Somali Children's and Parents' Views, Attitudes, and Interactions with Technology

by

Mariam Jama Abdi

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Department of Educational Psychology
University of Alberta

Abstract

As children are now growing up with and around computers and digital technologies, their experiences using these technologies differ from their parents'. This study examines how young Somali children and their parents experience using technology and computers, while seeking to understand parents' perceptions and attitudes towards computer technology and how these perceptions are reflected on their children's interaction with these technologies. For this study, seven Somali children between the ages of ten to fifteen were interviewed along with their parents. The results show that parental views on prolonged computer-use were not favourable and that was reflected on their children's computer use at home, where the great majority of parents interviewed had restrictive rules around the duration of computer-use at home for leisure and gaming. However, these parents were very supportive of their children's computer-use to work on school-related projects. Further, the study found that despite the children's appreciation for using computers and digital devices to play video games and surfing the internet, they were active in sports and had other interests outside of technology that played a major role in their lives.

Keywords: attitudes, views, experience, perceptions, technology, digital devices, computer-use, immigrant

Preface

This thesis is an original work by Mariam Abdi. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name "Views on Technology & Computer Use Among Immigrant families in the Somali Community", No. Pro00065606, November 11, 2016 – October 18, 2018. At the time of defense, no part of this thesis has been previously published.

Dedication

I dedicate this work to my family and friends whose love and support carried me throughout this journey, your presence in my life makes me whole. A special thanks to my loving parents, Shukria Ali Abdi and Jama Abdi Rajeh, who have always loved me unconditionally, taught me to think critically, encouraged me to be independent, and put up with my stubbornness. You are my role models and words can never express my love and gratitude to you both.

This work is also dedicated to my rock, my anchor, my better half: Hassan. Your patience and calm, your constant encouragement and unwavering support kept me going. Thank you for being you and for keeping me grounded.

I also dedicate this to my handsome boys, Yacoub and Yusuf (who can't wait to stand taller than me, know that I'm still taller…for now!); My nephews: Abdulmalik (a.k.a. the best addition to our family) and Mohamed (a.k.a. for the whole time?!); My sisters: Muna, Muneera, Fatima, Hana, Huda and Fouzia (a.k.a. my sister from another mother and bestie); My brothers: Abdullah and Abdulaziz; Thank you Ottawa friends AM, YK, SK, HK, MC, and SL for your friendship, support and reassuring cheers.

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Introduction

The rapid advancement of computer technology over the last two decades has influenced the way people are learning, communicating, and the way they work and conduct businesses (Cascio & Montealegre, 2016).

Nowadays, computer technology is so prevalent, it has become a central part of our everyday activities and interactions. This brings to the forefront the issue of equal access, where opportunities presented to those with access to computer technologies is generally greater than those who do not have access to these technologies (Organisation for Economic Cooperation and Development [OECD], 2015; Smith, Gradisar, King, & Short, 2017). For example, being able to use computer technologies effectively would give these users an advantage at school and at work (Amirault, 2012; Cascio & Montealegre, 2016; Cook & Sonnenberg, 2014; Levine & Donitsa-Schmidt, 1998; Revere & Kovach, 2011; Schumacher & Morahan-Martin, 2001; Sun & Chen, 2016; Westera, 2015).

My interest is in the area of technology and computer-use among Somali immigrants stems from my background as a Somali immigrant who has completed her studies in computer science and graduated to work in the Information Technology sector for many years. At that time, the Information Technology (IT) field was fairly new, which may have directly influenced the skepticism and unwelcoming attitude I experienced when people from my community, especially from the older Somali population, came to know of my career choice. In this study, I look at technology and computer-use among Somali immigrant families. More specifically, I examine the views, attitudes of Somali children and their parents towards technology and how they interact with these technologies. With technology becoming an integral part of life in general, and the education system in particular, I wonder how do young Somali children

experience using technology and computers at home and at school? What are their parents' experiences using computers and technology? What are the parents' perceptions and attitudes towards computer-use? And finally, whether these views are reflected in their children's interactions with computers and technology?

Literature Review

To better understand my research topic, I first started to look for literature on computer and technology use among school-aged immigrant children. I also looked at the impact that computer-use had on students' academic achievements.

During my literature review, many articles discussed immigrant children focusing on issues relating to their health, language, school achievement, socialization and cultural adaptation, but few related to immigrant children and technology specifically. I then decided to look at studies on the relationship between computer-use and school achievements. There were many articles on the topic, with some studies claiming positive relationships and others arguing the opposite. Jackson et al. (2006) and Wenglinsky (1998) argued for the positive effects of computer technology use at home on school achievement in core subjects such as mathematics and English. Other studies such as OECD (2015), Papanastasiou, Zembylas, and Vrasidas (2003) and Rideout, Foehr, and Roberts (2010) provided evidence to the contrary and concluded that computer-use resulted in some negative outcomes. Further, OECD (2015) and Wittwer and Senkbeil (2008) contended that computer-use had no direct influence on students' academic achievement.

Roadmap of Literature Review

In the first section of the literature review, I look at the target population in this research study, namely, Somali immigrants in Canada and the challenges they faced while adjusting to life in Canada as their new home.

The second section of the literature review explores the general impact of technology and its prevalence within society. For the purpose of this study, the terms "computer" and

"technology" refer to desktop computers, laptops and other devices used by the children and/or their parents (e.g. tablets, cell phones, game consoles...etc.). This section investigates technology and computer-use in education and looks at computer-use among the immigrant population. The final section of the literature review introduces qualitative research.

From Somalia to Canada

According to Ontario Council of Agencies Serving Immigrants [OCASI] (2016), the earliest group of Somali refugees came to Canada in the early 1980's where they had to adjust to life in a new country very different from their own. Learning a new language and getting accustomed to a new culture and a very different climate were some of the challenges these early Somali immigrants faced (Abdulle, 2000; OCASI, 2016). Ali (1994) argues that the experiences of Somali refugees arriving and settling in Canada in the nineties and early 2000s were very different and relatively better than the earlier Somali refugees, mainly because the Somali community was able to establish itself by then and build social networks for newer Somali refugees (Abdulle, 2000; Ali, 1994; OCASI, 2016; Statistics Canada, 2016a).

According to Abdulle (2000), Canada welcomed more than fifty-five thousand Somali refugees fleeing human rights abuses and escaping political prosecutions by the regime of the then president Mohamed Siad Barre between 1988 and 1996 (Abdullahi, 2001; Abdulle, 2000). Abdulle (2000) further asserts that these Somali immigrants represented the largest black immigrant community to arrive to Canada in such a short period of time.

Statistics Canada (2016a) census data show that the number of Somali refugees greatly increased in the period between 1991 to the early 2000s as many Somalis left the country to

escape the civil war that erupted shortly after Mohamed Siad Barre's government was toppled in 1991.

Adjusting to Life in Canada

According to a study conducted by OCASI (2016), the majority of Somalis who arrived in Canada came on their own as refugee claimants or through family reunification. The study highlighted the many challenges these immigrants were facing while adjusting to life here in Canada, as these Somali newcomers did not have extended family support and had limited awareness of essential services provided in their locale. Other challenges identified by the study included difficulties in finding proper housing and securing employment to support their large families and was far greater for those new immigrants that were not eligible to receive financial assistance from the Canadian government or other humanitarian organizations. Another issue identified by Abdulle (2000) was that some Somali refugees chose to purposefully withdraw from community support as a direct result of their fear of systems and authorities, or their perceived notion of shame, directly impacting their settlement and adjustment to life in Canada (Abdulle, 2000; OCASI, 2016).

Housing challenges. Several studies confirm that Somali refugees faced several barriers in finding adequate housing in comfortable neighbourhoods (Kusow & Bjork, 2007; Murdie, Chambon, Hulchanski & Teixeira, 1996; OCASI, 2016; Naji, 2012; Wayland, 2007). OCASI's (2016) study notes that Somali immigrants in Canada were mostly living in subsidized project housing in low-income neighbourhoods with poor services and high crime rates. As Somalis tend to have large families, bigger homes needed to accommodate their usually large families are not affordable with the little income these new Somali refugees have from government assistance and/or modest job income (Murdie, Chambon, Hulchanski & Teixeira, 1996; OCASI, 2016,

Wayland, 2007). Further, Kusow and Bjork (2007) conclude that Somali refugees had difficulties finding suitable housing due to discrimination by landlords on the basis of color or religion, their poor language skills and household size. Kusow and Bjork's (2007) findings were supported by Murdie, Chambon, Hulchanski and Teixeira's (1996) report which suggests that Somali immigrants in the Greater Toronto area experienced the greatest challenges in housing when compared to other communities in the study, namely the Jamaican and Polish communities (Kusow & Bjork, 2007; Murdie, Chambon, Hulchanski & Teixeira's, 1996).

Language challenges. Olden (1991) indicated that in Somalia, the official language is Somali, and the second language is Arabic with English being a third and sometimes fourth language, depending on the region. It is no surprise, therefore, that most Somali refugees arriving in Canada do not speak English or French. The language barriers faced by these new immigrants had a negative impact on their integration into the Canadian society and further increased their isolation, especially when a great number of Somali refugees who arrived in the mid 1980s to early 1990s had their immigration claims delayed due to the shortage of Somali-speaking interpreters during that time (OCASI, 2016).

Social challenges. Borell, Rask and Warsame (2014) point out that Somalis have a complex political and social dynamic that is tribal based with a strong extended family structure. Abdullahi (2001) argues that Somali society is traditionally patriarchal where fathers are expected to support their families financially, physically, and socially while mothers raise the children with the help of extended family. Abdullahi (2011) further explains that children also have a role in the family where they are expected to help with household chores and caring for younger siblings, while older siblings are expected to work to help support their family. Children are expected to have respect for their elders and to obey their parents and the parents' authority is

further reinforced by the larger community. Both Abdulle (2000) and OCASI (2016) agree that single mothers in Canada who lacked the extended family support had to assume more responsibilities in addition to raising their children, as they were mostly the only adult in the family. With a strong history of supporting one another as a community, these Somali mothers had the added burden to financially support their families abroad. Somali communities where fathers were successfully reunited with their families in Canada had different issues to deal with as spousal conflicts due to role reversal and financial strains led to an increase in domestic violence and divorce cases within these Somali communities (Abdulle, 2000; OCASI, 2016). Lack of extended family support in Canada could be seen as a factor in domestic discord because extended family elders had a significant role in resolving marital conflicts. Also, conflicting outlook on cultural practices and values between Somali parents and their second generation Somali-Canadian children, such as the parents' traditional Somali tightknit family unit in contrast with their children's mainstream values of independence and freedom, led to parental challenges and had a negative impact on the relationship between Somali youth and their parents (Abdulle, 2000; Naji, 2012; OCASI, 2016).

Employment challenges. When Somali refugees come as asylum seekers, they are granted temporary work permits while they wait for their permanent residency status to be approved (Government of Canada, 2018). Abdulle (2000) argues that securing employment is reduced for these refugees since employers prefer hiring Canadian citizens and those with permanent residencies over temporary work permit holders. Further, belonging to a visible minority group and having little to no Canadian work experiences are other barriers identified by Lewchuk (2013) that further limits Somali refugees' opportunities to finding full-time employment (Abdulle, 2000; Lewchuk, 2013).

A close look at the census data reports over a ten-year period starting from 2006 up until 2016, paints a clearer picture of the issue of employment challenges facing Somalis in Canada. In the census collection cycles for the years 2006, 2011 and 2016, the unemployment rate reported for Somali-Canadians was persistently three times higher than the national unemployment rate. In 2006, the unemployment rate for Somali-Canadians was 19.2% compared to 6.6% national unemployment rate, and in 2011 the national unemployment rate was at 7.8%, but the unemployment rate for Somali-Canadians was 21%. This was no different for the 2016 census year, where the unemployment rate for Somali-Canadians jumped to 22.3% while the national unemployment rate was slightly lower than the previous census cycle at 7.7% (Statistics Canada, 2006; Statistics Canada, 2011a; Statistics Canada, 2016b).

Computers and Technology

Technology has developed and continued to progress so rapidly over the past three decades, asserting itself as the most significant human innovation of our time (Cortada, 2013; Misa, 2007; Schindler, Burkholder, Morad, & Marsh, 2017). Technology is now implemented and embedded in almost every aspect of our lives, making us increasingly reliant on technological tools and digital devices to complete daily tasks and activities (Cortada, 2013; Misa, 2007; Poushter, 2016).

As technology continues to play a prominent role in the development of modern-day societies, it has effectively transformed the way people communicate, learn, work and conduct business (Amirault, 2012; ; Cook & Sonnenberg, 2014; Cortada, 2013; Misa, 2007; Poushter, 2016). Numerous researchers argue that people's levels of competency and comfort when using computer technologies are linked to their level of experience using these technologies. Therefore,

it has become significantly important for educational institutions to increase computer and digital literacy and to provide students with sufficient training in the use of technology and computer applications from a young age (Amirault, 2012; Cascio & Montealegre, 2016; Cook & Sonnenberg, 2014; Levine & Donitsa-Schmidt, 1998; Revere & Kovach, 2011; Schumacher & Morahan-Martin, 2001; Sun & Chen, 2016; Westera, 2015).

Computer-use in education. Over the past two decades, educational institutes have been under increasing pressure to upgrade their education systems to include instructions with and about technology and the integration of educational technology in the classroom (Becker, 2001; Cook & Sonnenberg, 2014; Schindler, Burkholder, Morad, & Marsh, 2017; Sun & Chen, 2016).

Consequently, departments of education and educational institutions in Canada and many other developed nations around the world, have made it a priority to actively implement programs and modifications to their study curricula to establish a clear role for technology in education (Alberta Education, 2013; Anderson & Horrigan, 2016; Becker, 2001; Cook & Sonnenberg, 2014; Schindler, Burkholder, Morad, & Marsh, 2017; Revere & Kovach, 2011; Sun & Chen, 2016; Westera, 2015).

Challenges. Despite the great efforts of educational institutions and the support received from high-levels of governments for the integration of technology in schools, there are many challenges facing educators when it comes to effectively implementing technology into their classrooms (Amirault, 2012; An & Reigeluth, 2011; Anthony, 2012; Capo & Orellana, 2011; Cassidy et al., 2014; Cuban, 2001; Gikas & Grant, 2013; Keengwa et al., 2012; Paul & Cochran, 2013; Pittman & Gaines, 2015). In earlier studies, such as Valdez, McNabb, Foertsch,

Anderson, Hawkes, and Raack (1999), the authors argue that the success or failure of technology implementation in the classroom does not depend on technical aspects such as hardware or software but rather on "human and contextual" factors (p. 4). Capo and Orellana (2011) agree with the earlier study suggesting that teachers' opinions and attitudes with regards to the use of technology for classroom learning had the greatest impact on technology integration, or lack thereof, in their classrooms. An and Reigeluth's (2011) study findings support the idea that integrating technology with education in that period were faced with challenges due to the type of training that teachers received then, which was typically focused on technical aspects and skills development that overlooked the "dynamic relationships between technology, pedagogy, and content" (p. 60). Consequently, teachers were ill-equipped and lacked the skills to successfully integrate technology with their lessons. More recent studies attribute challenges in integrating technology to several factors including the great surge in new technology development coupled with the short period of validity of these technologies, teachers' experiences with technology and their attitudes towards these technologies could present barriers hindering the efficient and effective integration of new technologies (Cassidy et al., 2014; Pittman & Gaines, 2015; Schindler, Burkholder, Morad, & Marsh, 2017; Sun & Chen, 2016).

Computer-use among immigrants. As the literature search yielded limited results on studies that focus on technology and computer-use within the immigrant population in Canada, I decided to expand my search to include immigrant populations in other developed countries such as the United States, Western Europe and Australia.

A study by Chonia (2002) was aimed at understanding the digital gap between immigrants and Swiss-born nationals. The research findings suggest that immigrants in Switzerland with poor literacy and inadequate language skills were faced with additional obstacles that prevented them from embracing computers and digital technologies, making their adjustment to life in Switzerland difficult, and further increasing their isolation.

Kabbar and Crump (2006) examined factors that influenced the adoption of personal computers and the Internet by recent immigrants in New Zealand either at home or work. The researchers interviewed thirty two recent immigrants between the ages of twelve and sixty five from fifteen households, seventeen of which were females and fifteen were males. These immigrants were considered recent if they had been living in New Zealand for five years or less at the time of the study. The majority of the interviewees were refugees from developing countries including twelve from Africa, nine from the Middle East, seven from Central Asia and four from South East Asia. Study findings show that eight of the fifteen households had computers at home, while nineteen participants (eight of which were females and eleven were males) were identified as adopters of personal computers and the Internet. The non-adopters in the sample population were predominantly females and older immigrants with little or no educational background. Despite the fact that they considered Information and Communication Technologies (ICTs) to be hard to use, some non-adopters indicated that they hoped to learn how to use these technologies. Researchers in the study also noted that younger male participants with a relatively high level of education were more likely that others in the study to adopt ICTs. The study results show that although the majority of participants did not have computing experience, both adopters and non-adopters had positive views on computer technologies, its value and usefulness (Kabbar & Crump, 2006).

Mikal and Woodfield's (2015) study examined the intercultural adjustments of refugees to the United States and the general trends related to Internet use patterns among these refugees. The population group for this study was based on two refugee groups; Iraqis and Sudanese refugees who have been living in the United States between four months and twenty years at the time this study was conducted. The researchers recruited twenty five participants between the ages of twenty one and fifty five, twelve of the participants were Iraqis, of whom ten were males and two were females and the remaining thirteen were from Sudan, ten of which were males and three were females. Researchers in this study conducted focus group interviews to better understand the internet use patterns of refugees and factors contributing to the disparity in access to technology for these groups. The study found that although refugees were willing to engage with technology, their engagement was limited to using the internet to get in touch with loved ones back home and to learn more about news and sports events from their home countries (Mikal & Woodfield, 2015).

A recent study by AbuJarour and Krasnova (2017) looked at the role of ICTs in helping Syrian refugees to Europe with their settlement and integration process. The study examined the role of technology, smartphones more specifically, in the lives of these refugees starting from their journey to Europe, to their settlement and integration in their host societies. The authors in this study conducted semi-structured interviews with fifteen Syrian refugees in Germany, nine of which were males and six were females, ranging in age from eighteen to forty plus. At the time of the interviews, most of the refugees interviewed had been living in Germany for a period of six months to one year, with only four being in Germany for less than six months. The study found that smartphones were vital and lifesaving for these refugees during their journey to Europe where they used their GPS enabled smartphones to cross forests and several borders.

After their arrival to Germany, these refugees were using their smartphones to keep in touch with family back home using apps such as Facebook, WhatsApp, and Facetime since traditional communication methods, such as landline phone calls, were not feasible as the landline communications were either expensive, or not available in some areas due to government bans and restrictions. As these refugees did not speak English or German prior to their arrival to Germany, they were using ICTs to bridge the communication gap and were accessing sites, such as Google Translate and YouTube channels to learn German. They used these tools to help them with their daily communications such as their doctor visits, to understand their immigration documents, or to simply get to know their new surroundings as they integrated into their new society (AbuJarour & Krasnova, 2017).

Ultimately, studies on immigrants' use of technology collectively support the view that refugees and immigrants from developing countries where computer technology is not widely used had favourable views on technologies. However, those with little computer and technology expertise were often confronted with additional challenges as they settled in developed countries in which computer technology permeates all aspects of daily operations (AbuJarour & Krasnova, 2017; Chonia, 2002; Kabbar & Crump, 2006; Mikal & Woodfield, 2015).

Introducing Qualitative Research

How might we better understand the nature and nuances of immigrants' views and experiences with technology in relation to their adjustment process in a new country? The questions that I was interested in answering on this topic, are framed in a manner that lends itself to a qualitative rather than a quantitative approach. Contrary to quantitative research, where a phenomenon is broken apart in order to investigate the smaller parts, qualitative research aims at

understanding the way smaller pieces come together to form the phenomenon. Qualitative researchers are viewed as instruments for data collection and analysis. Their fieldwork, where they go out to meet their study participants and observe them in their natural environment, is considered a crucial component of the research studies. In addition to being inductively driven, where theories are developed and descriptive data is produced, qualitative research design is known to be flexible, dynamic and responsive to the subject of the research (Denzin & Lincoln, 1994; Ellis, 2010; Merriam, 1998).

Review of Qualitative Research Methods

Merriam (1998) compares the process of planning for a research project to what goes into planning for a vacation trip. She explains:

> *...planning a research project can be compared to planning for a vacation trip…you consider what sort of trip most appeals to you, what you like to do...So too, there are things to think about before you begin a research project. A fundamental consideration is your philosophical orientation. What do you believe about the nature of reality, about knowledge, and about the production of knowledge?"* (p. 3).

The above example is very similar to Guba and Lincoln's (1994) narrative of the way the investigator's personal views and beliefs determine the choice of method and act as a compass that fundamentally guides the investigator ontologically and epistemologically. In essence, the way I, as a researcher, approach the philosophical questions of 'what is reality?' (i.e. ontology) and 'how is that reality known?' (i.e. epistemology) is shaped by my view of the world. Therefore, the approach I take to find out 'what can be known?' (i.e. the methodology) is what determines the research paradigm my study falls under (Guba and Lincoln, 1994).

Research Paradigms

The four main research paradigms, through compare and contrast, that shaped the approach of my study and guided the process of inquiry are: positivism, postpositivism, critical

theory and constructivism. According to Guba and Lincoln (1994), these paradigms are in constant competition to be recognized and accepted as the main paradigm of choice.

While positivists are usually concerned with experimental testing and quantification, post-positivists believe that experimental design is inadequate without having a context. Critical theorists believe that biases have a place and should therefore be communicated since knowledge does not exist without underlying beliefs. Constructivists agree with critical theorists in this regard and take it a step further by conceding to the idea that people construct their own realities and that having multiple interpretations is a widely accepted notion (Guba and Lincoln, 1994).

In the positivist paradigm, researchers perceive the existence of one reality that is universal and fixed. Reality is considered quantifiable, which explains why researchers in the positivist paradigm are concerned with finding precise, accurate and quantifiable measures; paying little regard to specific situations and/or circumstances. For positivist researchers, it is essential that they become ‘objective’ both in the social affair of information and in the interpretation of their findings (Guba and Lincoln, 1994). The inadequacies of the positivist approach became more evident when complex inquiries and research topics, mostly from social sciences, could not be addressed using the positivist approach of a single, quantifiable reality; consequently, opening a wider door to the constructivist approach.

Constructivists believe there is no all-around settled upon reality or accepted 'truth'. Instead, meaning is created by people as they interact with their world. Also, each person creates his or her distinct understanding of the world and consequently, numerous interpretations of reality are formed. On the issue of subjectivity, constructivists believe personal views and biases of the researcher conducting the study can guide their interpretation and reinforce it. This opinion is validated with the understanding that constructivist researchers are a part of the

research environment and aim to understand and interpret rather than predict and calculate outcomes. Therefore, researchers' views and beliefs should not be disregarded (Guba and Lincoln, 1994; Merriam, 1998).

The Qualitative Researcher as a Bricoleur

Conducting qualitative research in the postmodern period could entail working as a bricoleur, where the researcher draws from a range of methods and perspectives to conduct their research. Bricolage is an approach to qualitative research that was theorized by Denzin and Lincoln (1994) originating from the idea of the French craftsmen who use sparse material left from other jobs to construct new artefacts.

Qualitative Case Studies

Qualitative research is a broad concept that encompasses many inquiries to help understand social experiences without changing or disturbing the natural environment in which they occur. It would be reasonable to accept that the qualitative research 'umbrella' includes case study research, where the experiences of individuals, groups and organizations are captured through qualitative inquiries (Ellis, 2010; Merriam, 1998). Moreover, Ellis (2010) recommends limiting the number of participants when conducting case studies with individual participants in order to understand their stories and provide a richer analysis of their accounts. If the participants' experience is current, then it is best to conduct observations and/or to directly interact with the participants. When the study is about past experiences, then it is best to conduct several interviews in order to develop a relationship with these participants and to create an environment in which participants share their stories openly and comfortably. Only then can the researcher appreciate the circumstances surrounding the experience of interest and its context, be

it the very location where it took place or how participants situate themselves or their lives in the general sense.

Understanding the participants' social location is fundamental, as it enables the researcher to be better informed when interpreting the case study at hand. Social location is where an individual is situated within a society including but not limited to their gender, their race, their social economic status, their age, their religion and their geographic location (Schmaus, 2014).

Interviewing. Qualitative researchers constantly look for new perspectives and viewpoints when conducting studies on phenomena and human experiences. They seek to understand what these experiences mean to others and how they interpret them by asking them to participate in an interview.

Weber (1986) emphasized the important role that the invitation to interview has in influencing the quality of the interview. When the invitation is extended with a commitment to openness and genuine interest in getting to know the participant as a person not as an 'informant', the interview becomes a joint reflection and a deepening of experience for both the interviewer and the participant and a relationship of trust and commitment is fostered because of the interview.

Though interviews are conducted with a commitment from the interviewer to confidentiality and discretion coupled with the interviewee's commitment to honest and genuine participation, the betrayal of these commitments from either side is probable. Participants run the risk of sharing things they do not wish to have exposed in return of gaining insight into the topic of discussion. To highlight this, Weber (1986) shares a quote from one of her participants:

> I find it [interviewing] very hard. I think it's like taking your clothes off in public, yet there's a part of me that wants to do it because I find it very very rewarding in the sense that I can hear myself as well and maybe I can start putting together things that I didn't know I could put together. (p. 66)

Strengths. Case studies play an important role in advancing social fields of study, such as education. These case studies offer various ways of researching both simple and convoluted social elements that provide insights and further clarifies the meaning of the participants' experiences (Merriam, 1998).

Limitations and Risks. While recognizing the advantageous close relationship between the case study and the researcher conducting the study, scholars in the field such as Hamel, Dufour, and Fortin (1993) and Guba and Lincoln (1994) recognized several limitations resulting from the researcher's work and/or work ethics as a direct result of such close relationship when the researcher is the main 'instrument' to collect and analyze data. Merriam (1998) identified examples of these limitations, which include:

- The tendency to trivialize or exaggerate a situation, leading to wrong conclusions.
- Falsely giving the impression that the case studies represent the 'whole' when in fact it is just a 'part'.
- Researchers not sufficiently trained may rely on their instinct and skills to conduct the research as a result of not having adequate training and guidelines available to them. Their sensitivity and integrity play a major role in shaping the study.
- Challenge in evaluating case studies authored by unethical researchers, who could pick and choose data to illustrate anything they wish to prove/disprove.

Furthermore, guaranteeing the delivery of rich analysis and interpretation of case studies may not be feasible considering time and financial limitations. Even when these constraints are overcome, case studies that are long and detailed face the risk of being overlooked by their intended audience such as policy makers and educators (Guba & Lincoln, 1994; Hamel, Dufour, & Fortin, 1993; Merriam, 1998).

Interpretive Inquiry and Hermeneutics

Schleiermacher's (1978) work has had a huge influence on the field of hermeneutics, and even though he did not have work on hermeneutics published during his lifetime, he lectured significantly on the topic. Hermeneutics is viewed as an approach to data analysis used by qualitative researchers to interpret data, collected through dialogue, with the basic assumption that the interpretation of data should be approached from the perspective of the participants. The idea of hermeneutics, which is rooted in Ancient Greece and was known as a method for analyzing Biblical text, has recently expanded its focus within the constructivist qualitative research areas (Ellis, 1998a; Schleiermacher, Wojcik, & Haas, 1978).

Interpretive Emphasis

According to Given (2008), interpretive inquiries focus on understanding the meaning and intent behind the actions of the study participants, and the way these participants interpret their own actions. In other words, researchers who undertake interpretive inquiry as their research method will collect data from participants and maintain the perspective of the participants in their data analysis. Ellis (2010) believes that the process of analysing and interpreting case studies relies on the detailed portrayal of participants, or the organization being studied, in a written form describing their features and qualities as a framework to better understand and appreciate the related experiences.

The Three Central Ideas in Hermeneutics

According to Ellis (2006), taking a holistic approach in data interpretation is a major theme in hermeneutics in order to determine the meaning behind actions and expressions. The

interpretation process is a creative activity where the researcher's direct involvement is called to action. So instead of quoting the participants' accounts directly, researchers compose and weave the meaning behind the data collected based on everything they observed or heard. Researchers are in a better position to confidently interpret the meaning of specific quotes compared to the general readers due to their close relationship with the participants and their stories (Ellis, 1998a; Ellis, 2006; Packer and Addison, 1989).

The second theme in hermeneutics is about giving attention to the part-whole, micro-macro relationships. In essence, the researcher's ability to understand the whole is directly related to understanding the detailed parts, and vise versa. Ellis (2006) explains this theme through the example of a teacher's anxiety when presenting to parents about a classroom program as a small piece (part) of a large picture (whole). The big picture being the culture of customer satisfaction guarantees, instant gratifications, and consumerism (Ellis, 2006; Packer and Addison, 1989).

Significant emphasis is given to language, the third theme in hermeneutics, as it could play a major role in facilitating understanding or limiting it. While language is connected to a community at a given time in a certain place, being aware of the context and the historical background is essential to understanding the language being used (Ellis, 2006).

Key Metaphors and Concepts

Researchers using the interpretive inquiry approach are usually involved in on-going conversations with their study participants where they ask questions and reflect on the answers. The concept of the hermeneutic circle is based on the pattern that develops in these conversations, where the researcher is going back and forth between the part and the whole and

the micro and the macro. When entering the Circle, Packer and Addison (1989) encourage researchers to design the initial dialogue creatively while exhibiting genuine concern and respect for the participant as it could change the researchers' understanding of the problem and/or help them form a new relationship with their participants. The entry question is a significant part of the interpretive inquiry as it signals the researcher's commitment to honesty, genuineness and humility, breaking away from traditional methods that seek to prove or disprove hypothesis or previously held ideas (Ellis, 1998a; Packer and Addison, 1989).

Ellis (1998a) explains how researchers' work progress in their hermeneutical interpretive inquiry resembles a spiral with a single loop or a series of loops, depending on the number of data collection activities required to complete the study, and that researchers understand the ideas of the hermeneutic circle and the stages in the research process as a succession of loops in a spiral (Ellis, 1998a; Smith, 1991). According to Packer and Addison (1989), each hermeneutic circle has a forward and backward arc. The forward arc represents projections made in order to make some initial sense of the data collected and the backward arc represents the stage in which researchers re-evaluate their interpretation and pre-understandings based on findings from the data collected, including confirmations, discrepancies and/or gaps.

Ellis (2006) and Packer and Addison (1989) hold the view that studies requiring a single data collection activity and those that use existing data can look like a single-loop spiral. Studies with a multi-loop spiral have a first loop that begins with the researchers' initial question then a second loop based on what they learn by reframing that initial question. The researchers frequently use the same data to make recurring loops as they evaluate, examine, and interpret the data in light of the new questions arising from previous set of discussions, and that the process could be repeated several times as the researchers reflect on their findings in order to get closer

to understanding the research problem. Having a robust initial loop would give the researcher a clear direction and a steady progression, while weak initial loops could take the researcher to uncertainties and in worse cases, a dead-end. Essentially, the first loop has a significant role in shaping the outcome of the study and is directly influenced by the nature of the research focus and the entry question (Ellis, 2006; Packer & Addison, 1989).

Uncovering is another important concept in hermeneutics that denotes the unexpected or surprising findings within the data collected. These findings do not necessarily provide an answer to the question(s) of the research, but they provide the researcher with a new understanding of the problem leading him/her to reframe their question(s) in the subsequent step.

The concept of the fusion of horizons was introduced by Gadamer to explain how different people can understand one another. According to Smith (1991):

> For Gadamer, prejudice (pre-judgment) is not a swear word, but rather a sign that we can only make sense of the world from within a particular "horizon" which provides the starting point for our thoughts and actions. Understanding between persons is possible only to the degree that people can initiate a conversation between themselves and bring about a "fusion" of their different horizons into a new understanding which they then hold in common (p. 193).

The fore-structure of a researcher's past experiences shapes his or her prejudices, which in turn represent the horizon from which he or she views the world. When a researcher begins to understand the participant's perspectives, no matter how different it is from their own, he or she can then begin to validate the participant's opinions and actions and deem them appropriate and sensible (Ellis, 2006; Packer & Addison, 1989a; Smith, 1991).

Methodology

My research is built on the concept of understanding and explaining social phenomena and experiences with the idea that reality is formed based on people's interactions with their environments. Considering the earlier discussion on qualitative research, I became increasingly interested in interpretive case studies. Hence, the study that I am undertaking is qualitative in nature with an interpretive emphasis. This situates me in the constructivist paradigm and commits me to using hermeneutic and narrative approaches. I, therefore, consider myself a bricoleur tasked with collecting theoretical montage through which meaning is formed and shared according to a narrative; the participants'.

Sampling Strategy

For my research, I wanted to interview children of Somali origins, both male and female, who can comfortably use computers, and are able to adequately express their ideas and experiences when interviewed. Therefore, the target group identified for this study were Somali children in upper elementary (grades four, five and six) between eight and eleven years old, and Somali children in junior high school between twelve and fourteen years old (grades seven, eight and nine). The children's parents were also invited to be interviewed in order to gather data related to the family's experiences using technology outside of school, and to learn more about the children being interviewed.

Recruitment

Recruitment of participants was made through the Somali Canadian Cultural Society of Edmonton (SCCSE) and the Edmonton chapter of the Muslim Association of Canada (MAC). Both organizations offer programs attended by Somali children. SCCSE offer an after-school homework club while MAC offers weekend school offering religious studies and Arabic

language courses. I approached both organizations about possible participants and explained the nature of my study. I was able to get in touch with one family from the SCCSE homework club. I used snowball sampling to recruit the other six families. According to Noy (2008), snowball sampling is the process in which study participants refer the potential participants and provide their contact information to the researcher. The process is repetitive, where newly recruited participants refer other potential participants and so on.

Site

I invited the participants to meet with me at the University of Alberta campus, in the Technology and Learning Sciences (TALS) lab where a private room was prepared for that purpose. In three cases, families requested that I meet with them in their homes to conduct the interviews.

Participants

To collect data for this interpretive inquiry, I interviewed seven Somali children at the elementary and junior high levels and their parents. The children participating in this study ranged in age from 10 to 15 years, two were females and five were males. All of the children interviewed were Canadian-born and their parents were born outside of Canada.

Ethics

In order to conduct the study as a student at the University of Alberta, I submitted an ethics application to the Research Ethics Board at the University of Alberta prior to conducting the study. The process is in place to ensure that the research is in adherence to ethical guidelines set forth by the board.

Further, an assent letter and a consent letter detailing the purpose of the study and explaining the interview process were sent to the participants and their parents in order to obtain

their signature indicating their acceptance to take part in the study (Appendix A). Finally, I am using pseudonyms in place of the participants' real names in order to protect their identities.

Procedure

Many qualitative researchers emphasize the importance of understanding and learning about participants' perspectives in order to look at the experience through their lens and eventually 'seeing it their way'. This helps in validating the participants' feelings and actions and accepting their outlooks as being sensible and rational (Ellis, 2010; Ellis 2006; Guba and Lincoln, 1994; Packer & Addison, 1989; Weber, 1986). In order to gain a good understanding of the part-whole relationship and to learn about the larger stories in this study, I found that it would be best to interview the parents of these children to learn about what the parents' experiences using computers and technology themselves was like, which I thought was significant and crucial in interpreting their children's experiences (Ellis, 2006).

Interviews. I conducted interviews with the seven families over a period of eight weeks. For each family, I first interviewed the child separately ensuring that the parent is not in the room. After completing the interview with the child, I interviewed his/her parent shortly after.

During these interviews, I queried the parents about their children to learn more about their (the children's) personalities and temperaments. I also asked the children questions on their experiences and preferences when it comes to technology and computer use. Overall, the families I interviewed recounted invaluable information on the parents' technology use, their attitudes and views on technology, the children's technology use at home and at school, and their overall day-to-day use of computers and technology.

Pre-interview activities. Completing activities such as making drawings, diagrams and/or timelines showing important events could assist participants to recall and reflect on previous

experiences and telling stories. The researchers also benefit from a rich narrative and a wealth of information that participants share willingly as they "express perspectives, values, assumptions, and emotions that are either difficult to articulate or not consciously held. Importantly, a conversational relationship can be established through discussions of the pre-interview activity products, thus building rapport for remaining parts of the interview." (Ellis, 2006, p. 121). Asking the participant to complete pre-interview activities ahead of time would also provide the researcher with additional information about the participants, especially when conducting ongoing interviews is not practical or possible.

The pre-interview questions were divided into two parts (Appendix B). In the first part, I asked the participants general questions about themselves and in the second part, my questions were more specific and geared towards the topic of the research (i.e. computer-use and technology). The following are examples of the pre-interview activities I provided to my participants:

- Use three colors to make a diagram or abstract drawing that expresses the way you experience using computers and technology.

- Make a timeline listing key events or ideas that changed the way you use computers and technology over the years.

Open-ended questions. One of the ways researchers can learn more about both the topic and the participants' experiences is by conducting interviews with open-ended questions. It is important for the researcher to accept lack of a narrative during an interview as important and maybe more important than directly stated themes as open-ended questions do not give any direction for the discussion but rather identify a topic for discussion. Therefore, it is essential to

resist the temptation to remove portions of the interview conversations believed to be irrelevant prematurely (Ellis, 2006; Ellis, Janjic-Watrich, Macris, & Marynowski, 2011; Mishler, 1986).

Clusters of questions. Open-ended interview questions could be organized as clusters of questions with the first cluster made up of "getting to know you" questions (Appendix C). Ellis (2006) explains how "it is helpful to engage in getting-to-know-you activities to develop a backdrop that can inform interpretation of what the participant says about the research topic itself" (p. 115). The first cluster used in my study would include questions about the participants such as:

- What would you like to be really good at doing?
- Have you ever done anything that surprised other people?

The second and third clusters included questions about a larger whole and a next larger whole addressing general issues related to the topic of my research, with one cluster being more specific that the other, yet still addressing the whole. The second cluster included questions about life in general; friends, school and recreation. Examples of questions found in this cluster are:

- What makes some friends or classmates more enjoyable than others?
- If you could organize the schedule for the week at school, what are some of the things you would change?

The third cluster included questions about the next larger whole, in this case the questions were about technology and computer-use experience over his/her lifetime. Examples of questions found in the third cluster include:

- What are some of the things you would have missed most if you didn't have the use of computers these past years?

- If you could have changed something about your earlier computer experiences what is one of the things you would have changed?

The fourth cluster of questions addressed the specific topic of research. Examples of questions found in this cluster include:

- What are some of the things that you are trying to get better at doing with these technologies?

- What are some of the things that parents and teachers should do when children are good at using these technologies or are interested in these technologies?

By asking the children the above questions and then interviewing their parents to learn about their children's use of computers and technology (Appendix D), I had the opportunity to gain a holistic appreciation of the people I was interviewing. I was also able to understand what was important to them, and that gave me the confidence to interpret what they said in ways that helped me answer my research question (Ellis, 2006).

Analysis and Interpretation

> Interpretation is the working out of possibilities that have become apparent in a preliminary, dim understanding of events. And this pre-understanding embodies a particular concern, a kind of caring. It provides a way of reading, a preliminary initial accessibility, a stance or perspective (a fore-structure) that opens up the field being investigated (Packer and Addison, 1989, p. 277).

After interviewing children and their parents, I transcribed the audio-recorded interviews verbatim. Transcribing the first interview took a considerably long time to complete, and that compelled me to look for faster ways to transcribe the remaining thirteen interviews. I came across an article suggesting using YouTube closed captions as a transcription tool (Agarwal, 2015). I used YouTube and later developed a step-by-step guide with additional instructions and resources to further simplify the transcribing process, reduce time and increase accuracy (Appendix E).

As I examined the interview data to identify big ideas and common themes, I took a deliberative approach to make connections between interviewees' stories and their realities, values and motivations. In learning about the participants' preoccupations, significant others, and the way these participants position themselves in relation to others, the meanings behind the metaphors and/or images they shared became clearer to me. I first interviewed the children and then interviewed their parents separately in order to learn about the experiences of these Somali children in light of their parents' experiences. In interviewing the parents and listening to their stories, I was able to correlate and connect their stories to the stories related by their children; all the while, paying attention to the whole-part relationship (Ellis, 2010; Ellis, 1994; Packer & Addison, 1989).

The above approach guided my written account of the participants' narrative-portraits as I systemically studied the narratives and stories related by the participants. I initially categorized the big ideas from each interview in a separate table for each participant, an example is shown below (Table 1), and then rearranged them once again to have the entries grouped together in categories according to common themes. I used ATLAS.ti 8 software to help with arranging and organizing the interview transcript, in preparation for the analysis process.

Table 1

Transcript Analysis and Interpretation

Story No.	**Context: PIA or Interview Question**	**The story (with some ellipses)**	**Topic of Story**	**Key ideas expressed (motivations, beliefs, values, preoccupations)**	**Possible themes or topics that these key ideas might fit into**
1	Q. Imagine that someone is making a movie of your life, draw or make a list of five key scenes that would be important moments in the movie. (**PIA**)	… and the second important scene is **when my brother was born** because he had a huge impact on my life and I think life would be different without him…and the third scene is when I learned English…**me and my dad playing with like puzzle** blocks…I put it to cover my ears and then **I was laughing and yelling and then my dad was also yelling with me and laughing.**	Important events in life	Family	Relationship with significant others
2	….cntd	… my fourth scene is when I started to learn to play basketball…and **how I love basketball now…**the fifth scene**...when I become a basketball player**… **it's my clearest dream that I want in life**	Important events in life	Career as an NBA player	Love for basketball

3.	…cntd	me learning with Samantha, **one of my friends at my old neighbourhood**. She taught me English	Important events in life	Friends	Relationship with significant others
3.	Q. make two drawings, one showing a good day with computers and one showing a not so good day. (**IQ**)	...and then my cousin is with me and we're all having a good time... that's what I like and it's a good day with the computers.	Computer-use	Family	Relationship with significant others
4.	Q. complete the following two sentences: 1) using the computer at school is like... 2) using the computer at home is like.. (**PIA**)	**using the computer at school is like having time to chat with your friends**	Computer-use	Friends	Relationship with peers/schoolmates
5.	Q. Can you think of anything special that you would like to accomplish or try for the first time in the year ahead? (**IQ**)	something that I 'wanna' do for the first time is like I've never done that before... yeah! **Make the basketball team in junior high next year.**	Future plans	Join school basketball team	Love for basketball

6.	Q. Is there anyone, either real or fictional character, that you admire and would like to be like? (**IQ**)	**LeBron James!** [basketball player]	Role Models	Meet role model	Love for basketball
7.	Q. what are some of the things you like about being your age and what are some of the things that you don't like so well? (**IQ**)	some of the things that I like in my age is like I'm the king of the school...I'm in grade six...**so the highest point of elementary...and I'm like, you know, I'm a role model and people actually respect me and all that...and it's really cool**	Role Models	Being a role model	Relationship with peers/schoolmates
8.	Q. if you had one week off a month or two days free each week from school, what are some of the things you would like to do with the extra time? (**IQ**)	…**I would have some fun, chill with my cousins** .. yeah! I get to chill with my cousins **and play some basketball** and I could use electronics **and the PS4.** … Yeah! **because cousins is life** [laughter]. **I love my cousins.**	Free time	Fun things to do	Relationship with significant others, Love for basketball, Love for digital devices

9.	Q. If you could organize the school schedule for the week, what are some other things you would change? (**IQ**)	…I would make **gym more frequent** …for academics challenge people, you **do extra work and like fun**... we're making our own company…now we're getting our market options, one of them is **what my brother would actually want**…fidget spinners…**and all my friends are in it**.	School	academics, family, friends, fun things to do	Relationship with significant others, Relationship with peers
10.	Q. So what makes some friends or classmates more fun and more enjoyable than others?	…they're like more **funny**....and **like some of them are similar to me.** Ben, **he loves basketball** a lot he plays other sports, he's **funny** and yeah…we are all **funny**…we are like comedy group.	Interesting people, Hobbies	Humor, self-awareness, friends	Relationship with peers, Love for basketball

Introducing the Study Participants

In this section, I use participants' pseudonyms as the heading where I introduce the children I interviewed and share some of their unique characteristics, their family structures, and prominent ideas and topics expressed through their stories in order to help readers get to know them on a more personal level.

Eddie. At the time of our interview, Eddie was thirteen years old and in grade eight. Eddie lives with both parents and his five brothers. His father is a computer specialist working for a private company here in Edmonton while his mother is completing her studies at MacEwan University to become a social worker. Eddie's parents have been living in Canada for more than twenty-four years. From the pre-interview activities (PIA) list of questions, Eddie choose to answer the following four:

1. Part 1, question # 3:

   If you had one week off a month (or two days free each week), what are some of the things you would like to do with your extra time?

2. Part 1, question # 6:

   If you could spend two weeks with someone who does a special kind of work, what kind of person would that be?

3. Part 2, question # 3:

   Complete the following two sentences:

   Using the computer at school is like ***more learning…it's one of their educational resources.***

   Using the computer at home is like ***freedom like you do anything you want on it.***

4. Part 2, question # 6:

   Make two drawings: one to show what it is like for you when you use the computer at school and another to show what it is like to use the computer at home. Feel free to use thought bubbles or speech bubbles.

Though I brought a box full of pens, pencils, color crayons and markers along with legal size blank papers for children to use when answering the PIAs, Eddie used a pencil and one sheet of paper to answer all four questions. It took Eddie about twenty to twenty-five minutes to answer the PIA questions and later read his answers adding short explanations when asked. For example, he referred to his time using the computer at school as "*FUN*" and when I asked him about what he meant by it, he quickly explained that he was being sarcastic. From the very first PIA that Eddie answered, his sense of humor and passion for gaming were evident. Overall,

Eddie was seemingly quiet and reserved, yet his sarcastic sense of humor was evident throughout the interview. He was careful when answering my question and took his time giving much thought and consideration to ensure that his answers were accurate and concise.

Jack. Jack lives with both parents and his younger brother. He was eleven years old when I interviewed him. Jack's mother works as a nurse and his father is a mechanical engineer working at a private company. Both parents have been living in Canada for more than thirteen years. In grade six, Jack was in the academic challenge program designed for gifted students.

From the pre-interview activities (PIA) list of questions, Jack choose to answer the following four:

1. Part 1, question # 4:

   Imagine that someone is making a movie of your life. Draw or make a list of 5 key scenes that would be pivotal moments in the movie.

2. Part 1, question # 2:

   Think of an important event that changed things for you in your life. Make two drawings to show what things were like for you before and after the event happened. Feel free to use thought bubbles or speech bubbles.

3. Part 2, question # 3:

   Complete the following two sentences:

   Using the computer at school is like ***having time to chat with your friends online.***

   Using the computer at home is like ***having fun, watching funny stuff, and having a good laugh.***

4. Part 2, question # 4:

Make two drawings: One showing "a good day" with computers and one showing a "not so good" day. Feel free to use thought bubbles or speech bubbles.

Jack was very enthusiastic and happy to talk to me about his life experiences and had many stories to share. For his PIAs, he used a black pen to draw various illustrations to answer his questions. In a question about five important scenes to include in a movie about himself, Jack's answer revealed to me the strong bond he has with his brother and father, it also introduced the importance of family as significant others for Jack, a topic that came up often during the interview. Below is an excerpt from his answer:

> *... and the second important scene is when my brother was born because he had a huge impact on my life and I think life would be different without him…and the third scene is when I learned English…me and my dad playing with like puzzle blocks…I put it to cover my ears and then I was laughing and yelling and then my dad was also yelling with me and laughing.*

Helen. Helen is the youngest of three sisters and was ten years old at the time of our interview. She and her sisters live with both parents who came to Canada in 2001 to complete their graduate studies. Both parents are PhD holders. Helen chose to answer the following four questions form the PIA:

1. Part 1, question # 3:

   Draw a schedule for your day, week, or year and use colors to indicate how time is spent. Make a legend to explain the colors.

2. Part 1, question # 5:

   Think of an activity that has been an interesting part of your life for a long time. Use colors to make three drawings that symbolize how your experience of that activity has changed over time (Any activity is fine, for example, cooking, exercise, reading, etc.).

3. Part 2, question # 3:

   Complete the following two sentences:

   Using the computer at school is like ***very limited because our teacher tells us what to do and where we go.***

   Using the computer at home is like ***I feel like I'm not limited because I can go on Read Theory I can go on Mathletics or raz-kids...whatever I choose.***

4. Part 2, question # 5:

   Make a timeline listing key events or ideas that changed the way you use computers and technology over the years.

I found Helen to be very open, expressive, happy and energetic young girl. She also loves to read books and enjoys writing shorts stories. Helen was also very proud of the fact that her parents were scholars in their fields and indicated her plans to follow on their footsteps and becoming a scholar in the computer field.

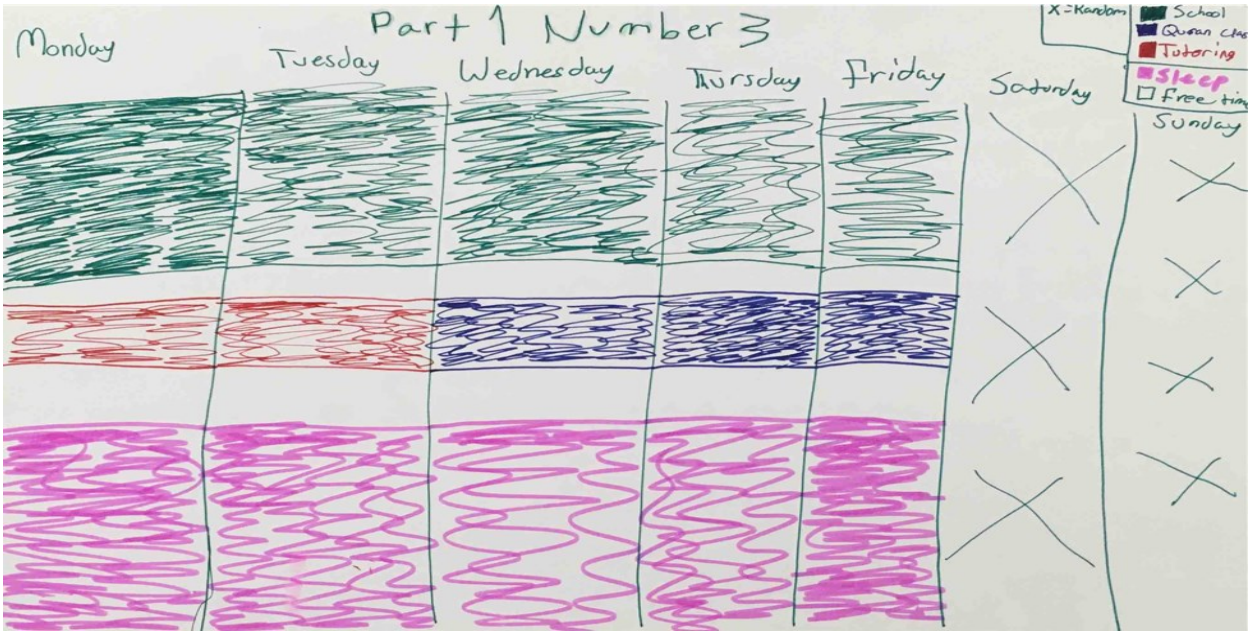

Figure 1. Partial image of Helen's answer to pre-interview activity question. Full image found in Appendix F (Figure F5).

Helen used colored pencils and crayons when she worked on her PIAs. She was organized and methodical when she drew the schedule of her day (Figure 1). She had an interesting way of associating colors with words as she explained her color choices for different activities on her schedule in the following:

> *I think of the color green as 'correct' or 'good job' and that's what I aim to do at school and that's how I decided to put green for school…red is a good color in my opinion…I don't understand why I choose it, but every time I think of a word, it has a color to it…for tutoring I think of red. And blue I feel it's just a challenge. I have a challenge with the Arabic language and memorizing the Quran.*

Oscar. Oscar was twelve at the time of interview. He is one of eight siblings, six sisters and two brothers. He lives with both parents and siblings in Edmonton, attending his final year of elementary. Oscar's mother is a home maker and has been living in Canada for over twenty-six years. For the Pre-interview activities, Oscar chose to answer the following four questions:

1. Part 1, question # 2:

   Think of an important event that changed things for you in your life. Make two drawings to show what things were like for you before and after the event happened. Feel free to use thought bubbles or speech bubbles.

2. Part 1, question # 4:

   Imagine that someone is making a movie of your life. Draw or make a list of 5 key scenes that would be pivotal moments in the movie.

3. Part 2, question # 3:

   Complete the following two sentences:

   Using the computer at school is like ***using it at the library.***

   Using the computer at home is like ***using it at a friend's house.***

4. Part 2, question # 4:

   Make two drawings: One showing "a good day" with computers and one showing a "not so good" day. Feel free to use thought bubbles or speech bubbles.

I found Oscar to be low key and uninterested. He didn't seem very comfortable talking to me and was hesitant to answer my questions during the interview. He was anxious to be done and eventually decided to end the interview before I was done asking him all my interview questions. For the most part, Oscar was leaning forward with his elbows on the table and his

hands clasped together under his chin. Several times during the interview, he was looking at the time and asked me if we were done. At one point he said: "*Ok...next question. So how many more questions are left?"* He continued with the interview for another five minutes before he asked to leave.

Nina. Nina is one of five children and was thirteen years old at the time of our interview. She lives with both parents, an older sister and three younger brothers. Nina's mother was studying nursing when she had her youngest son and decided to interrupt her studies to care for him and her other children, and approximately eight years later, she decided to continue her studies. At the time of interview, she was studying at the University of Alberta to become a teacher. Nina's father is a high school teacher here in Edmonton. Nina chose to answer the following three PIA questions:

1. Part 1, question # 3:

   Draw a schedule for your day, week, or year and use colors to indicate how time is spent. Make a legend to explain the colors.

2. Part 2, question # 1:

   Use three colors to make a diagram or abstract drawing that expresses the way you experience using computers and technology.

3. Part 2, question # 4:

   Make two drawings: One showing "a good day" with computers and one showing a "not so good" day. Feel free to use thought bubbles or speech bubbles.

Nina used colored pencils and crayons when she worked on her PIAs. She had a keen interest in arts and crafts and was happy to share some of her art work with me. Her time using the computer at home includes watching "Do It Yourself" (DIY) videos on YouTube where she gets painting and craft ideas that she tries to duplicate on her spare time. Nina was a soft-spoken and seemed easy going and mild tempered. I was surprised to hear her mom describe her as feisty and strong willed. Her mom explained:

> *"Nina is a little different from her older sister. She is not a difficult child and is usually calm…but if any of her siblings make her upset…like for example take her stuff without asking for permission she can be wild. The other day, I had to get in between her and her older brother, who is much taller than she is. Because she wanted to fight with him. She was angry at him and wanted to 'teach him a lesson [laughter]"*

Luke. Luke had two younger siblings and was thirteen years old when I interviewed him. Luke's upbringing and family structure was unique in comparison to the other children I interviewed. His mother got married young and gave birth to Luke before getting a divorce then moving in to live with her single mother and six siblings. Luke grew up amongst his maternal aunts and uncles and was considered more like their youngest sibling. His mother got remarried years later and had two more children from her new marriage. From the pre-interview activities list of questions, Luke chose to answer the following four:

1. <u>Part 1, question # 3:</u>

Draw a schedule for your day, week, or year and use colors to indicate how time is spent. Make a legend to explain the colors.

2. Part 1, question # 4:

   Imagine that someone is making a movie of your life. Draw or make a list of 5 key scenes that would be pivotal moments in the movie.

3. Part 2, question # 3:

   Complete the following two sentences:

   Using the computer at school is like ***work because you have one job to do and after that you are just done.***

   Using the computer at home is like ***free because there isn't really a reason to be on, it's more like fun stuff more like homework that you need to do and then after the homework you can just play games or something.***

4. Part 2, question # 4:

   Make two drawings: One showing "a good day" with computers and one showing a "not so good" day. Feel free to use thought bubbles or speech bubbles.

From our interactions and throughout the interview, I found Luke to be respectful, gentle and very patient with his younger siblings and attentive to their needs, which I found surprising for a young boy his age. Several times during the interview he got up to help his younger brother before coming back to the interview table and apologizing for the interruption. In regard to his upbringing, Luke's mother explained:

> *"...he's the oldest but yet he grew up with me too with my family because I was young when I had him and then I got*

like divorced and stuff...I was living back with my family. so sometimes he's like my little brother and sometimes he's like my eldest and I feel like it's not until the last few years when I had my daughter that he actually played his role as being the eldest brother."

Shawn. Shawn was eleven years old at the time of interview. He was born in Edmonton, has three brothers and one sister and is the youngest child in the family. They all live with their single mother who is a home maker and has been living in Canada for more than twenty-seven years. For the Pre-Interview Activity questions, Shawn choose to answer the following four:

1. Part 1, question # 2:

   Think of an important event that changed things for you in your life. Make two drawings to show what things were like for you before and after the event happened. Feel free to use thought bubbles or speech bubbles.

2. Part 1, question # 4:

   Imagine that someone is making a movie of your life. Draw or make a list of 5 key scenes that would be pivotal moments in the movie.

3. Part 2, question # 3:

   Complete the following two sentences:

   Using the computer at school is like ***fun.***

   Using the computer at home is like ***wonderful***.

4. Part 2, question # 4:

Make two drawings: One showing “a good day” with computers and one showing a “not so good” day. Feel free to use thought bubbles or speech bubbles.

I found Shawn to be very inquisitive and curious. He asked me many questions about the study, why he had to be interviewed, why I was conducting the study altogether and what I would do with the information I collected. He was also interested to know how it would help me with my studies once I was done with the research. Though Shawn was very engaged and talkative, I found it rather challenging to keep on task as he was more interested in learning about the study I was conducting and the research process than answering questions about his own experiences.

Findings

Though each family had its own unique circumstances and experiences, there were many instances where I found similarities between the children's experiences and the stories they shared. Parents also shared similar experiences.

Below, I will present my findings by providing quotes from the participants and arrange them into themes relevant to the topic of study. I will further divide the themes into two categories:

- Themes related to the topic of study as shared by the children and their parents.
- Unexpected emerging themes that are not related to the topic of study.

Emerging Themes

Themes were expressed in textual formats or through art work and illustrations made by the children. Parents' accounts and stories about their experiences and their children's were also integrated in the themes.

At the end of this section, I will include three themes that were not necessarily or directly related to the topic of study but were prominent and frequently repeated.

Starting with quotes and illustrations related to the topic of this study on computer-use and technology, below are the categorized themes.

Themes Related to the Topic of Study

Theme 1: Children are avid users of computers and technology. All the children interviewed reported being knowledgeable and proficient users of computers and digital technologies. This comes as no surprise to me since they were all brought up in Canada and they

all had access to technology from a young age. The majority of the parents I interviewed were moderate to proficient users of computers and handheld devices, and only one parent reported having limited computer skills.

Eddie:

"...when I was younger I always used to use it for games 24/7, but now since I'm in junior high I always have to use it for like schoolzone and like I have to type, but like sometimes on my free time, I just watch videos on YouTube and stuff... ...social media!....ummm... the games on my phone...and the PS4 too. "

Shawn's Mother:

"Oh my God, Shawn loves using cellphones…he is crazy about using computers…he likes to play games like Roblox"

Oscar:

"Umm....I usually played games when I was younger, I didn't go on YouTube or like schoolZone. Now I do both, I play games, I go on YouTube and do the stuff that I need to do at school"

Jack:

"...when I was five I started playing with the Wii and it was really fun....I still use it now!...we used to use our old desktop and we used to watch a little YouTube

when it was still developing…Geometry Dash![online/mobile video game] I'm pro at it now. I already beat three Demon levels"

Luke:

"…they [cousins] will just give me a broken controller and then they'll just play play play play and then they would say oh Luke you're winning look you're winning [laughter]…but then now that I can actually play games and I actually know what I'm doing."

Helen:

"So when I was six, I didn't know a lot of things with the computer and internet, I only knew about games and PowerPoint so I played a lot of games with my sister …I used PowerPoint because I saw my parents using it for like their work…then I went on Word (MS word) because I saw my parents using it for work….so I wrote essays and I wrote stories to practice my writing…and my parents thought I was crazy because I was only in third grade but I kept using it and I kept typing and now I'm really fast at typing…I also used the computer for homework and sometimes social media."

Theme 2: Desire for more access to computers and gaming. Children cited various reasons for having limited access and expressed their desire to have more access to computers, technology, and gaming both at home and at school.

Oscar:

I asked Oscar about the things he wished his teachers and parents would do to make his use of technology better. Oscar's answer was: "*using computers more*".

Shawn:

"...they [teachers] can let us have free time on the computers every Friday"

Helen:

"*My mom would never buy us any game console ever, I told her about a Wii and she only liked it because it includes exercising too. She only considered it for like about a minute. No, it's a game console"*

"Well...my mom says it's bad. Like, I try really hard to stop going on the iPad"
"...and every time we use it my mom yells at us. One, because it's a game console and two, because we have to unplug the Wi-Fi to use it."

"...I really like Minecraft. It costs money, and my mom won't....if I ask her to pay money for a game she will yell at me. "

Nina:

...I like using devices but the problem is I can't use the computer too much because the boys' game is only on the computer and they don't want to get off and they're like sharing amongst each other and then when I say I want to play this game they're just like well we're not playing that game so you have to go get the iPad and then I realize it's dead and I have to wait until it's charged…so the

computer I don't use much...Okay unless the boys are not here or something or sleeping over at my cousin or I just wake up earlier and I take it."

Eddie:

"*I don't think teachers and parents are supportive of it [video games] Though. Maybe, like, the teacher can tell them [students] you can play on it…like after the classes are done or something*"

Jack:

"…they should like use it for not only educational but like instead of just use electronics for only just games or educational purposes, I like fun educational purposes during class…I want us to do it more often"

Theme 3: Computer-use at school ill-favoured. Children expressed uneasiness with computer-use at school and preferred using computers and electronic devices at home.

Oscar:

" ....and then school is like even more risk taking because, like, you are going to get in more trouble."

Luke:

"Using computer at school is like work because you have one job to do and after that you are just done. You can't do anything after"

"...because with the chrome books I don't like how they're always tracking like everything that you do....it bothers me."

Eddie:

In a pre-interview activity where he was asked to make two drawings showing what it's like when using the computer at school and another to show what it is like to use the computer at home, he drew two images (Figure 2). When I asked him to elaborate on what he meant by "*Learning is…FUN*" his answer was: *"It's a sarcastic one!"*

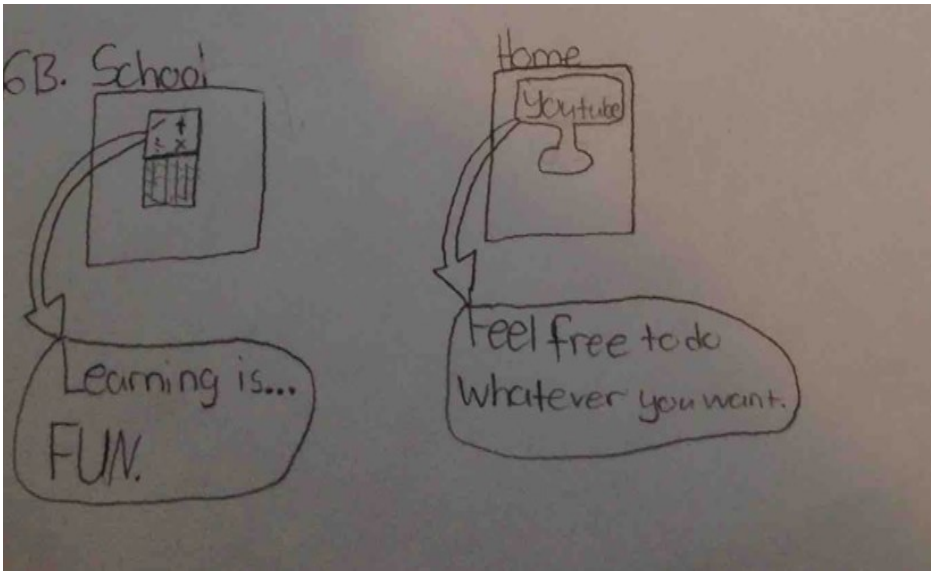

Figure 2. Partial image of Eddie's answer to pre-interview activity question. Full image found in Appendix F (Figure F1).

Helen:

> *"…using a computer at school can be very limited because our teacher tells us what to do and where we go like for example if I want to go to ReadTheory [www.readtheory.org] but she tells us you have to go on raz-kids [www.raz-kids.com]or Mathletics [www.mathletics.com] then I have to do what the teacher says …so the computer class I don't like it anymore because it is not something I want to do"*

Nina:

> *"...at school I feel like I have to act more proper…I don't want people to see me as lousy brat…I try not to be a 'fake' like trying to be someone else…you can't act silly…if I act silly then of course they will call my parents and then my parents will be mad."*

Theme 4: Parents' concerns over technology use. All the parents I interviewed, with no exception, expressed serious reservations about technology use. They attributed their sentiments to the negative effects of prolonged computer-use on health and time wasted.

Oscar's mother:

> *"…spending a lot of unnecessary hours, up late at night sometimes...like we have to drag them out....you know what I mean?!"*

Shawn's mother:

"We always try to limit his time on the computer…I only give him limited time on Fridays during school days…so he doesn't get much time to play computer games".

"Yes...I don't like it...I don't like Facebook...I don't like to use the computer...I love talking to people face to face. But with the family away, I can talk on WhatsApp and Skype with family like that."

Eddie's mother:

"…um the only downside that I find with technology is it's very time consuming…like you aim for…to be there for a very short time you know just reading an article then you go elsewhere and you just could stay there for hours and hours like you know...so it has advantages and disadvantages."

Jack's father:

"…losing our time and health…everything has advantages and disadvantages. So most people especially young people and children they don't know if what they are looking for is beneficial for them. So it is better if the parent help and guide them"

"…when using the Internet sometimes you feel you lose your time and your health even because you might be sitting there long time without moving much especially

when looking on the internet for something I sometimes I forget my time and it takes too long and then I feel I waste my time using the computer like that."

Nina's mother:

"…we don't have cable TV so if we want to watch something we put on the iPad and then we watch on TV and it's different…through cable TV they tell you…um…like they give you warnings…viewer discretion advised when some kind of nudity but then on internet you don't know what or when…one has to watch first and then present to the kids…unpredictability yeah that's my problem"

Luke's mother:

"…can I have the iPad and I would say no to him and in grade five actually my siblings put money together and got it [an iPad] for him but then he lost it…and then halfway through grade seven when I saw these kids have phones and they're on their phones 24-7 and I thought it's crazy…I said okay I'll get you an iPad again or iPod but you can't have a phone that's not happening"

Helen's mother:

"…I also have a gaming device but I have no idea what it is and I don't allow the kids to play."

"…oh I don't even want her to use any technology...but she uses it all the time ...it's a fight between me and her"

"...she is not very close to the parents in terms of making conversation with us she would rather be stuck with the IT world than to us…she's closer to anybody who's using you know technology as opposed to old school people who you know do not see this as a user-friendly…she identifies herself with others because of that relationship they have with technology…when she sees others who are using technology she gets close to them as opposed to myself...so she's distant from myself and it's because of this machine I believe…her being engaged with all these funny stuff I was thinking that I will lose her with time"

Theme 5: "I'm able to see what he's doing…which is good". One of the interview questions I was asking the parents was on the location of the main computer in their home. Below are the parents' answers.

Helen's mother:

"In the living room."

Luke's mother:

"...and that's one of the reasons why I brought it down and we put it in the living room facing away from the TV."

Nina's mother:

"...but we have a main one in the study room"

Oscar's Mother:

"In the basement…everybody has access to it."

Shawn's mother:

"It is located in the living room."

Eddie's mother:

"In the living room…because the computer is in the living room, I'm able to see what he's doing…which is good"

Jack's father:

"…I have a main laptop that we all use and it is usually located in the living room."

Unexpected Emerging Themes Not Related to the Topic of Study

Theme 1: Comedy is king. Most of the children I interviewed indicated that having a good sense of humor is a quality they considered to be valuable to have. They also appreciated and respected people that they believed were funny, especially friends and teachers.

Jack:

"Because they're like more funny…Ben [a friend], he's funny and yeah, we all watch Dank memes and funny stuff… oh yeah we are all funny, we are like comedy group."

"...I'm very similar to Ethan, one of my classmates, because both of us are funny"

Jack's father:

"...I find that he always likes entertainment…he likes to find something that's funny,"

Oscar:

"...who I am, my style, interesting things about me, if I'm funny or not, or if I'm cool."

Helen:

"*...because every time I was in my sister's room she was always on Instagram there's always funny posts.***"**

Luke:

"Yeah, my favorite was Mr. Walls. He was my teacher last year…um…a funny guy"

"I feel like I would be a fun teacher but like I feel like a lot of teachers say they're fun and funny so like I'm not really sure...ok like my math teacher thinks he's the funniest guy but he's not [laughter]"

"...some of my friends are really funny, they're more like outgoing and stuff but I find those ones are more like annoying sometime....and then there are like the other ones that are more mature and stuff.... they're still fun but like they're more like the people that I'll really talk to more than the other funny ones…those are just more for entertainment. So my best friends are more like…they're funny like they know when to be funny when to be serious. but the other ones…the school friends…they all just like to laugh every two seconds. I prefer to be more with the mature one, because, like, the other ones would make fun of people to be funny, or like social media funny like put a camera and do something funny but the mature friends are in general funny, what they do is funny, how they talk is funny"

Eddie:

"umm…friends that are like they're smart…and like they're funny,"

"... I've seen some videos of him being joyful and funny".

"...she was like a nice teacher…a funny teacher…also a good teacher"

Eddie's mother:

"umm...he likes the class to be interesting and funny"

Theme 2: Boys' basketball aspirations. All of the boys I interviewed expressed their love for playing basketball and in many instances shared their plans to become professional NBA players. NBA stands for National Basketball Association, the men's professional basketball league in North America ("National Basketball Association", n.d.).

Oscar:

When Oscar was asked to make two drawings about an important event that changed things in his life, he drew himself playing basketball (Figure 3). Oscar again mentioned basketball when he was asked to think about anything special that he would like to accomplish or try for the first time in the coming year, he said: *"To be on a basketball team"*. A third time basketball was mentioned during my interview with Oscar was when I asked him about one thing he would like to be good at, his answer was: *"Playing basketball"*. Oscar went even further expressing his admiration and desire to be like Lebron James [professional basketball player].

> *"...me and him have a lot of things in common. We are both left-handed but we both shoot with our right hand. We both drive in using the left foot and we both hate Stephen Curry [professional basketball player]"*.

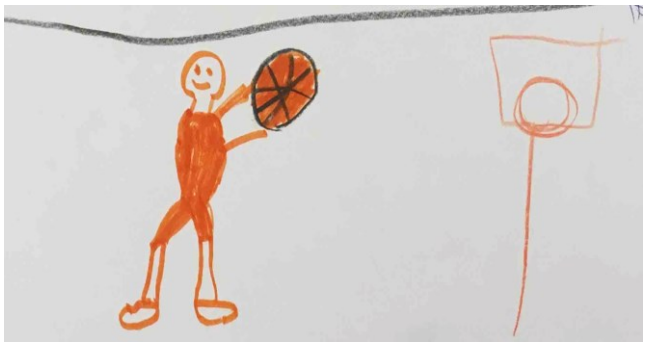

Figure 3. Partial image of Oscar's answer to pre-interview activity question. Full image found in Appendix F (Figure F7).

Eddie:

On answering question about a personality that he would like to spend two weeks with, he answered: Russell Westbrook [professional basketball player] in order to "*learn some basketball skills from him*". Eddie also mentioned that he *"always liked basketball and stuff"*.

Shawn:

When Shawn was asked to draw or make a list of 5 key scenes that would be pivotal moments in the movie, the last scene he listed was him playing basketball with his friends (Figure 4).

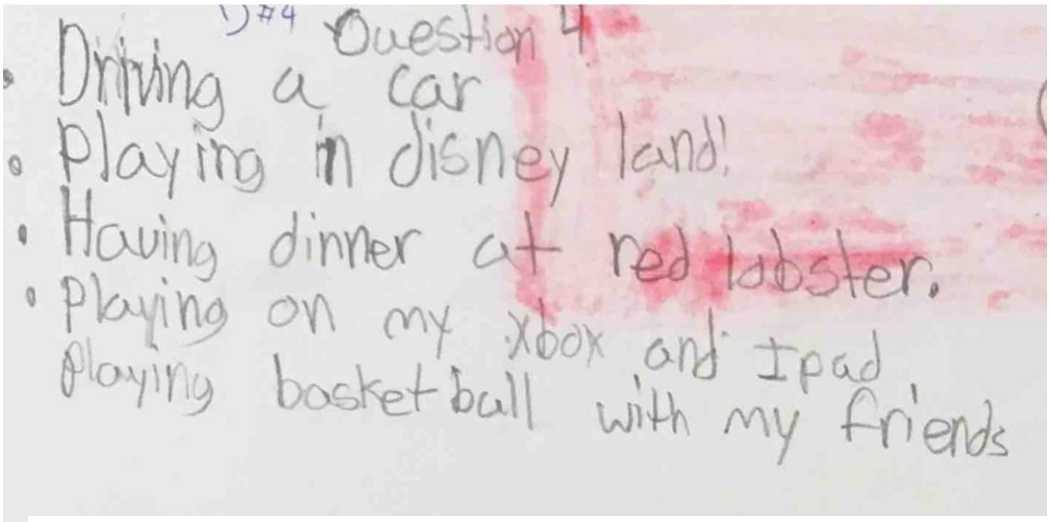

Figure 4. Partial image of Shawn's answer to pre-interview activity question. Full image found in Appendix F (Figure F13).

Jack:

"my fourth scene is when I started to learn to play basketball…and how I love basketball now. It's my favorite sport and I play it a lot"

"...the fifth scene...it's going to be like in the future when I become a basketball player…I hope I'll become a basketball player...like it's my clearest dream that I want in life"

Luke:

"...last year I didn't make the [basketball] team but then this year I did. So it's a lot like ups and downs, but you still keep on going."

"...the big dream is to be an NBA player."

Eddie's mother:

"...he's really interested in basketball so the first thing when he wakes up in the morning he would go and actually before even he goes to school he would go and watch the game highlights"

"He's really fascinated with anything that has to do with basketball."

"...anything to do with basketball...or he might say well I would love to get a new pair of basketball shoes when can we buy them?

Jack's Father:

"...he has many cousins who are older than him and with them he is always talking about NBA players"

"Yeah...I think this is the dream of every Somali boy becoming an NBA player [laughter]…always talking about it to me and how he will be that rich famous guy who will give me money [laughter]."

Also, when Jack's father was asked about what Jack was most curious about or fascinated with, the father's answer was: *"Well…technology and basketball."*

Luke's mother:

When Luke's mom was asked to about any interesting aspirations, plans, or dreams her son had, she said: *"Yes! Basketball like every other kid out there [laughter]".*

Theme 3: Girls pressed to excel at school by parents. Though the girls I interviewed accounted for less than 30% of the overall number of children interviewed, this was a common thread between the two girls that I did not see while interviewing the five other boys, or their parents. On the contrary, parents of boys in this study expressed their satisfaction with their children's school performance, at times highlighting their strengths in core subjects such as math and science. It is interesting to note that both girls were doing well academically, as per their parents' assessments and their own, but there was still some additional pressure to do better.

Helen:

"…every time I'm at school we get like thirty minutes of reading in the morning and after recess and after lunch recess and just a lot

of times we just do reading…I got Roald Dahl's Witches book recently and it really helps me because he's an advanced writer, he's also British so I could expand my vocabulary…I write stories a lot if I don't have anything else to do, I write."

"I like reading a lot and my mom says I don't read enough"

Helen's mother:

"…oh she's a very smart kid by the way…she's a good writer and she's a good speaker…when it comes to school life she's on top of it."

"…she's on it [the computer] every time and she gives less time to her studies and I want her to use more time for studies but she uses more time for computer related things that is the biggest fight I have with her."

Nina's mother:

"..one day she tells me mom come watch the stuff we are doing [at school] and it was like nonsense stuff and I told her if you are doing something…like you're an emcee or whatever, then I'll come…she went to tell the teacher I want to be the emcee and then she came and told me I will be doing the emceeing for the event…then I said really?! Ok I am coming then"

Discussion

The objective of this qualitative study was to learn about Somali children and their parents views, attitudes, and interactions with digital technologies. The goal of the study was to answer the following questions:

1) How do young Somali children experience using technology and computers at home and at school?
2) What are their parents' experiences using computers and technology?
3) What are the parents' perceptions and attitudes towards computer-use?
4) Are the parents' perceptions reflected in their children's interactions with technology?

Though Canadians of Somali background share many values and hold similar views on a variety of subjects, I found striking similarities between the families' responses to situations and their general views on a variety of topics. Looking specifically at the families I interviewed, I found that they had many things in common; all the children I interviewed were Canadian born and their parents were all established immigrants, with the majority of these parents living in Canada for more than twenty-five years. According to Statistics Canada (2011b), established immigrants are permanent residents who have been residing in Canada for more than ten years.

Furthermore, most of the parents I interviewed had post-secondary education, with one or both parents having a professional career here in Canada. The similarities in the demographic makeup of these families could in part be due to the snowball sampling process I used to recruit the study participants, where majority of those participants knew one another in advance. It could

also be the case that these parents had shared experiences and similar understandings and were, therefore, interested in taking part in this particular study. The cohesion within the participants of this study was quite evident. For example, the familial ties and their parent-child communication approach were very comparable, so was the value of weekend religious education for these parents. This reflection on snowball sampling method was also observed by Etikan, Alkassim, and Abubakar (2016), who noted that "respondents often suggest others who share similar characteristics, or the same outlook", an suggested that additional measures need to be taken by the researchers "so that the sample is not skewed excessively in any one particular direction." (Etikan, Alkassim, & Abubakar, 2016, p. 1).

Considering how parents in my study were all established immigrants who have been living in Canada for more than ten years, as opposed to being recent new immigrants, I found it compelling to reflect on their time here as immigrants and whether it had any impact on their attitudes and perceptions towards technology and/or their interactions with technology. As there are many variables to consider, such as their need-based interactions with technology to look for jobs online, or to complete training and online courses, coupled with the fact that technology has changed and evolved over the years, nothing conclusive emerged from the data collected to support or contradict the notion that time has indeed made a difference for these parents.

Children's Experience Using Computers

All of the children I interviewed were proficient users of technology, which did not come as a surprise to me since they all had access to digital devices from a young age. According to a study published by the Organisation for Economic Cooperation and Development, about ninety-nine percent (98.9%) of Canadian students had at least one computer

at home in the year 2012, while ninety-eight percent (98%) of those had internet access (OECD, 2015).

Overall, children were fond of using digital devices, and described their experiences using digital devices as:

> *"...having time to chat with your friends online…having fun and watching funny stuff"*
>
> *"…[it] is more like free… it's more like fun stuff"*
>
> *"fun…wonderful"*
>
> *"…[you] feel free to do whatever you want"*
>
> *"…on Instagram there's always funny posts"*

The above quotes are some of the responses I got from the children I interviewed answering questions related to their experiences using computers and digital devices at school and at home. Although all the children in this study enjoyed using computers and digital devices, several children made a clear distinction between their experiences using computers at school and their experiences using it at home. Those children spoke of their aversions and negative sentiments towards using digital devices at school, citing different reasons as to why they felt that way. Some spoke of being limited by what the teacher tells them to do, while others spoke of being bored and not stimulated by the computer related activities they were required to do while at school. One of the children went even further and spoke of the '*risk taking'* involved with using computers at school and suggested it could get him in '*more trouble'* without giving specific details when prompted for additional explanation. Another, older, child

was more specific and expressed his frustration with what he believed to be '*tracking'* his activities when he used Chromebooks at school.

Further research on the experiences of immigrant and non-immigrant children using digital devices at schools is needed to understand underlying causes of such views and sentiments in order to find solutions to improve their experiences.

Parents' Experience Using Computers

For the group of parents that I interviewed, the nature and extent of their compute-use varied from one parent to another. The great majority of these parents were proficient users of computers and technological devices and were using computers on a regular basis either for work purposes, or to complete their school work. Parents were also using their digital devices to stay in touch with family abroad using mobile apps such as WhatsApp and social media websites such as Facebook. Several parents were using *SchoolZone* to keep track of their children's school work and progress. *SchoolZone* is an online tool designed and maintained by the Edmonton Public school Board as a platform for communication between parents and their children's schools (Edmonton Public Schools, 2013). Only one parent indicated having basic skills and limited knowledge on technology. That parent indicated that she was not comfortable using computers and digital devices and indicated that she was limiting her computer-use to watching Somali Songs on YouTube and using WhatsApp messaging app on her smartphone mainly to keep in touch with her husband back home in Somalia. Similarly, studies on refugees' computer and technology use by AbuJarour and Krasnova (2017) and Mikal and Woodfield (2015) described how participants in their studies were using the internet and their smartphones

to keep in touch with loved ones back home (AbuJarour & Krasnova, 2017; Mikal & Woodfield, 2015).

Parents' Views on Computer and Technology

The great majority of the parents I interviewed considered digital technologies a positive component yet challenging at the same time. Most believed it is within their control and directive and that their children were safe to use computers, gaming consoles and digital devices at home. At the same time, parents believe their children's technology use could potentially become problematic and therefore they (the parents) were regulating their children's technology use mainly through setting time limits when the children were accessing digital technology, or by banning some technological tools from the household altogether, as in the case of Helen's mother, who would not allow gaming consoles to be purchased. As indicated in the emerging themes section above, parents related various reasons as to why they were concerned about their children technology use. Be it for incidental inappropriate content or due to negative health or social bearings.

I found that one parent was particularly outspoken against computer and technology use and she also indicated that she was not comfortable using technology altogether. Her uneasiness and apprehension became evident in two instances, the first was when she spoke about her son's technology use and how he would lose his temper when playing games:

> *"Yes, he is crazy about using computers. We always try to limit his time on the computer. He likes to play games like Roblox, but he could easily lose his temper when he loses a game...he would throw his controller to the ground. I only give him limited time on Fridays*

during school days, and during the summer months he plays outdoor soccer...so he doesn't get much time to play computer games. He can be too crazy about playing computer games....so when his time is up he would try to sneak with the iPad or my phone to play some more...he's too crazy about it. Kids these days are too crazy about technology [laughter]."

The second instance was when she shared her views on her own computer and technology use. Below is an excerpt from the interview where she spoke about her smartphone:

"I'm not too crazy with the phone...some people are crazy texting, some of my friends tease me saying: Suzan is so behind because she doesn't like cellphones…Suzan pick up your phone...you don't know…it's 2017!! [laughter] ...you know I only had this phone 2 years ago...I don't like cellphones but I like using the house phone. But this year, I am comfortable with this phone. I'm not like people who are talking talking talking on the phone too much. I am not crazy like that".

Congruence between Parents' Views and Their Children's Interactions with Technology

Though parents in this study saw value in their children's computer and technology use, they were strongly opposed to the prolonged uses of computers and digital devices especially when their children were using them for non-educational purposes such as video gaming. From their end, parents had restrictive measures to curb their children's computer use for gaming and

entertainment through establishing rules and time limits. These parents also strategically placed the main computers used by their children in a common area, such as the living room, to monitor their children's computer-use and online activities.

There is a wealth of literature on the subject of parental mediation of children's media use, with earlier studies looking at parents' mediation strategies pertaining to their children's television viewing, while more recent studies investigated parental mediation strategies of children's Internet use and/or videogaming (Kirwil, 2009; Livingstone & Helsper, 2008; Nikken & Jansz, 2006; Padilla-Walker, Coyne, Kroff, & Memmott-Elison, 2018; Rideout, Foehr, & Roberts, 2010; Smith, Gradisar, King, & Short, 2017;Valkenburg, Krcmar, Peeters, & Marseille, 1999; Zaman, Nouwen, Vanattenhoven, De Ferrerre, & Looy, 2016). Studies by Livingstone and Helsper (2008), Nikken and Jansz, (2006), and Valkenburg et al. (1999) measured the outcome of mediation strategies employed by parents, namely restrictive mediation, active mediation and co-viewing/co-playing, and evaluated their effectiveness. I found that parents in my study were mostly engaged in restrictive mediation strategies when it came to their children's computer and technology use at home. However, these restrictions did not apply to technology use for school purposes where parents expressed gratitude and were appreciative to have such technologies at home as they considered them to be useful and important tools in helping their children complete their school work. In essence, children had greater freedom to use computers and digital devices while at home, provided that they were working on school related assignments. Below are some quotes from the parents I interviewed supporting this notion:

> "Yes. I *don't really like the internet especially open all day long…it's alright when they check their homework and using google Docs...that's OK."*

"They are helpful in a lot of ways... kids can get their homework done on time…umm....you can get...it's very convenient...if the library would be closed...you have access at home and you can do school work at home."

"…so what I like about Eddie's use of technology is the fact he would bring homework from school like social studies to do at home for example."

More restrictions, less technology time? In Rideout, Foehr, and Roberts' (2010) study on the amount and nature of media use among American youth, more than 2000 children between the ages of eight and eighteen were surveyed on their media-use; where media includes computers, video games, and cell phones among many other devices. The study found that children whose parents had some kind of media related restrictions in place (e.g. not allowing TV in the children's bedroom) were spending less time using that media compared to children whose parent did not have these types of restrictions (Rideout et al., 2010). This finding stood out for me as it was consistent with findings in this study where children explained their sports ambitions, their non-digital hobbies, and described their close relationships with extended family and cousins while speaking affectionately about the good times they have had while visiting their relatives. Below are some quotes from the children I interviewed to support the above:

"I like basketball, football, soccer...umm…I like reading too."

"I like writing! I write stories …I like reading a lot."

"I wish I can play basketball with my cuz' [cousins] …because cousins is life [laughter]. I love my cousins."

"I would have some fun, chill with my cousins especially because I'm going to have more time because I hate it when it's only two days in weekend and we don't have enough time to visit with them."

"…my uncle, my mom's brother. I really look up to him."

I now wonder if Rideout et al.'s ((2010) finding on parental restrictions can be linked to how children in my study, were very involved with technology, yet it (technology) did not have a dominant role in their lives. These children were active in sports and had hobbies that are technology-free, such as reading. Did the parents' restrictive approach to technology-use result in greater prospects for these children to explore other non-digital activities and hobbies? Did these restrictions afford their children opportunities to establish and maintain deep relations with family and relatives?

Conclusion

Children in this study grew up in technology-rich environments where they had access to a wide range of digital tools and media from a very young age. Results from the study show Somali families, both parents and children, were interacting with technology on a daily basis. Parents were using computers and digital devices for work, school, to communicate with their children's teachers, and to connect with families and friends. Their children, on the other hand, were using digital technologies to complete their school work, to socialize with friends and family, and for gaming.

Although most of the children I interviewed for this study did not own digital devices, they did not have any issues with access to technology. They used electronic devices at school, such as chrome books and desktop computers, and at home where they had access to shared family devices, such as desktops, laptops, tablets and/or gaming consoles. They were also using smartphones and mobile devices belonging to their parents, older siblings, relatives or friends.

Despite the restrictions and time limits enforced by the parents to reduce prolonged access to technology, children were still able to use digital devices at home to complete their school work, and for leisure.

Additional research is needed to understand the experiences of more recent Somali immigrants across multiple regions in Canada to gain a broader prospective on the subject of this research.

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Appendix A

Assent/Consent Letters

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
FACULTY OF EDUCATION

5-147 Education North
Edmonton, Alberta, Canada T6G 2G5
Tel: 780.492.7273
Fax: 780.492.1381
patricia.boechler@ualberta.ca

ASSENTS FOR CHILDREN

Title of Study: Views on Technology & Computer Use Among Immigrant families in the Somali Community.

Principal Investigator: Mariam Abdi **Phone Number:** [redacted]
Study Coordinator: Dr.Patricia Boechler **Phone Number:** [redacted]

We want to tell you about a research study we are doing. A research study is a way to learn more about something. We would like to find out more about how you and your family use the computer and other technology, how long and how often at school or at home. You are being asked to join the study because it will help me collect information for my Masters thesis.

If you agree to join this study, you will be asked to answer a few questions during an audio-recorded interview that will take approximately twenty to thirty minutes to complete. You might find some of the questions boring or feel tired. If you need a break anytime during the interview, you can let the researcher know and you can take a break. Your parents will also be asked to answer a few questions on a separate interview that will also be audio-recorded.
We do not know if being in this study will help you directly, but we may learn something that will help teachers and schools some day.
You do not have to join this study. It is up to you. You can say okay now and change your mind later. All you have to do is tell us you want to stop. No one will be mad at you if you don't want to be in the study or if you join the study and change your mind later and stop.

Before you say **yes or no** to being in this study, we will answer any questions you have. If you join the study, you can ask questions at any time. Just tell the researcher that you have a question.

If you have any questions about this study please feel free to contact me at [redacted] or at mjabdi@ualberta.ca

☐ Yes, I will be in this research study. ☐ No, I don't want to do this.

Child's name	Signature	Date
Person obtaining Assent	Signature	Date

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Figure A1. Assent Letter (page 1 of 1)

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
FACULTY OF EDUCATION

5-147 Education North
Edmonton, Alberta, Canada T6G 2G5
Tel: 780.492.7273
Fax: 780.492.1381
patricia.boechler@ualberta.ca

INFORMATION LETTER and CONSENT FORM

Study Title: Views on Technology & Computer Use Among Immigrant families in the Somali Community

Research Investigator:
Mariam Abdi
Department of Educational Psychology
5-106 Education North
University of Alberta
Edmonton, AB, T6G 2G5
mjabdi@ualberta.ca
[redacted]

Supervisor:
Patricia Boechler
Faculty of Educational
845 Education South
University of Alberta
Edmonton, AB, T6G 2G5
patricia.boechler@ualberta.ca
[redacted]

You are being invited to participate in a research study about parents' views on technology & computer use within immigrant families in the Somali community.
This research project is being conducted by Mariam Abdi, Graduate student at of the University of Alberta. The objective of this research project is to understand how immigrant parents' of Somali background view technology and the influence these views may have on their children's attitude towards technology and computer use.

There are no known risks if you decide to participate in this research, nor are there any costs for your participation in the study. The results of this study will be used in support of my thesis and may not benefit you directly. I will be conducting interviews with several students and their parents in the Somali community, and what I learn from this study would potentially provide valuable information to educators who work with Somali students and families.
Your participation in this study is voluntary and participation (or non-participation) won't affect your, or your child's access to programs/services offered by the third party intermediary. No one will be able to identify you or your child or know if you participated in this study, and nothing you say during the interview will in any way affect your child(ren) schooling.

For the first part, we would like to ask you, the parent, to commit 20 to 30 minutes to participate in a one-on-one interview. Subsequently, a second interview with your child will be conducted separately for another 20 to 30 minutes. Both interviews will be audio-recorded. If you choose to participate, please indicate whether you agree or disagree to participate in the study, provide me with your contact email and/or phone, sign the form and have it returned with your child or call me directly and I will get in touch with you to schedule an interview within the next few weeks. If you have any questions or concerns about the interviews or about being in this study, you may contact me at [redacted] or at mjabdi@ualberta.ca

Figure A2. Consent letter (page 1 of 3)

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
FACULTY OF EDUCATION

5-147 Education North
Edmonton, Alberta, Canada T6G 2G5
Tel: 780.492.7273
Fax: 780.492.1381
patricia.boechler@ualberta.ca

Data will be kept for a minimum of 5 years following completion of the research study and will remain in secure storage. Results from this research study may be used for research articles, presentations, and teaching purposes but there will never be any information used within these circumstances that could identify you. For all uses, data will be handled in compliance with the University's Standards.

There are several very clear rights that you are entitled to as a participant in any research conducted at the University of Alberta. You have the right:

- To not participate.
- To withdraw at any time without prejudice to pre-existing entitlements, and to continuing and meaningful opportunities for deciding whether or not to continue to participate.
- To opt out without penalty and any collected data withdrawn from the data base and not included in the study. This can be done anytime up until Oct.1, 2017
- To privacy, anonymity and confidentiality.
- To safeguards for security of data (data are to be kept for a minimum of 5 years following completion of research).
- To disclosure of the presence of any apparent or actual conflict of interest on the part of the researcher(s).
- To a copy of any final report that may be a result of the collected data.

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Figure A3. Consent letter (page 2 of 3)

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
FACULTY OF EDUCATION

5-147 Education North
Edmonton, Alberta, Canada T6G 2G5
Tel: 780.492.7273
Fax: 780.492.1381
patricia.boechler@ualberta.ca

Consent Statement

I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have additional questions, I have been told whom to contact. I agree to participate in the research study described above and will receive a copy of this consent form. I will receive a copy of this consent form after I sign it.

_____ _____
Participant's Name (printed) and Signature Date

_____ (____)_____
Participant's email Participant's phone

Figure A4. Consent letter (page 3 of 3)

Appendix B

Pre-Interview Activity Questions (PIAs)

Table B1

Questions about the person in general (Part 1)

1.	Draw a picture or a diagram of a place that is important to you and use key words to indicate the parts or what happens in each of the parts.
2.	Think of an important event that changed things for you in your life. Make two drawings to show what things were like for you before and after the event happened. Feel free to use thought bubbles or speech bubbles.
3.	Draw a schedule for your day, week, or year and use colors to indicate how time is spent. Make a legend to explain the colors.
4.	Imagine that someone is making a movie of your life. Draw or make a list of 5 key scenes that would be pivotal moments in the movie.
5.	Think of an activity that has been an interesting part of your life for a long time. Use colors to make three drawings that symbolize how your experience of that activity has changed over time. (Any activity is fine, for example, cooking, exercise, reading, etc.)
5.	Draw a schedule for your day, week, or year and use colors to indicate how time is spent. Make a legend to explain the colors.

Table B2

Questions about the topic of the research (Part 2)

1.	Use three colors to make a diagram or abstract drawing that expresses the way you experience using computers and technology.
2.	Make a list of 20 important words that come to mind for you when you think of technology and computer-use. Review the list and divide the list into two categories or groups in a way that makes sense to you. Please bring both the original list and the two smaller groups of words to the interview.
3.	Complete the following two sentences: Using the computer at school is like_____. Using the computer at home is like_____.
4.	Make two drawings: One showing "a good day" with computers and one showing a "not so good" day. Feel free to use thought bubbles or speech bubbles.
5.	Make a timeline listing key events or ideas that changed the way you use computers and technology over the years.
6.	Make two drawings: one to show what it is like for you when you use the computer at school and another to show what it is like to use the computer at home. Feel free to use thought bubbles or speech bubbles.

Appendix C

Interview Questions for Children

General interview questions

1. What is your name, how old are you, and what grade are you in?
2. What is/are your favorite subject(s)? (Probe to find out more about how the child is doing at school, their math & reading abilities).
3. What would you like to do when you grow up? (Probe for career thoughts/future job. Further probing if future job related to technology. Compare with time using computer as indicated in next question)
4. Do you like reading? Sports? What kind of sports do you like to play?
5. On a scale from 1 to 5 with 5 being an expert video games player/gamer, how do you rate your skills in playing video games?

1	2	3	4	5
○	○	○	○	○

6. What is/are your favorite game(s)? (Probe to get an understanding of the video game type (strategy games, puzzles…etc)
7. Do you prefer using the computer at school or at home? Probe to find out more about access to school computer lab, would you use the lab more if able?
8. Is there anything else you want to tell me about your computer-use that we didn't consider?

Open-ended questions

Table C1

Getting to know him/her questions (group 1)

1.	If you could pick one thing that you wouldn't have to worry about anymore, what would it be?
2.	What would you like to be really good at doing?
3.	Can you think of anything special that you would like to accomplish or try for the first time in the year ahead?
4.	What are some of the things you like about being your age? What are some of things that you don't like so well?
5.	Is there anyone (either a real person or fictional character) you admire and would like to be like?
6.	If you had one week off a month (or two days free each week), what are some of the things you would like to do with your extra time?

Table C2

Questions about a larger whole --e.g., questions about friends, school, recreation (Group 2)

1.	What makes some friends or classmates more fun/enjoyable than others?
2.	When you think about recreation or things you like to do in your spare time, have you changed a lot or stayed the same over the past years?
3.	Can you think of any teachers that were your favorites? What did you like about them, or what did they do that you liked?
4.	If you could organize the schedule for the week at school, what are some of the things you would change?
5.	How would you say you are similar to or different from some of your classmates or friends?

Table C3

Questions about a next larger whole—e.g., technology and computer-use experience over his lifetime (Group 3)

1.	Looking back over the years since you were little, what are some of the ways you have changed what you do with computers—that is to say, what do you use the computer for now that you did not use it for before, or what did you use before that you don't use now.
2.	What are some of the things you would have missed most if you didn't have the use of computers these past years?
3.	When you have had difficulties with computer technologies what are some of the approaches you have used to deal with these?
4.	If you could have changed something about your earlier computer experiences what is one of the things you would have changed?

Table C4

Questions about the specific topic—e.g., current personal use of technology such as handheld devices, videogame…etc. (Group 4)

1.	Thinking about your more recent use of technology including handheld devices and videogames, what are some of the things that have become easier for you to do?
2.	What are some of the things that you are trying to get better at doing with these?
3.	What are some of the improvements you would like to see to these technologies?
4.	Thinking about your use of technology right now, what do you wish teachers or parents would do to make things better for you?

Appendix D

Interview Questions for Parents

1. What is your name? How long have you been living in Canada?
2. What is your family structure? (2-parents/single-parent, number of children and ages).
3. What is the highest level of schooling achieved (back home/in Canada)?
4. Do you have a computer at home? Any other devices (iPad, smartphone, game console)
    a. If yes:
        i. Do you use it? How often? Purpose?
        ii. Each day, how often/how long does/do _____ use it for schoolwork?
        iii. Each day, how often/how long does _____ use it for entertainment/to play games?
        iv. Where is it located in your home? _____
    b. If no, why not?
5. What are some of the things you like about having a computer or other digital technology to use?
6. What are some of the things you don't like so much about having this technology at home or about using it on a regular basis?
7. What are some of the things that are interesting to you about your child's use of technology?

<u>Questions About the child being interviewed:</u>

1. Order of _____ in the family.
2. As _____ has gotten older, would you say s/he has changed or stayed the same?

3. How would you say that _____ is different from brothers or sisters, or from friends?
4. Has _____ ever surprised you with his/her capabilities, or initiative, or staying power?
5. Whenever _____ is really excited to tell you about something, what is it usually about?
6. What does _____ usually do when someone else is trying to do something or fix something?
7. What are some of the things _____ likes or does not like about school?
8. What does _____ do when things try his patience, like the usual rules or routines or constant sources of annoyance?
9. Does _____ have any unusual or interesting aspirations, plans or dreams?
10. What is _____ most curious about or fascinated with?
11. Are there any older children or adults that _____ likes to spend time with? What do they do or talk about together?

Appendix E

How To Transcribe Interviews Using YouTube

Steps I Took To Transcribe Interviews Using YouTube

1. Record interviews and save them as audio files (.wav, .mp3, .m4a). I used QuickTime to record the interviews.
2. Convert the audio file to a video file using Apple iMovie (or Windows Movie Maker). This can be done using any image as a background and then adding the interview audio file to it in order to create the video.
3. Once your video is completed, upload the video file to youtube
4. Edit the captions file. The closed captions (CC) are automatically created by youtube. It may take several hours before the the closed captions can been seen.
    a. When editing the CC file, it will be a good idea to include the name of the speaker (e.g. "Interviewer: why did you say blaa blaa blaa." "Interviewee 1: because i like it."). In the steps below, you will be able to distinguish each speaker on a separate line and even distinguish them by color coding the text. **Note:** It is important to remember to add space after the column (:) for this to work well.
5. Download the captions file (.sbv)
6. open it in TextWrangler or notepad, then copy the text. Notice how the closed captions file has additional blank spaces and timeline information that shouldn't be included in the final transcript file.
7. To remove extra lines/timeline, open an excel spreadsheet and paste the copied text from step 5 onto the sheet (in a single column).
8. create a second column to keep track of the sequence of lines in the transcript before massaging the data. Autofill this second column with ascending numbers starting with #1 at the first line of the script all the way to the last line in transcript:
    a. On the new column, type the number 1 on the first cell, at the same row as the first line of the script.
    b. Select the cell with number 1, place the mouse pointer on the little blue box on the right bottom corner of the selected cell. The mouse pointer will now change from a white plus sign (✚) to a black plus sign(+)
    c. Select the **command** key and with your mouse drag down the column at the corner of the first cell (you will see a square outline). Drag while holding all the way down to the and of the sheet (up to the last row of your script). You are essentially numbering each line in the transcript in ascending order to preserve the sequence of conversation text. **Note**: you might notice that the number 1 is getting repeated instead of increasing in ascending order. You can fix it by clicking on the small menu to right of the last cell you created (with a yellow plus sign), and selecting **Fill Series** from that menu.

1

9. To remove all the time stamps and the empty rows, arrange the sheet by sorting the column with the script data in ascending order (you select the first column then the second column with the numbers).
10. Remove all the time stamps and empty rows….Now the script is totally messy and out of order.
11. Now repeat step 8, but this time you will arrange the sheet by sorting the second column that has numbers in ascending order (select that column first then drag it towards the other column with the script data) . This will reorder your script back to its original ordering before removing the timestamp.
12. Remove the second column.
13. Copy that the remaining text into a textWrangler (or notepad) before copying it once again in MS Word. **Note**: This additional step is done to get rid of the table grid format that is automatically included with the text that is copied from the Excel spreadsheet.
14. To remove all lines in the script and condense it into a single paragraph, go to https://www.textfixer.com/tools/remove-line-breaks.php and copy the transcrip text then click on the **Remove Line Break** button. Then copy the text back to MS Word.
15. Because you have identified speakers within the document (step 3. a), you can organize your text to have each speaker on a new line. This will be done in two steps. First adding html tags to your document, then copying your script to website that will convert your html tags into a normal text.
    a. do a find and replace to include new line html tag <br />. You can also add the color html tags to make the color for each speaker different here too.
    b. To make a new line only: **Find** Mariam: **Replace** with:
 Mariam: .
    Note: Remember to add a spaces after the column
    c. To make a new line AND colors: **Find** Mariam: **Replace** with:

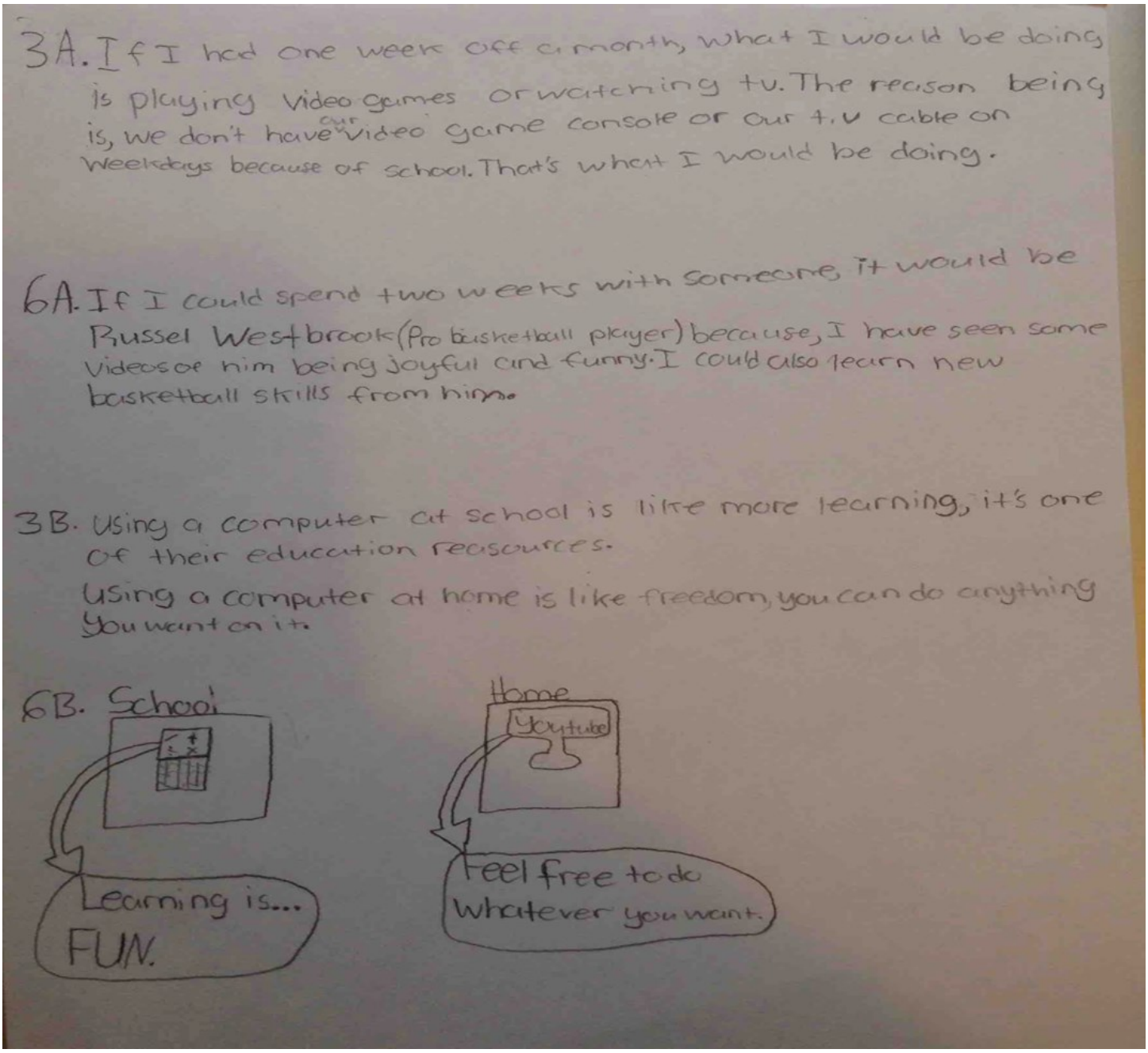
 Mariam: . You will need add the closing color tag () at the beginning of the second speaker's **replace** . Same is true with the first speaker, you will also have to add the closing color tag for the other speaker at the beginning. So to add the closing tag and the new line along with the color tag here's the html stuff for the second speaker: **Find** Interviewee 1: **Replace** with:

 Interviewee 1: .
    Note: Remember to remove the **on the first line**

16. Go to https://html-cleaner.com/ and copy the modified transcript text from the previous step onto the empty text box on the right side of the screen the click on the **Clean HTML** button. This will remove the html tags and place a new line (and the color coding) instead.

Appendix F

Pre-Interview Activities Completed by Children



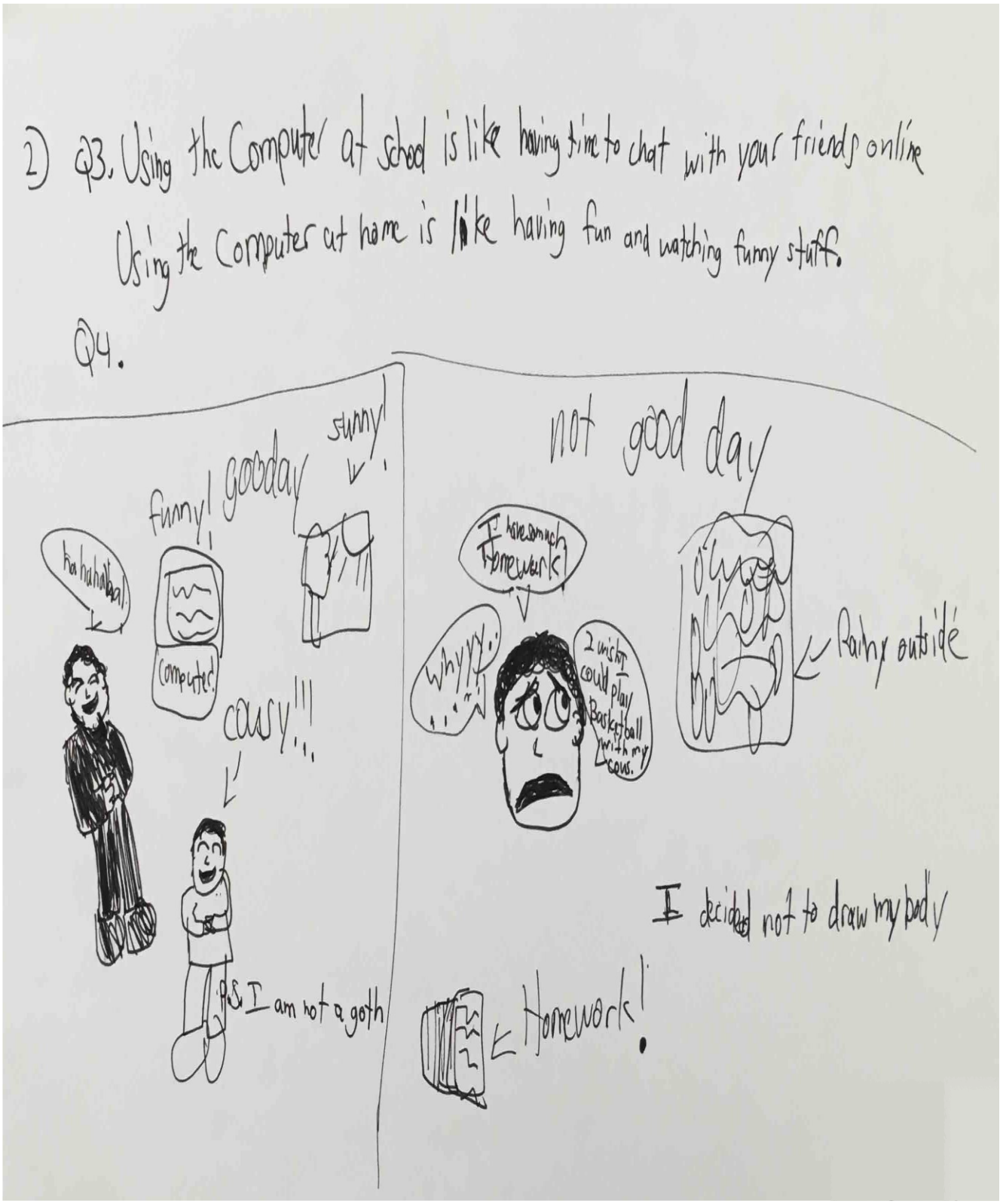


Figure F2. Jack's answers to the pre-interview activity questions (page 1 of 3)

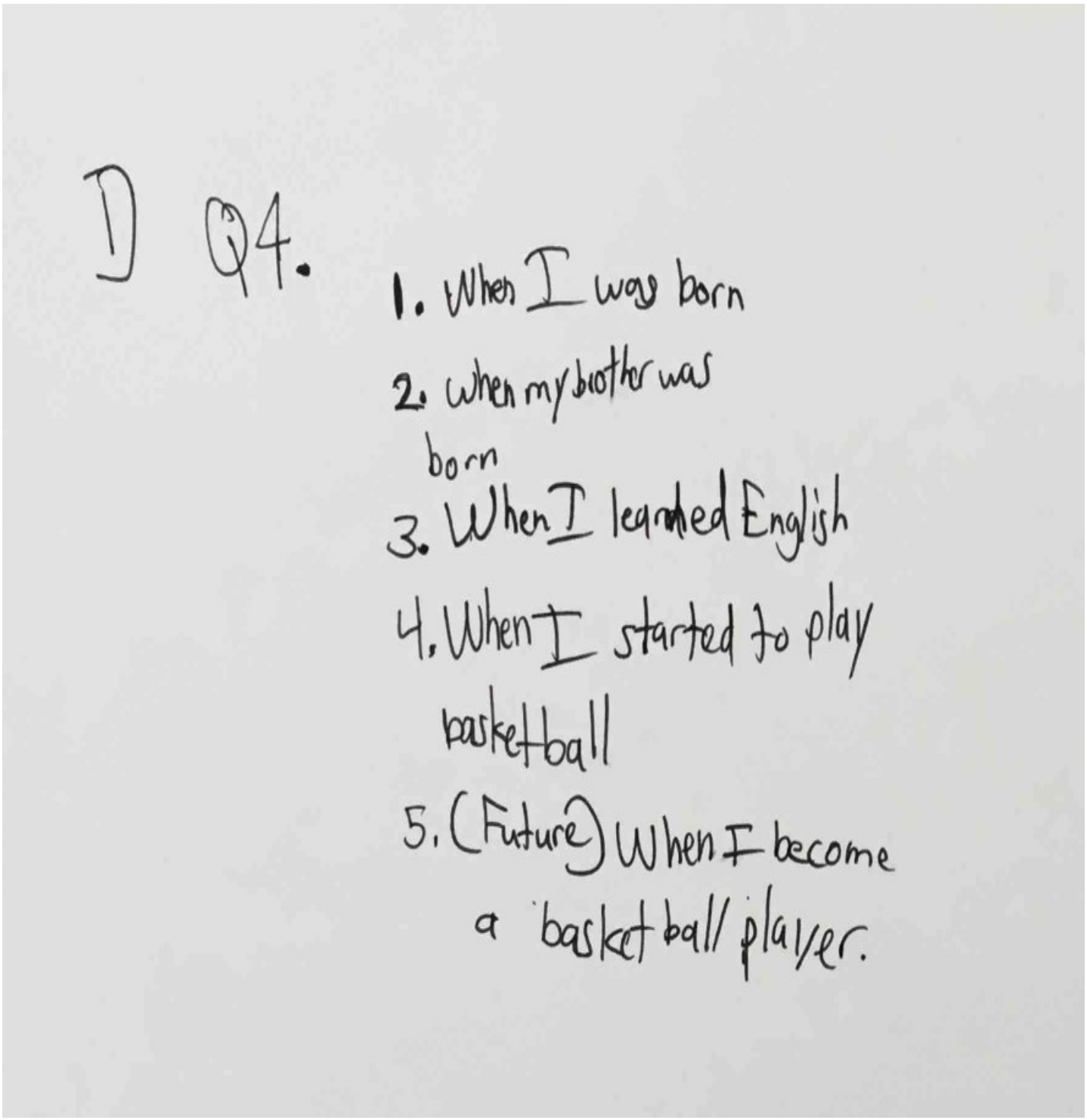


Figure F3. Jack's answers to the pre-interview activity questions (page 2 of 3)

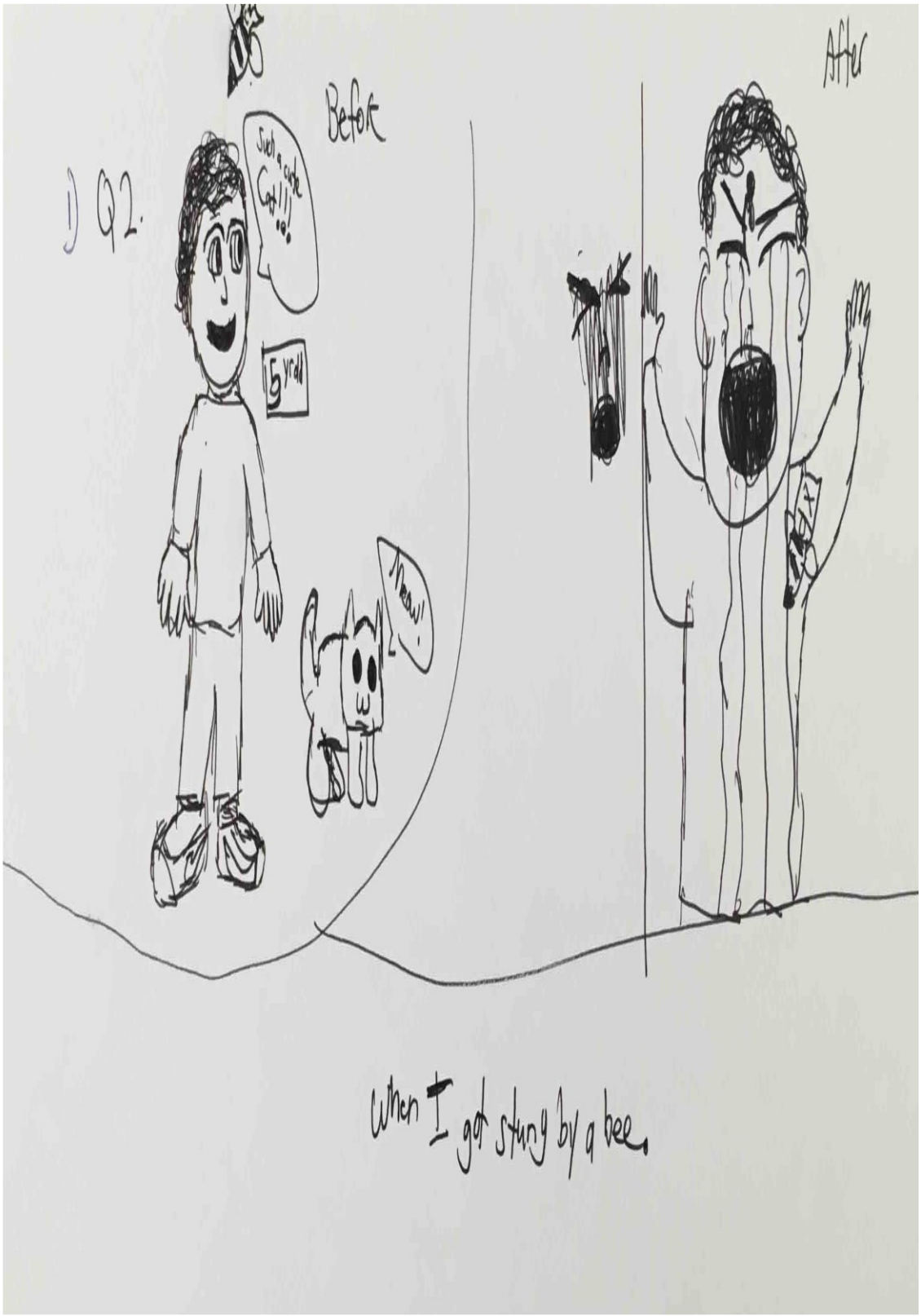
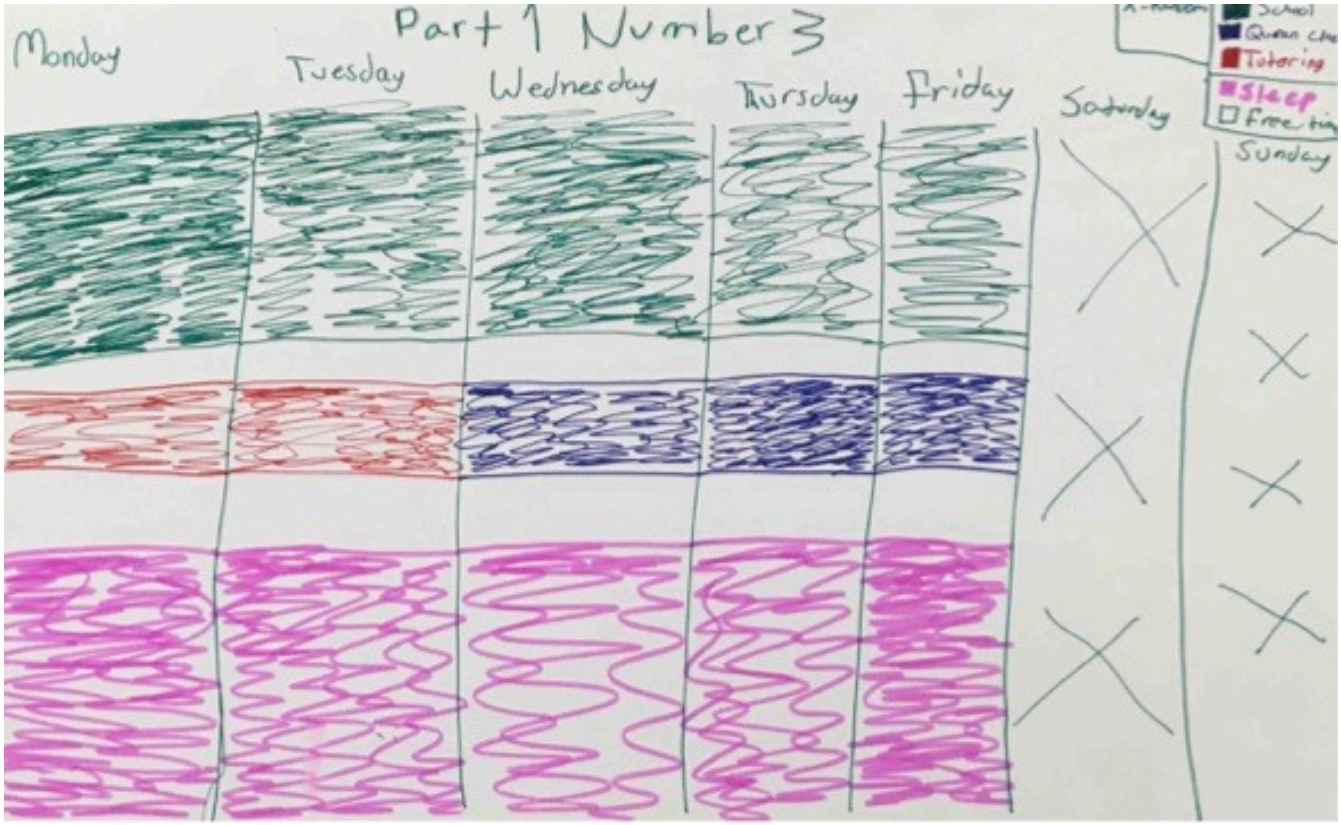


Figure F4. Jack's answers to the pre-interview activity questions (page 3 of 3)



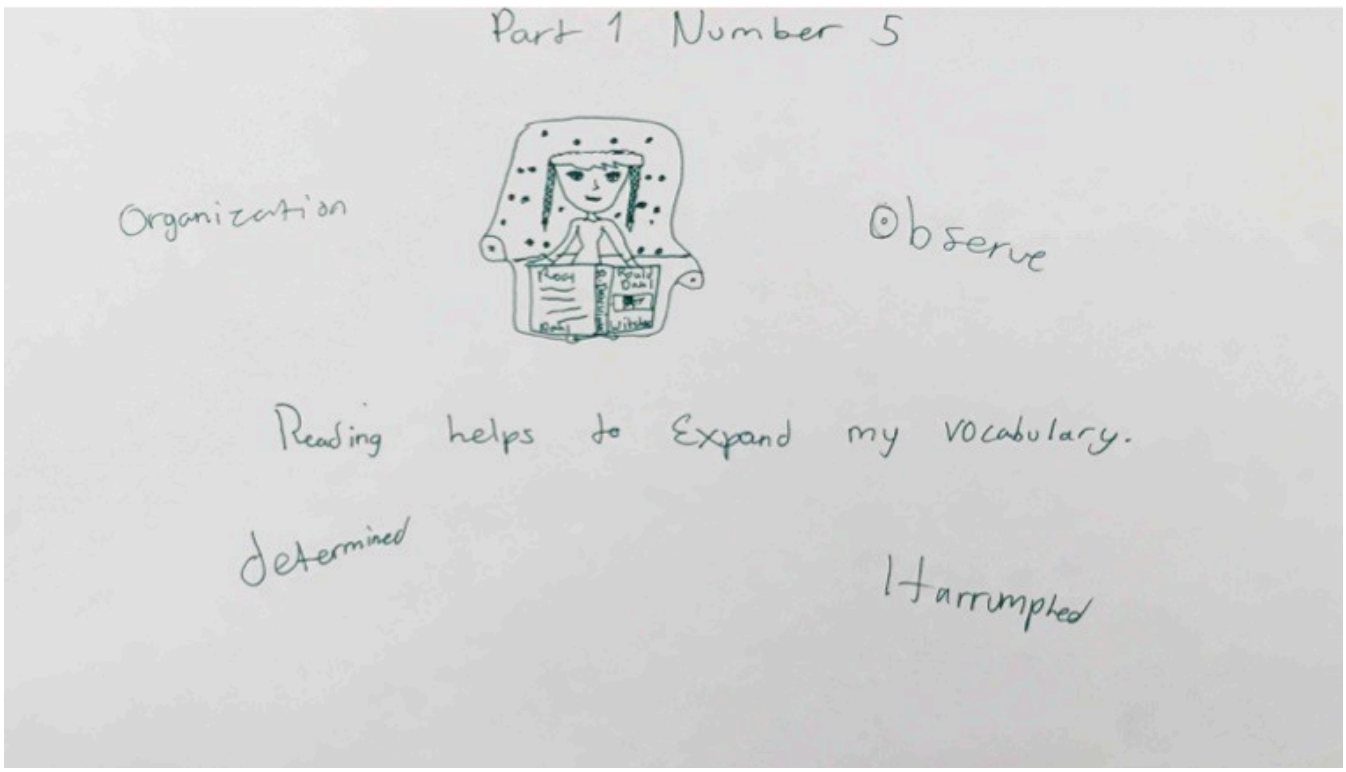


Figure F5. Helen's answers to the pre-interview activity questions (page 1 of 2)

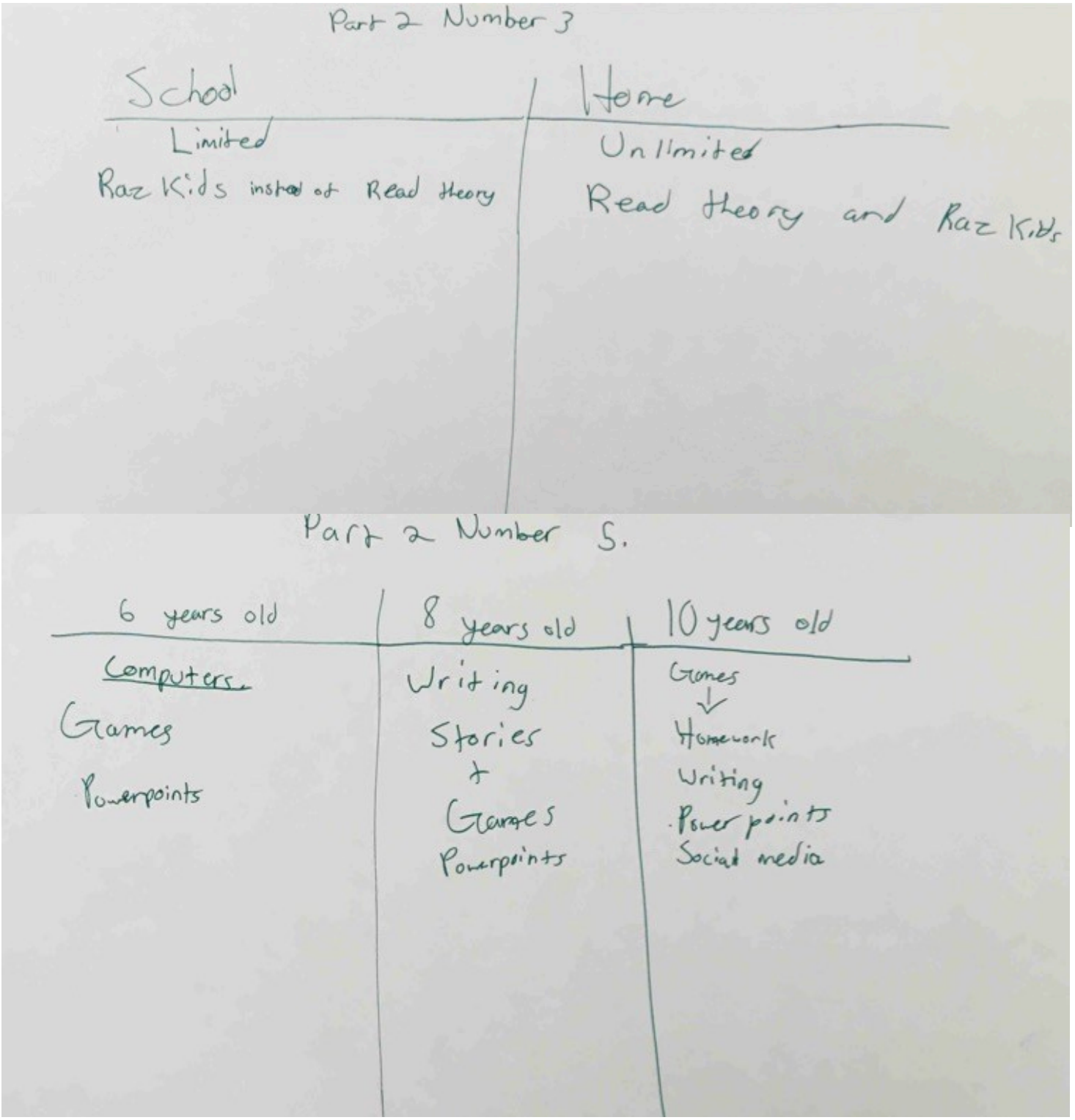


Figure F6. Helen's answers to the pre-interview activity questions (page 2 of 2)

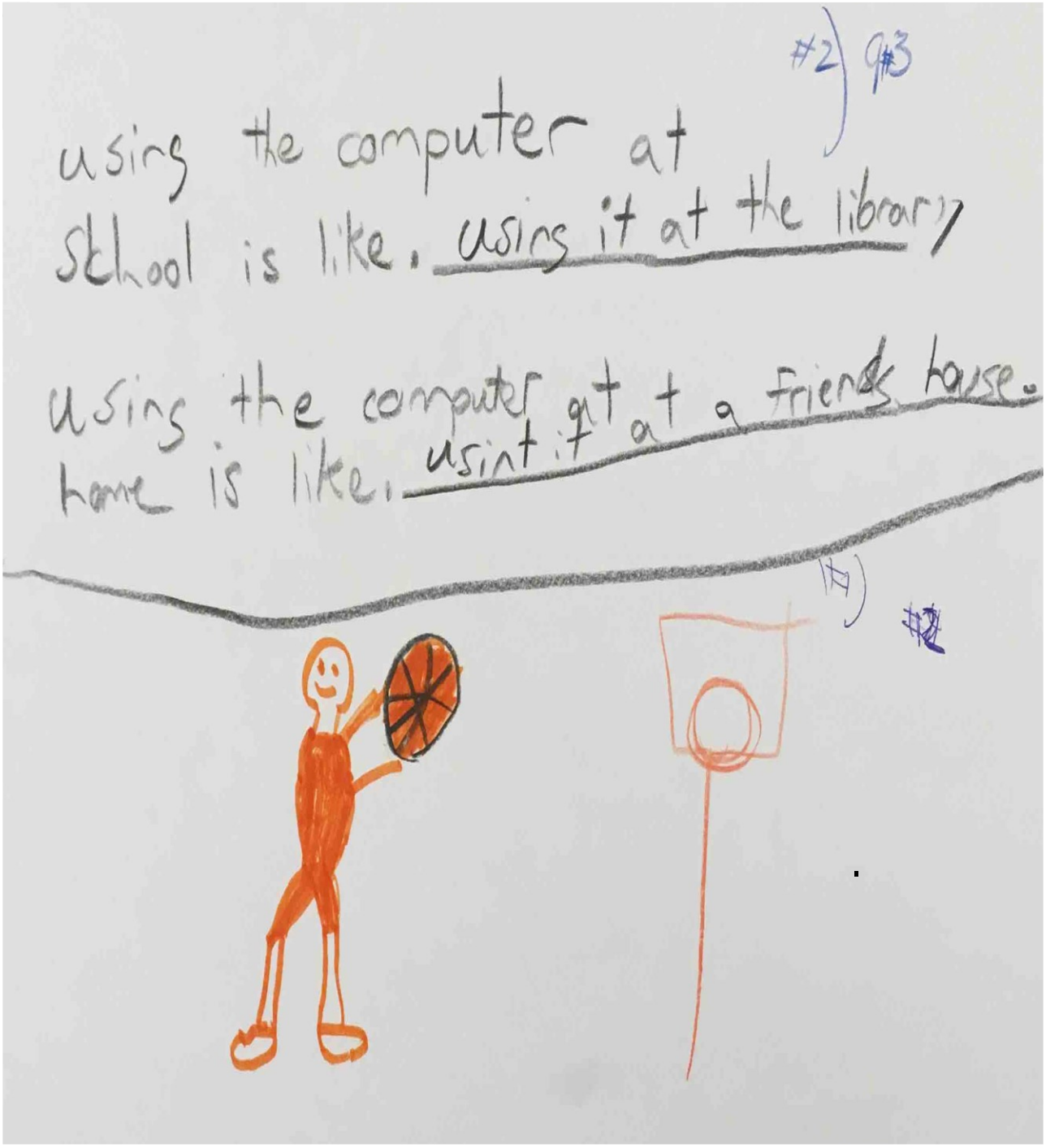


Figure F7. Oscar's answers to the pre-interview activity questions (page 1 of 2)

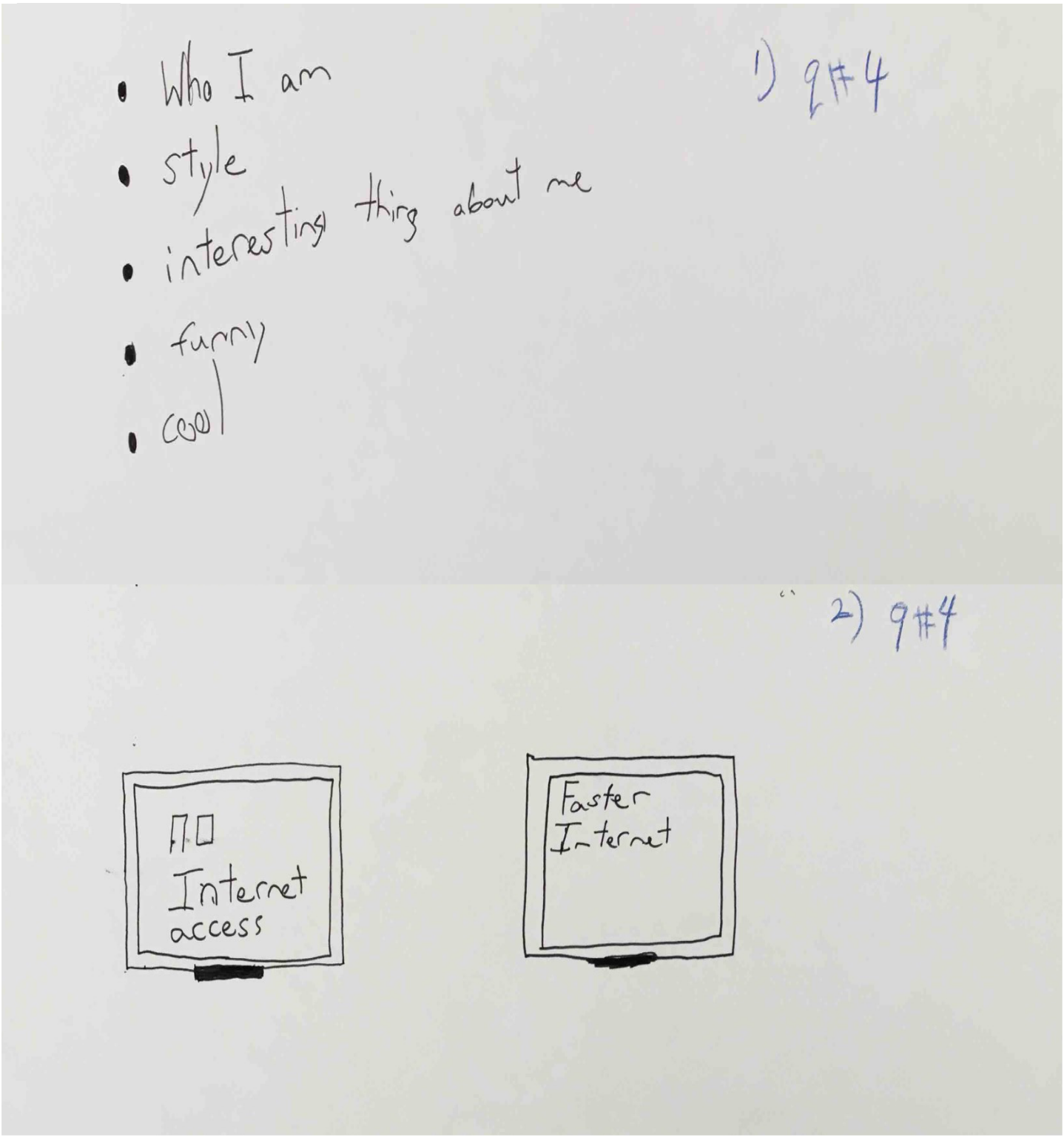


Figure F8. Oscar's answers to the pre-interview activity questions (page 2 of 2)

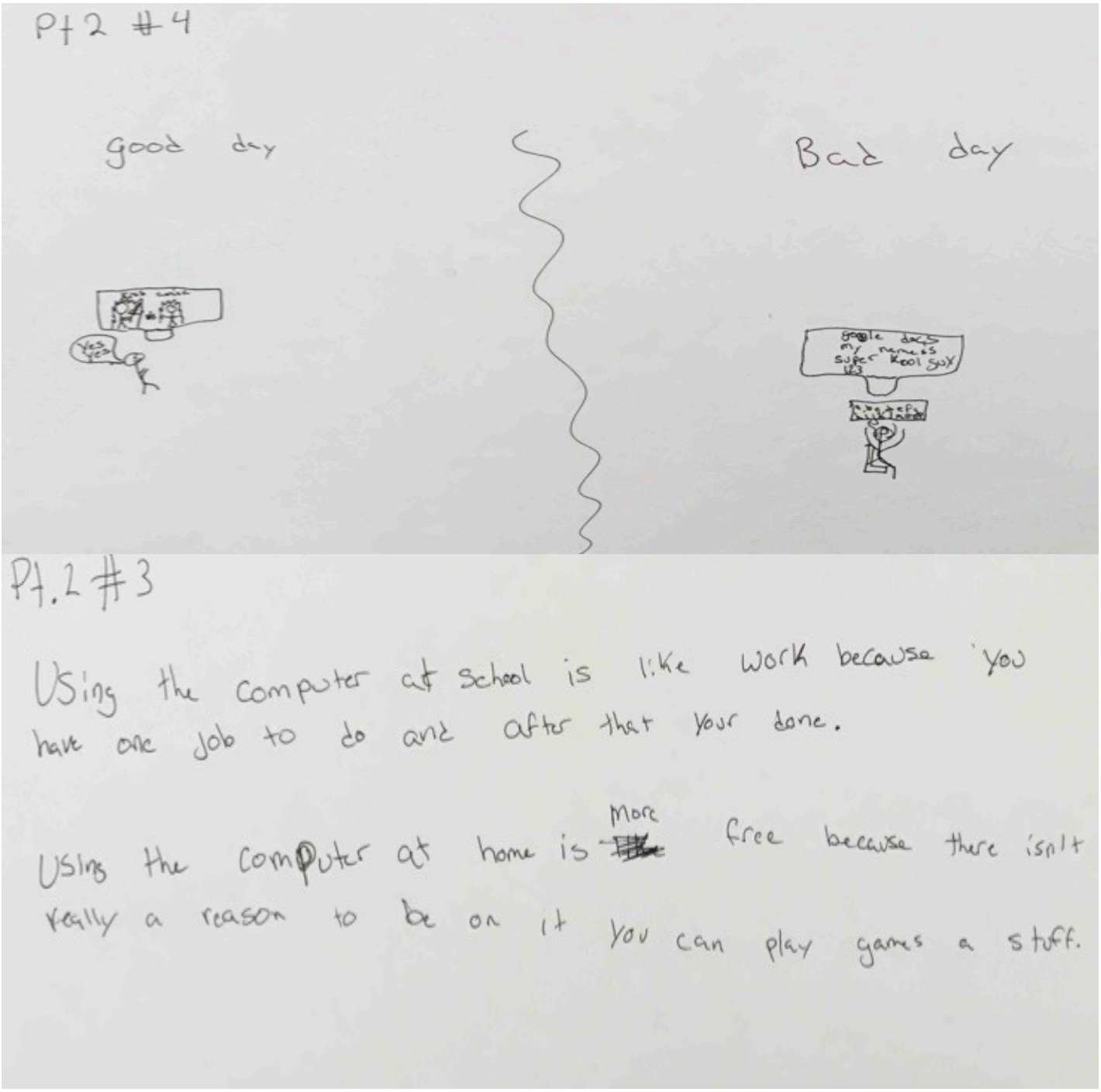


Figure F9. Luke's answers to the pre-interview activity questions (page 1 of 2)

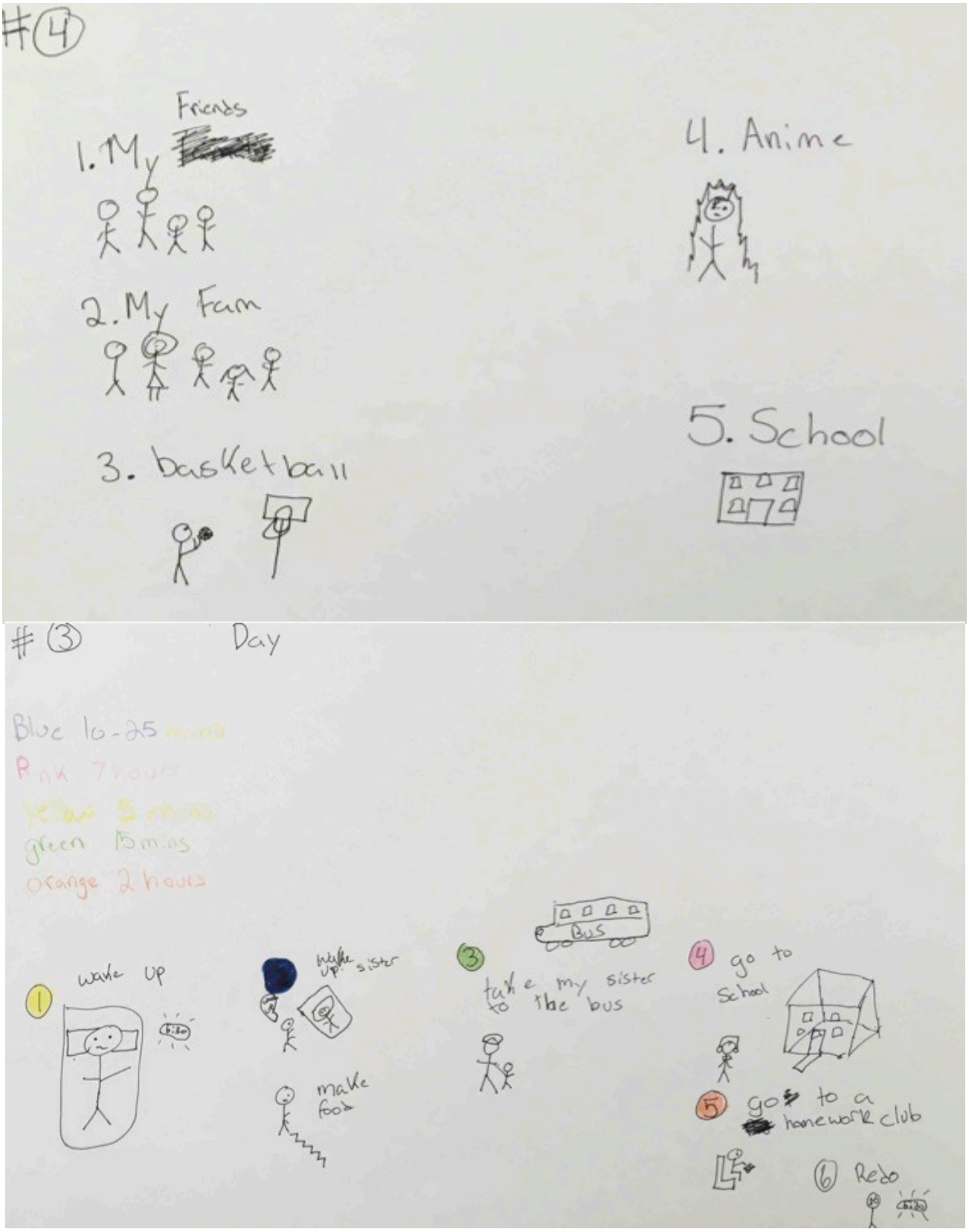
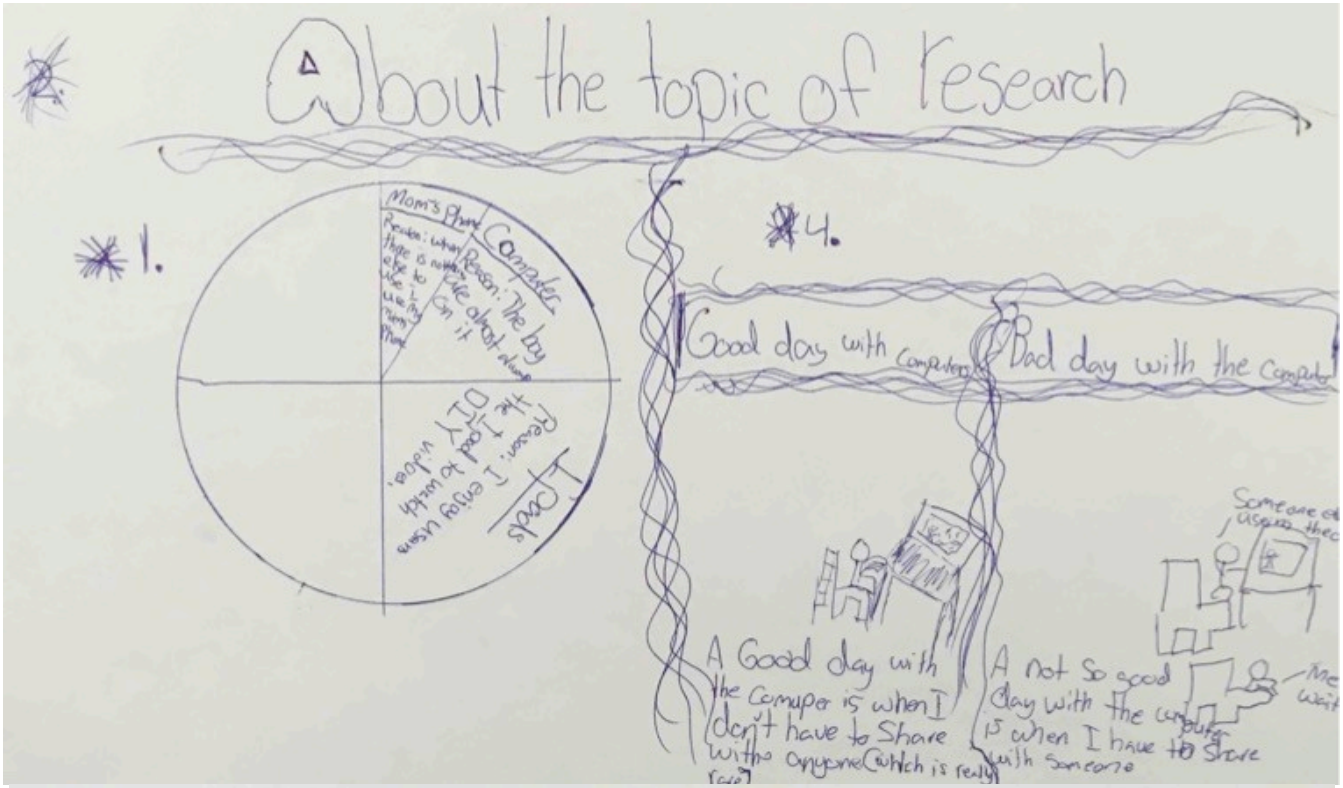


Figure F10. Luke's answers to the pre-interview activity questions (page 2 of 2)

Figure F11. Nina's answers to the pre-interview activity questions (page 1 of 2)



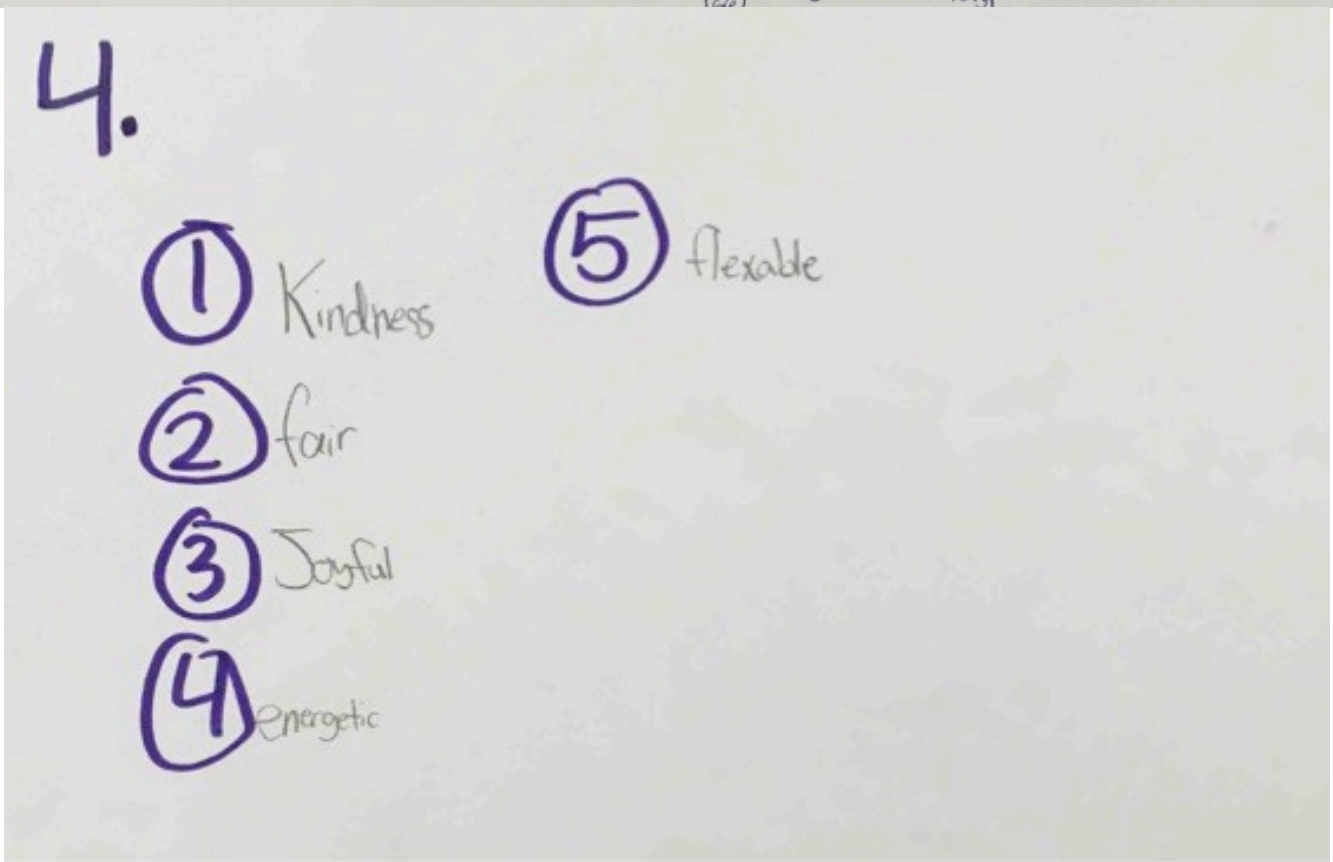


Figure F12. Nina's answers to the pre-interview activity questions (page 2 of 2)

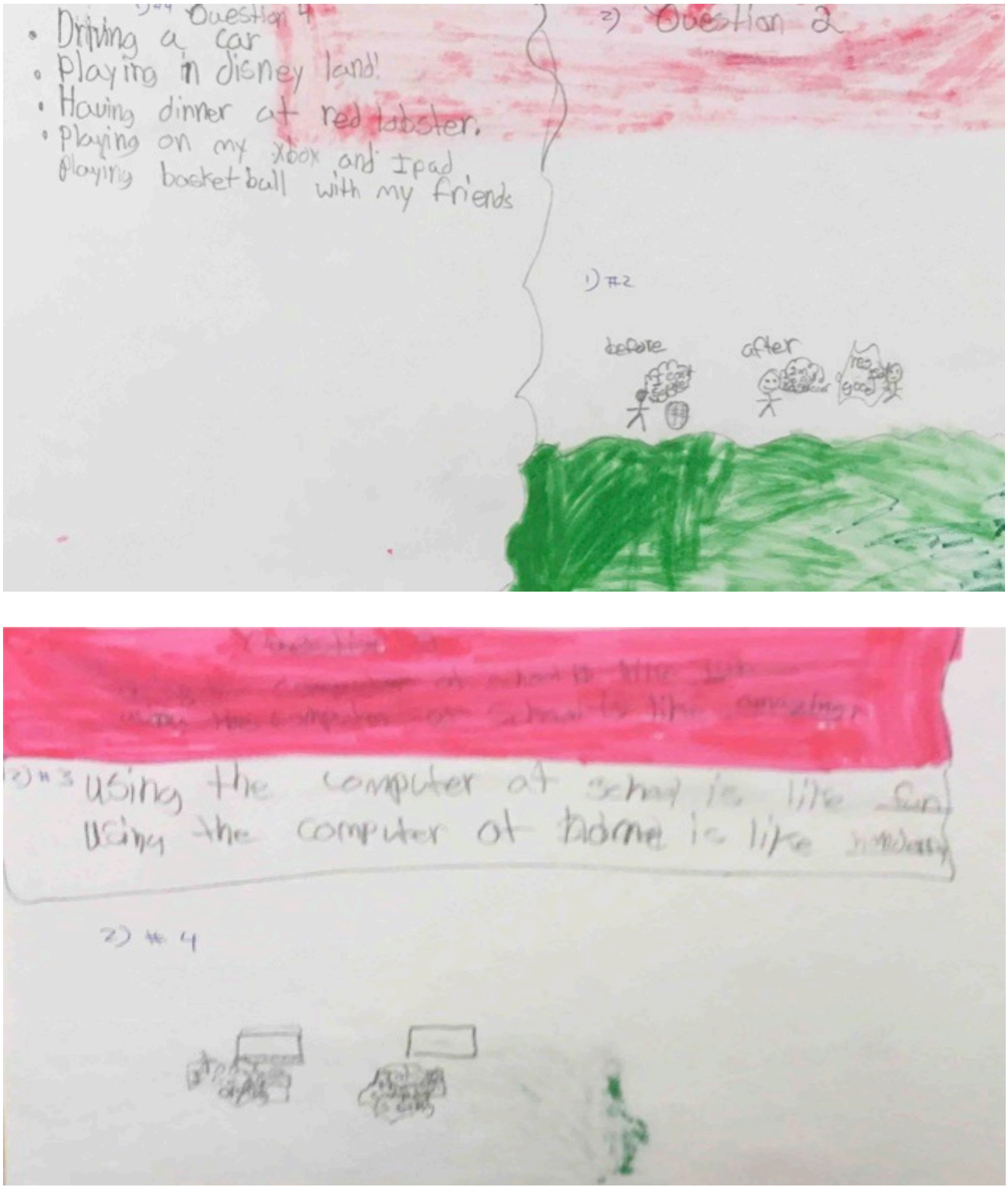


Figure F13. Shawn's answers to the pre-interview activity questions (page 1 of 1)