
4. Where do you keep your phone:
   a. when shopping
   b. at parties
   c. when visiting friends
5. How did you learn to use your first phone?
a. Who taught you how to use it?
b. What did you do next?
c. Who did you call first?
6. How do you charge your phone? Who taught you how to charge it?
7. Who pays the phone bills?
8. What do you do to reduce phone charges?
9. How often do you use your mobile phone(s)?
10. How do you use it/them?
   a. For example, how many times did you call today?
   b. Who did you call?
11. Describe activities your family is involved in using these devices - (questions 12-18)
12. Describe using your phone to contact:
   a. local government and political bodies
   b. NGOs
   c. Roma mediators
13. Describe using your phone to contact authorities to report:
   a. domestic violence
   b. safety issue
   c. human rights violations
14. Describe using your phone to contact health agency/professional about:
   a. family planning
   b. sexual and reproductive health
   c. receive reliable information
15. Describe using your phone to contact:
   a. school principle
   b. teachers
   c. parents for school related issues
   d. children’s classmates for school-related issues
16. Describe using your phone to contact public services:
   a. for assistance
   b. to complain
   c. to report abuse
   d. to acquire information about:
      i. employment opportunities outside home
      ii. market updates via free text messages
17. Describe using your phone when lost:
   a. to obtain directions
   b. to report safety issue
   c. to get shortcuts
18. Describe one special event where you have used your mobile phone(s)
19. How do you think the activities described above have changed compared to the time when there were no mobile phones (5-10 years ago)?
20. What other devices do you have?
21. Who else has mobile phone(s)?
   a. How do they use them?
b. How often?
Appendix B: Field Observation Notes
(with highlighted meaning units)

Sunday, March 15, 2015

Making our way through busy streets packed with young children playing soccer and tag.

It is Sunday lunch time. Streets smell of sautéed onion.

We stop at the internet café owned by Roza’s family. I had visited them before, but the place has changed since last time. The business and the room have expanded. There is a kitchenette with a counter added and a soda cooler to serve panini sandwiches, fries, and drinks.

On one of the computers, a pre-teenage boy watches a music-video clip. There are 4 more computers in the room that are not turned on. The owners have extra computers in the back, but have no room for them now. They have added a foosball table that is in the middle of the café and takes a good part of the extension.

A 3-4 year-old girl is playing at the foosball table with two older boys. She is quietly involved. The owner has put a crate for her to step on, so she can reach the table. He is assisting her to win the game. Mentions that he likes her for a future daughter-in-law - to marry his youngest of four - his 6-year-old son. The son is not interested in marrying. Says he wants to become a policeman. Owner’s wife is taking orders. Knows some of the specifics for two of the clients - one “line” of ketchup, and spicy-herbal salt. She makes the sandwiches, the husband brings fries from the inside kitchen, then the sandwiches are wrapped to go. The family says these are the kids they know and keep an eye on them. Do not sell alcohol. The internet café is safe for the kids to stay until late. The husband offers to take over when the wife, her friend Gyula, Vlada, and I leave the café.
Mobile phone options

After exchanging greetings, Vlada, Roza, and Gyula are helping me decide on the mobile phone options. There are several options to buy a phone. Downtown at the GloBul office, one of the key informants has bought her smart phone there. Another option is to buy a second-hand at a nearby store, or from a person. They will check if somebody is selling a second-hand phone.

They warn me against the second-hand option because they (the phones) might be stolen or illegal. The media have exposed stolen phone business in some pawn shops in 2014 (http://koi.offnews.bg) and have advertised the EU campaign Ringtone to retrieve stolen smartphones and tablets. Two of the women share a story where one’s account was showing under somebody else’s name when paying at the office; and the police has tracked her down and has informed the other that the phone had been stolen. Vlada was very disappointed and returned the phone back to the seller, a very good friend, giving the family a piece of her mind. Vlada was extremely against the idea to get a second-hand phone.

We also talk about the options to pay for mobile phones, how expensive it is to talk, how quickly the 200 voucher minutes disappear, and how impossible it is to track made calls since all show on the bill as MoBul/VivaCom calls without any further details. We all think it is unfair since some calls might be invalid/phony. And it is hard to check on the partner, one adds, smiling, as a needed measure for family stability. As we are chatting, a call from Germany interrupts us several times. Gyula’s brother is double checking the English spelling of his name. He is filling out a form in English. We all listen and help.

At the engagement party

Gyula invites Vlada and me to join her to an Engagement party. Engagement is very important in Roma life. Usually it is an open-air neighborhood party either on a street or in
It is passed 7 pm, and it is already dark outside. We pass through a dark section of the neighborhood and enter a wealthy well-lit street. All houses are 2-3 story buildings. Easily 250-300 people on the street that is closed for the occasion with a huge trailer serving as a stage for the band. Powerful loud speakers are free standing on each side of the stage; six-man band and their equipment are on the stage as well. There is a 5-6 year boy also on the stage, but he is not playing. There are strings of balloon flying over the stage, tied to second story balcony rails of the houses on each side of the narrow street. Gyula is guiding us through the packed sidewalk, and we pass by the speakers blasting traditional chalga music. There is a DJ with a microphone announcing wishes for the family in Bulgarian, and a professional videographer with a professional video camera with additional lighting.

The videographer follows all the moves of the bride-to-be who is dressed in an elaborate long pink dress that looks like a prom dress. The bride-to-be is in her late teens. Her hair is up in an up-do. She is at the head of the traditional round dance horo led first by her father, then by her brother. The groom-to-be is next to her, holding one end of the dress, helping his future partner through the dance steps. Following the groom are the young couple’s mothers - first the bride’s and then the groom’s.

The horo is in the street shaping an oval. It is mainly the family dance. There is no special trend of who is joining whom on the ring, but looks at first that there is a male and then a female part of it, although I see women and men joining no specific order throughout the dance. Neighbors, guests, and passers-by are on both sidewalks of the narrow street or have formed a second dancing row as individual dancers. Everybody seems to be participating - by watching.
dancing, clapping, smiling, or commenting with the neighbor, and everybody is paying attention
to the middle of the street.

No blue screens of mobile phones can be seen. Nobody seems to be recording the event
but the professional videographer. Throughout this 15-20 min visit, I notice only three people
using their mobile phones - one is Vlada. Her son is calling. She picks up the phone but since it
is so loud, she cannot hear anything and hangs up. A young girl is talking on her phone behind
the stage as she leaves the party. There is only one more person using his phone - a young man in
his late 20s. He is at one side of the stage, behind the speakers.
Appendix C: Place-Holding Categories
(two of the examples from Appendix B coded)

Categories

Green - Variety of digital devices
Magenta (Pink)- ITS support and resources outside of family (And within family)
Blue (aqua) - Phone and other devices usage or theme
Yellow - Context (general)
Red - Roma context
Gray - without category

streets packed with young children playing soccer and tag.
internet café owned by Roza’s family
On one of the computers,
a pre-teenage boy watches a music-video clip.
There are 4 more computers in the room that are not turned on.
The owners have extra computers in the back but have no room for them now.
future daughter-in-law - to marry his youngest son Is not interested in marrying. Says he wants to become a policeman
The family says these are the kids they know and keep an eye on them. Do not sell alcohol.
The internet café is safe for the kids to stay until late.
The husband offers to take over when the wife, her friend Gyula, Vlada, and I leave the café.
helping me decide on the mobile phone options.

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Downtown at the GloBul office, has bought her smart phone there.

Another option is to buy a second hand at a nearby store or from a person. They will check if somebody is selling a second-hand phone.

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from Germany interrupts us several times. K5’s brother is double checking the English spelling of his name. He is filling out a form in English.

We all listen and help.
VITAE: Adelina G. Hristova

**Academic Accomplishments**

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<th>Year</th>
<th>Degree</th>
<th>Institution</th>
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<tr>
<td>2003</td>
<td>Master of Arts in Teaching English as L2 (TESL)</td>
<td>University of Idaho, Moscow, ID</td>
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<tr>
<td>1984</td>
<td>Master of Arts in Teaching Russian Language and Literature</td>
<td>Sofia University, Sofia, Bulgaria</td>
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**Academic Appointments**

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<td>2014-2015</td>
<td>Principle Investigator</td>
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<tr>
<td>06-07.2012</td>
<td>Online Course Instructor</td>
<td>Penn State, UP</td>
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<td>2001-2003</td>
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**Awards and Grants**

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<td>2014 COIL grant</td>
<td>PSU Center for Online Innovation in Learning (COIL)</td>
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<tr>
<td>06-07. 2011</td>
<td>Fulbright-Hays fellowship</td>
<td>Group Project Abroad GPA, Tanzania</td>
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