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Learning Styles of Online Students in a Distance LINC Program

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Abstract

Online language learning and teaching is a fast growing trend in educational uses of technology. Online classes can provide a unique opportunity for learning, easy access to text, graphics, video, audio, materials, and activities to fit individual learning styles and preferences (Bonk, Wisher & Lee, 2004). However, with the rapid increase of online language learning, and when dealing with diverse adult learners, it is important to search for factors that may help predict the academic success of learners in online environments. Individual's learning processes can be affected by multiple factors including their learning style, which refers to the cognitive, affective and physiological factors that influence how they perceive, process, and conceptualize information (Zacharis, 2011). This mixed-method study draws on the theories of learning styles and online language learning in order to investigate the learning style and profile of online language learners in a Canadian distance LINC program. The study used the perceptual learning-style preference questionnaire (PLSPQ) to investigate online students' perceptions of their learning styles in an online LINC program. The perspective of LINC program teachers' of their online students' learning styles is also investigated through an online questionnaire and follow-up interviews. This study involved 27 online LINC students and 20 LINC teachers. The quantitative data were analyzed using descriptive statistics and qualitative data using thematic analysis. Data analysis showed that online learners favour kinaesthetic and auditory styles, followed by a tactile learning style. Teachers' perspective differed as they identified their online students as visual and individual learners. This has lead us to provide some pedagogical recommendations for teachers in order to develop a shared awareness of students learning styles.

Key words: Online learning, Learning styles, LINC program, Distance education, Second-language learners, Newcomers.

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List of Acronyms

CLB	Canadian Language Benchmark
DL	Distance Learning
EFL	English-as-a-foreign-language
ESL	English as Second Language
FLS	Français Langue de Seconde
IT	Information Technology
LINC	Language Instructions Newcomer Canada
LHS	LINC Home Study
PLSPQ	Perceptual Learning Style and Preference Questionnaire

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Chapter 1: Introduction

1.1 Overview

Language learning is considered one of the most important integration steps or settlement skills that a newcomer needs to fully integrate into a new country and adapt to a new culture. The higher the language ability of a newcomer, the easier it is to access services, integrate into social structures, adopt economic, cultural, political and civic integration (Derwing & Waugh, 2012). These are considered the main dimensions of newcomers' experiences in society. As newcomers arrive in their new home countries, some of them need to apply and enroll in language learning programs. However, as a part of their integration steps, most of them need to find employment or seek certifications. A large number of these newcomers cannot attend full-time language classes. As a result, they seek part-time or distance learning opportunities to obtain their language training.

Since Information Technologies (IT) in language education has widely spread in the past few decades, it is believed to offer many advantages to both language learners and educators. IT in language education is also considered to be efficient, convenient, and cost-effective (Golonka, Bowles, Frank, Richardson & Freynik, 2014; Kop & Fournier, 2011). The language learning and teaching landscape have been reshaped by the use of technology in the recent century. As a result, this has impacted both the way language learners acquire and use language skills, as well as the way teachers deliver their instructions. Language learners are now using technology inside and outside classrooms. This has led them to acquire ways to incorporate and use their devices to help them learn. However, this ultimately increases the pressure for language institutions and instructors to effectively incorporate and use technology for pedagogical purposes inside the

classroom (Walker & White, 2013). Since the integration of educational technology in language classes was successful, computer-based language learning became commonly used.

With regard to second language education, technology use in the classroom has become widespread in the last 10-15 years. Computer-based language materials are now considered a valuable learning resource for self-regulated and out of class language learning (Chia, 2007; Lai & Gu, 2011). Online classes can provide unique opportunities for learning, easy access to text, graphics, audio, and video materials, and activities to fit individual learning styles and preferences (Bonk, Wisher & Lee, 2004). Students can practice through software and e-learning systems to learn a language and choose the material they are interested in and access them anytime with or without the support of a teacher (Lee, Yeung & Ip, 2016). However, with the rapid increase of online education and when dealing with diverse adult learners engaged in second-language learning, it is important to search for factors that may predict the effectiveness of technology use in language learning. Although similar material is equally available and accessible through the Internet to all language learners, individual differences can influence the language learning process (Ellis, 2006). Individual differences include aspects such as learning style, motivation, and aptitude, and can be influenced by factors such as age and gender (Yeung, Taylor, Hui, Lam-Chiang, & Low, 2012). Learning styles refer to the various ways in which learners perceive, process, and conceptualize information (Zacharis, 2011). Learning styles can be an important factor in successful language learning (Griffiths and İnceçay 2016).

To better apply the learning style framework in second language learning, Reid (1984) studied the different ways people acquire and process knowledge and then categorized these learning ways into four styles: visual, auditory, kinaesthetic, and tactile. Reid then added two

social-styles: individual and group (Naserieha & Sarabb, 2013), hence forming six learning style preferences: visual, auditory, kinaesthetic, tactile, individual and group. Students with individual learning style preference learn best when they work alone, unlike those with group learning style preference who accomplish better when they are placed in-group activities (Reid, 1984). Each of these learning styles is further defined with a learner's characteristics and preferences. Reid also developed a tool to measure these learning style preferences: The Perceptual Learning Styles and Preferences Questionnaire (PLSPQ). This questionnaire is designed to help learners identify their learning styles and preferences and for teachers to provide all resources and accommodations to assist students in achieving better learning outcomes. Knowing about the learning styles preferences helps teachers describe students' characteristics. With the advancement of education technology, understanding students' learning styles and the factors that may influence them in online settings has become especially important.

There are several factors such as age, gender, and culture, which may influence students' learning styles and ultimately influence their learning outcomes in computer-based settings. Research has shown that age and gender are two fundamental variables, which are likely to have an influence on individual learners' perceptions and use of computer technology in the learning context (Morris & Venkatesh, 2000; Morris, Venkatesh, & Ackerman, 2005; Ong & Lai, 2006; Yeung, Taylor, Hui, Lam-Chiang, & Low, 2012). With regards to culture, studies found that individuals tend to fall into distinct categories related to the way in which they prefer to learn and, to a large degree, these preferences are culturally identified (Bentley, 2005; Dunn, 2000; Anderson, J. and Anderson, M., 1992; Claxton, 1990; Bodi, 1990; Cushner, 1990). Other factors thought to influence learning styles are personality and learning strategy.

When it comes to the specific environment of online language learning, some learning styles are thought to perform better than others. Lee et al (2016) argue that knowledge about how learning styles may predict learners' use of technology is essential for effective delivery of language programs. When conducting her study on Chinese EFL learners, she reports that visual and kinaesthetic learning styles appear to be more common in language classes. Lee also argues that visual and kinaesthetic learners perform better than tactile and auditory learners in a computer-based environment. On the other hand, researchers such as Honey and Mumford (2002), Terrell (2002), Neuhauser (2002) and Souder (1993), suggest that theorists and reflectors learners tend to perform better in online settings because they have enough time to analyze and synthesize the material before completing exercises. Therefore, the idea of searching for the ideal learning style in computer-based language learning requires further research with more empirical evidence.

There is a gap in the literature regarding students' learning styles in online environments. As Blake (2009) argues, computer-assisted language learning (CALL) research needs to pay more attention to second language learners' behaviour. Most of the CALL research in the field of second-language learning focuses on the technical tools used in distance learning and the effectiveness of using these tools (Blake, 2009). Therefore, investigating second-language learners' characteristics and learning styles is worth looking into.

In Canada, some of the online language programs for newcomers are delivered through the Language Instruction for Newcomers Canada (LINC). LINC delivers online distance classes to thousands of newcomers across Canada. Online learners in the LINC program come from all over the world and have different experiences and backgrounds. As such, they are an ideal group

for the investigation of learning styles, and the study of factors that may contribute to learning style preferences.

This study aims to investigate the learning styles of second-language learners who opt for computer-based distance instructions (online learning) in the context of a Canadian LINC program. The goal is to profile these online language learners in terms of their learning style and individual characteristics.

1.2 Issues Propelling this Study

Although there has been a number of studies on English second-language learners' learning styles such as Peacock, 2001; Isemonger and Sheppard, 2003; Naserieh and Anani Sarab, 2013; Kim and Kim, 2014; and Sun and Teng, 2017, there has been little research done on students' learning styles in computer-based language learning environment with the exception of: Buch and Bartley, 2002; Neuhauser, 2002; Miller, 2005; Mestre, 2006; Zacharis, 2010, 2011; Lee & IP, 2016. In fact, there is very little research done on profiling learners in online language classes. Looking at the characteristics and learning styles of online learners in Canadian language programs would give more insights on the type of students enrolled in these online distance programs, and ultimately help language instructors tune their teaching styles to match the learning styles of their students. The findings could make a significant contribution to the pedagogy regarding the ways second-language instructors deliver their distance online classes.

1.3 The Current Study – Description and Rationale

This thesis investigates the learning styles of students in an online distance LINC program: from both learners' and teachers' perspectives. Also, this study aims at exploring other

characteristics and preferences that may be common among these online students. These perspectives from online students and teachers are later compared.

The profiles of the online students are investigated by administering an online questionnaire to a sample of online LINC students to learn about their individual differences and learning styles. This study also involves administering an online questionnaire and follow-up interviews with LINC teachers to investigate their perspectives on the profiles of these online students. Results are then analyzed and data collected from online LINC students is compared to data collected from teachers to answer the research questions.

The reason behind choosing to conduct this study is that I have worked in this same online distance LINC program a couple of years ago, and I also taught many face-to-face LINC classes. Being a language instructor of different delivery modalities (face-to-face, and online) has made me interested in learning about my students' characteristics. Second-language learners in LINC programs are all immigrants with various experiences and skills. People come from around the world to study English or French in these programs, and those who choose distance language programs are of special interest to me. It was of my interest to understand the reason behind these online students' choices to enroll in an online distance program. Is it their learning style or other factors that contributed to their decision? My hope is that this study can not only contribute to the research in the field of online language learning and learning styles but also give insights to online language instructors to better understand their students and match their teaching styles.

1.4 Objectives

The overall goal of this study is to provide interesting insights to LINC program administrators and teachers on the profile of their online students. To meet this goal, this study

is divided into two phases. The first phase explores the perspective of online LINC students on their learning styles and profile, and the second phase explores LINC teachers' perspective of their online students' profiles and learning styles. The aim is to provide suggestions and recommendations on the pedagogy of online teaching in this organization. Recommendations on the facilitation of optimal pairing of instruction and learning styles as well as raising students' awareness of their learning styles will also be discussed.

To meet these objectives, a quantitative and qualitative study on both LINC online learners and LINC teachers is conducted. Studying the demographic variables and learning styles of these online learners could provide us with valuable understandings of students' profiles, which ultimately could give us a picture of the kind of learners who are currently in this program.

It is worth mentioning that research of this type with real empirical data will also help guide future second language curriculum designers to design more effective material that will be varied enough to suit all learning style preferences. In addition, this will help LINC teachers to optimize students' performance and introduce a slightly better learning experience and optimize the pairing of instruction and learning style from the beginning. Finally, this study will support findings from other studies that teachers need to vary their teaching style to help accommodate the learning styles of different learners in their online classes.

1.5 Research Questions

In order to help reach these objectives, the research questions for this study are:

1. What does the online learners' profile in LINC programs look like, in terms of;
    a. Demographic variables (factors); and

b. Perception of learning styles and preferences.

2. What is the LINC teachers' perception of their online learners' profile, in terms of;
   a. Demographic variables (factors); and
   b. Perception of learning styles and preferences.
3. How do these perceptions compare? What pedagogical recommendations can be made out of these results?

1.6 Thesis Overview

In order to provide the fundamental theoretical frameworks behind this study, an overview of the work done in the field will be discussed in Chapter 2. These topics include distance and online language learning, technology's role in second language education, language learning opportunities for Canadian newcomers, online language programs for newcomers in Canada, learning style in CALL, and learning style and the use of technology applications in learning. In addition, a detailed description of the methodological framework of this study will be provided in Chapter 3. Findings and analysis of the results will be reported in Chapter 4. A comprehensive discussion of both quantitative and qualitative findings will converse in Chapter 5, and finally, the limitation of the study along with suggestions for future work will be discussed in Chapter 6.

1.7 Contributions

This study will contribute to the fields of online language learning in general and for Canadian newcomers' online language programs in specific. It will also contribute to the field of learning styles in CALL. The findings will offer interesting insights into the profile of online language learners, and also on the perspectives of students and teachers regarding online

students' learning styles. This will be useful especially for the LINC educators as it provides insights on the type of students they have in their online program.

With an aim to investigate which learning styles are more associated with the online delivery mode for language learning, we hope to offer insights for educators and LINC teachers on how to maximize technology application and optimize learning effects. This is a missing gap in the literature that our study seeks to fill.

Chapter 2: Background

2.1 Distance and Online Language Learning

2.1.1 Overview

The interest to teach language over a distance has grown remarkably as a result of the expanded use of the Internet and computer-mediated communication (Blake, 2009). This section of chapter provides an overview of distance language learning, including limitations and challenges. It also provides insights into the uses of IT in the context of language learning and teaching and also explains the issues involved in using new information technology with language learners.

2.1.2 What Constitutes Language Distance Learning?

The definition of distance learning (DL) has evolved over time. According to Keegan (1990), DL identifies features such as: the separation of teacher and learner, the use of technical media, bidirectional communication, and the emphasis on educational organization. Blake (2009) added to Keegan's definition by describing distance education as a learning environment in which there is a physical distance, in time or space, between teacher and student. This form of education goes back to nearly 100 years and involves earlier technologies such as correspondence courses, educational television, and videoconferencing. Distance education now takes multiple forms: online learning, e-learning, open learning, distributed learning, teleconference or video-conference learning, blended or hybrid learning, life-long learning, or independent study. Some of these distance-learning forms relay on the use of video, some on audio, print, and others on computer-assisted technologies. According to O'Dowd, 2006, the oldest form of distance learning is videoconferencing. Earlier studies of distance learning

concluded that these technologies were not significantly different from regular classroom learning in terms of effectiveness (Means et al, 2009). Online learning, on the other hand, overlaps with the broader category of distance learning. It can take advantage of a wide range of Web resources, including not only multimedia but also Web-based applications and new collaboration technologies. These forms of online learning are different from the televised broadcasts and videoconferencing that characterized earlier generations of distance education. Moreover, interest in hybrid approaches that blend in-class and online activities is increasing (Means et al, 2009). The hybrid approach of teaching combines face-to-face and online approaches using technologies (Garrison and Vaughan, 2008). Online learning also has the capability to support both real-time and asynchronous communication between instructors and learners. This asynchronous online learning also has a long DL pedigree (Allen & Seaman, 2006) because it frees participants from both place and time constraints.

With the advancement and wide spread of technology applications, distance learning now has another shape and form. Technology has transformed the traditional education environment (Bax, 2011). For many of us, it has become a normal part of the way we do things, including the way we learn and communicate with a second language. In fact, educational technology has reached a level of normalization, just like a textbook and pen in a classroom. As Bax quotes;

> *"A technology has reached its fullest possible effectiveness in language education when it has arrived at the stage of 'normalization', namely when it is used without our being consciously aware of its role as a technology, as a valuable element in the language learning process." (Bax, 2011, p.1)*

In addition, students have become very positive towards the integration of mobile technology into their formal language learning practices (Viberg, 2015). Students' attitude is considered important when integrating technology into formal language learning practices. These attitudes are created in the mutual relationships that exist between the students' individual choices of technologies, their experiences of and preferences for using personal technology for learning (including mobile technology), and consequently the information that becomes available through such technology-in-practice. As a result, this raises the question of how such technology should be effectively integrated into educational practices.

2.1.3 The Evolution of Distance Learning

The uses of technology in learning ten years ago were not the same as the uses today. Even the reactions of language learners and educators towards technology in the classroom today are not the same as the reaction teachers have had in the last decade. This means that technology is changing and it continues to shape the way people learn and educate. In fact, any changes to technology over the years ultimately affect the way distance learning is viewed and used.

As Lomicka and Lord (2009) describe, back in 1991, Garrett had no way of imagining or predicting the way Internet would impact learning for both students and instructors, and neither could she imagine the use of technology in language teaching. This is to say, even today, we cannot imagine how learning and teaching will evolve in the next 20 years.

Learning is part of the culture. The use of technology in the education context can be considered as a cultural phenomenon. It influences not only students' informal learning practices, but also the learning practices associated with the goals of formal distance language education. This suggests that traditional pedagogical cultures will be challenged by the more constructive pedagogy on which e-learning and mobile learning are grounded (Viberg, 2015).

2.1.4 Challenges of Distance Language Learning

Any course designed for distance learning needs to take into account the technological factors alongside human, institutional, logistical, and pedagogical factors. Among the common challenges when designing curriculum and material for distance instructions are: interaction, physical isolation, managing the effect of instructions and integrating appropriate technology tools (Levine, Philpps and Blyth, 2011). The idea of physical isolation appeared in a number of studies. It is one of the aspects that, if underestimated or left unaddressed, could lead to undermining motivation, self-efficiency, and success.

Almost two decades ago, when Garrett (1991) first researched CALL, she identified a few issues and challenges in technology that may still be valid in today's practices. The main concerns were: authenticity, interactivity, agency, expert guidance, and focus on the process. Authenticity refers to the development of bilingual voice and identity for a second-language learner. Interactivity and agency are closely related and entail students becoming producers of their own digital material. Today's research might have renamed these issues or focused on particular ones that may seem more relative in today's media world or even added new issues or concerns. For example, the chat exchanges, blogs, and wikis made it difficult to distinguish between oral and written genres. They have also affected the traditional border of authority between students and teachers (Blake, 2009).

New methods of assessment, such as the dynamic process advocated by Oskoz (2005), will also put the research focus more on process rather than product and heighten the role of the teacher in guiding student interactions. In addition, as Blake explains (2009), research in CALL needs to put emphasis on and document the dynamic of language learning in the context of distance learning.

Blake also states that for teachers to take a chance on participating in this evolving learning environment such as online distance learning, departments and administrations must overtly and academically value and reward teachers who teach online, rather than simply use DL as a budgetary solution or bypass to meet pressing enrollment demands in a time of shrinking resources (Blake, 2009).

Also, Blake argues that CALL research needs to pay more attention to second language learners' behaviour since most of the research and studies are regarding the technical tools used in distance learning and the effectiveness of using these tools.

Another issue or challenge in his article is the importance of teacher training to integrate and effectively use technology in distance education. There are five categories in which teacher training falls into, and according to Kassen (2007), these categories are (a) national frameworks; (b) specific contexts; (c) e-communities or communities of practice; (d) toolboxes (authoring tools); and (e) critical reflections. Teachers can play one of the four roles with respect to language teaching in CALL: the role of practitioner, developer, researcher, and trainer (Hubbard and Levy, 2006). Some researchers also suggested that teachers should experience CALL themselves in order to understand the challenges and frustrations that students face (Hubbard, 2004). A study done by Lam's (2000) showed that teachers only incorporate technologies that they are familiar with and convinced about their benefit in second language instruction. However, when everything is moving at a faster pace, teachers' training and professional development are very important to help them accept and understand the benefit of using some unfamiliar technologies in second language distance classes.

Blake (2009) also says that the idea of student-centered learning is changing with technology. Students are now constantly referring to online sources, blog entries or wiki, text

messages from Facebook, Twitter, or their iPhone as they complete their coursework or online discussions. This means that students are constantly evaluating what teachers are saying against the input they have from online sources (Blake, 2009). As a result, it is extremely important for a teacher to integrate collaborative tasks to be able to work with this new set of learning circumstances that diminishes the instructor's importance in a distance classroom. In other words, a learner now has the curriculum in front of them, and the various Internet sources to help explain any grammar concept or lexical function; therefore it is important for the teacher role to remain useful.

Another issue that many distance learners face in the context of language learning is the mandate of being self-disciplined and self-motivated at all times. Distance education is considered very learner-centered, where learner autonomy and self-regulated learning are seen as the most influential success factors (Zhao et al., 2014). Due to distance isolation and minimal opportunities for interaction and social connectedness, students could easily lose motivation and drop out of distance classes (Carr, 2000). Zhao's et al, (2014) research has investigated the relationship between learner's self-regulation characteristics and their use of mobile technology in language learning. It has shown that, in the learning contexts of online distance education, an individual's characteristics such as self-regulation and structuration are of importance for the effective integration of their personal learning practices into formal educational settings.

In addition, as some researchers point out, it is difficult to conduct group activities in DL. Even with teleconferencing tools, group activities cannot be carried out in the same way as face-to-face formats (Blake, 2009). Nevertheless, Fleming, Hiple, and Du (2002) described successful efforts at the University of Hawai'i to incorporate meaningful group and pair activities into their teleconference format.

2.1.5 The Role Technology Plays In Learning

Technology can play one of the three principal roles in learning; tutor, tutee, or tool (Levy, 1997). The computer can teach a learner using, for example, drill-and-practice applications since the knowledge is stored in the computer and can be delivered to the learner in smaller chunks with frequent reinforcements and in various formats (Taylor, 1980 & Walker and White, 2013). As Walker and White state, learners enjoy using the technology for independent learning, and often feel reassured by the drill-and-practice activities. The availability of these kinds of software on mobile technologies such as smartphones, tablets, and laptops helps learners feel secure as they can use them in short blocks of time, for example when waiting for their appointment. In addition, Walker and White also explain how computers have authoring programs that allow teachers to create various kinds of interactive exercises that students can use to practice vocabularies, grammar concepts, and pronunciation. This authoring software is convenient for teachers because they are reusable and do not need to be sorted or reproduced in different forms. Also, these authoring software are great for students because they can access them anywhere from home or learning centers. Some of these systems can be designed to allow for personalization of learning paths, which means each student can follow an individualized learning pathway.

In addition, many of these tools are able to provide learners with feedback, and i. e. acts as the role of a tutee, second role the technology plays in learning. Learners can use the authoring software to create activities; which draws on the theory that learners learn when involved in the 'making' (Papert, 1993). In addition, with technology, learners can use web-based media, such as blogs to publish their work. They can also publish their presentations with

animations and slideshows. This is how technology forces learners to be involved in the building and making in order to help develop their language skills.

The third role technology plays in learning is the role of the computer as a 'tool', that is the computer is the means by which a language task can be achieved or completed. For example, a learner can use the word-processing program on the computer to write an essay, and photo-editing software to create videos (Walker and White, 2013). Therefore, the act of writing and editing and not the use of technology is what constitutes the learning process. In addition, the role of the tool is now expanded into one that mediates communication and interaction with people with the birth of the Internet and smartphones (Taylor, 1980). This can be replaced with the theory of social-constructivism, which states that learning is constructed through social interactions, and is thought to be parallel to the theory of language teaching as Walker and White argue.

Digital technologies have created an environment in which people can engage in shared activities and build community (Stevenson, 2008). The concept of community refers to the 'community of practice' that the Internet, social networks and online games offers and learners can become apprentices and gradually become active participants as their confidence and expertise develop (Wenger, 1999). This means that a learner can join any online community and learn from others before becoming an active member and start becoming involved. For example, in online gaming, there is shared discourse and also shared knowledge of the rules and conventions of the game. A player who is new to this game might take time to learn how players behave and develop skills until he or she becomes familiar with the specific linguistic aspect of the game and the player community. Then, the player can communicate using the same language that other players are using. Similarly, social networking is now considered a type of virtual

community where people connect with others, create a community of followers, and share their stories online.

In addition, technology has been used as a resource for knowledge and information. People can use machines to store information and knowledge. The Internet, for example, tends to be the first stop for information seekers. Learners can search library databases for electronic resources to gather knowledge. Teachers can also use PowerPoint and interactive Whiteboards for teaching (Walker and White, 2013).

Technology has also played a huge role in the development of new words such as blogs, the Internet, laptops (Crystal, 2010). Not only that, but it has also facilitated the rapid spread of new language. Also, human interactions through technology-mediated environments such as online communities use new language forms, depending on the media. For example, instant messaging and text messaging use different form of language including abbreviations, lexical items, incorporation of letters and numbers, and punctuation. Some examples from text messaging language forms are; ‘L8’ meaning ‘late’, ‘TTYL’ meaning ‘Talk to you later’, and ‘G2G’ meaning ‘got to go’, etc. This is all considered a new form of language that was born a spread wildly with the birth of smartphones.

2.1.6 The Effectiveness of Distance Learning

It is difficult to evaluate or measure the effectiveness of distance learning as it varies in terms of format and environment circumstances from course to course and institute to institute (Blake 2009). In addition, there are other factors that may contribute to the effectiveness of DL, and it includes, teacher style, attitude, and individual learner variables. In addition, learners’ individual characteristics, attitudes and technology competence level influences the effectiveness of computer-based learning, whether it was distance language learning or online learning. The

process of evaluating distance-learning students is challenging since DL students tend to respond only to emails that directly relate to their own academic progress or grade (Blake, 2009). This is not considered an issue in a traditional classroom setting since students can be easily cajoled to complete research questionnaires.

Also, for those DL learners, and with respect to synchronous learning specifically, teleconferencing or video-conferencing represents the most recognized format of distance learning. In fact, it is often accepted and viewed as being equivalent to the classroom experience. The relatively positive reaction of students to this DL model might stem from the video presence of the teacher that gives the assurance that the class will be "communicative," (Magnan, 2007).

2.1.7 Ongoing Issues with Technology in Language Learning

It is difficult to assign extracurricular activities for learners who are completely virtual due to the fact that they have no requirement to physically show up at a specific time and place (Blake, Wilson, Pardo Ballester, & Cetto, 2008).

Both technology and education are undertaken to enable students to learn. In order to learn, students may have to rearrange their social situation and the way they do things, i.e., social artefact. Consequently, on the one hand, students have to adapt their personal learning styles, their preferences and the involved learning contexts to match the changing nature of the social artifact, the nature of diverse relationships related to, for instance, formal education (Viberg, 2015).

As Viberg explains, educators have to support such adaptation by providing students with an effective combination of both technology and education design, thus offering better conditions for learning. This provision is especially important in the online distance education

settings today, where students spend most of their learning time in non- educational settings (i.e. digital space), and where the functioning technology is one of the key tools that connect and mediate students' learning practices as they thrive to achieve their educational goals.

2.2 Online Learning Opportunities for Newcomers in Canada

2.2.1 Overview

Many people go through a number of steps in order to adapt and integrate into a new country with a new system, and among these integration steps: are learning, working, settling, etc. One of the most important settlement skills for immigrants in Canada is learning to communicate in one of the two official languages (English or French). Language is considered one aspect of integration that can promote all other aspects of integration in an intersectional way (Anthias, 2008). The federal government of Canada funds solid English and French language programs for newcomers called; Language Instruction for Newcomers Canada (LINC), and Cours de langue pour les immigrants au Canada (CLIC). These programs were first established in 1992, and are made available for adult immigrants who are permanent residents or protected persons (refugees). Besides, each province in Canada funds second-language programs for its residents called English as a Second Language (ESL) and Français Langue Seconde (FLS). Studies from 2010-2011 have shown that more than 60,000 newcomers benefit from the LINC program (Dipna & Blakely, 2012). According to settlement.org, the LINC program is available in different delivery options: classroom-based (at schools, colleges, and community organizations), online, and blended. It also has the benefit of flexible schedule options: full-time or part-time, during the day, evening or on weekends. This program is free of charge to any adult Canadian immigrant. Not only that, but this program also supports parents with childcare as some LINC centers have free child-minding programs (Daycares) while parents attend classes. Online and blended learning is increasingly used for enhancing the accessibility to language classes for newcomers in Canada. This program has been a remarkable success since the

beginning to help newcomers integrate into Canada and in their communities (Government of Canada, 2013).

In addition, the government of Canada funds many research initiatives to further study the effectiveness and uses of online and blended language learning approaches. For example, LearnIT2Teach is a research group that researchers and provides online-based language tools and resources and make them available to language learners, teachers, and program administrators. They are considered a canadian community of professional teaching practice in the field of CALL and immigrant settlement language training. Their mission is to help create courseware to train language educators to support the integration and adaptation of immigrants and to help provide newcomers with ready access to information technology to assist their orientation and adaptation to Canada (LearnIT2Teach, 2019). For example, they have set up a Learning Management System (LMS) for the Settlement Language Training community across Canada.

Some of the provinces in Canada choose to deliver and implement the LINC program completely online; others use a blended approach where part of the learning happens in the classroom and part happens individually online. For example, the provinces of British Columbia, Vancouver and Alberta have implemented the blended LINC classes. In addition, some provinces such as Ontario, Alberta, and Saskatchewan have online LINC programs called LINC Home Study, which is delivered by the Centre for Education and Training. There is LINC Home Study Canada, which accepts learners from all over the country, and there is LINC Home Study Ontario, which only accepts learners from the province of Ontario.

2.2.2 Online Language Programs in Ontario

The LINC Home Study – Ontario is a federally funded distance education program offered to newcomers in Ontario, Canada who are seeking to improve their language (English)

proficiency skills and are unable to attend regular LINC classes (Lenchuk, 2014; Government of Canada, n.d.). It is funded by Immigration, Refugees, and Citizenship Canada (IRCC) and delivered by the Centre For Education & Training through Language Education at a Distance (lead) located in Mississauga, Ontario. It is a national program identified by citizenship and immigration as one of the best practices in settlement services language programs. The LINC curriculum houses a variety of tasks and materials that allow students to learn about Canada and the canadian culture while learning English. The program has two distinct delivery options: online classes and correspondence (book) classes. Students registered in the online class access their language training material online through a learning management system (LMS) and receive their weekly instructions by phone or through Skype. Students registered in the correspondence class have their material in a hardcopy format which comes with a CD for the audio files and still receive their weekly instructions by phone. Therefore, the difference between the two options is that, in the online class, students need to use the computer to access and use their material and, with the correspondence options, students do not need to use the computer but rather use their book and a CD player to practice their language skills.

The minimum entry benchmarks for this program are CLB 3 for listening and speaking and CLB 2 for reading and writing. The eligibility criteria for the program is similar to the LINC Home Study – Canada and includes being:

- a permanent resident of Canada or a convention refugee;
- 18 + years of age;
- unable to attend LINC classes in person, and;
- CLB level 3 or more.

However, due to the high demand and the large number of students, there is a few months wait for this LINC program.

To become eligible in the LHS program, the student needs to be able to spend 5-7 hours to study on his or her own every week. He/she needs to have a phone for their weekly calls with their teacher, a computer with high-speed internet to access all material and digital files if enrolled in the online option, or a CD player if taking the program by correspondence (Centre for Education and Training, n.d.).

Prior to registering in the LHS program, students need to take a language assessment in one of the Assessment Centres near them. Their results are then sent to the LINC Home Study program. When they first join the program, they receive a package of information that tells them about the program and the difference between the two options (online and correspondence). A student needs to have access to a computer to be eligible for the online class; otherwise, they can enroll in the correspondence class. Once registered, students are matched with an e-facilitator/instructor who calls the student once a week for a period of 30 minutes in order to instruct, monitor and assess their progression. Online students are expected to use the LHS platform to practice their language skills and receive a Canadian language benchmark (CLB) certificate, while students learning by correspondence are required to use both the book and the accompanying CD.

This online LINC program offers language certification just like any other language training program. This certificate can be used for Canadian Citizenship applications or university and college admissions. Students who complete one term and successfully pass their CLB assessment are eligible for a LINC Certificate, which is mailed directly to their houses or made available for pick-up. Only students who complete this prerequisite are eligible for a LINC

Certificate. If a student has not completed enough hours of instruction and/or passed their CLB assessment, they are not eligible for a certificate.

Therefore, both the federal government of Canada and provincial governments have implemented online and blended language learning programs in their schools, colleges, community centers, and language training centers for newcomers to improve their language skills.

2.3 Learning Styles in CALL

2.3.1 Overview

The concept of learning styles refers to the way people acquire and use new knowledge. Learning styles are thought to be the internal traits possessed by individual learners regarding their preferences of teaching instructions (Al-Hebaishi, 2012). This phenomenon is not new in the field as research on the topic of learning styles in cognitive psychology can be traced back to about four decades (Cassidy, 2004). Learning style is thought to be amongst the factors affecting learning-related performance (Cassidy and Eachus, 2000) and provide some valuable insights into learning in both academic and language learning contexts. As a result, a variety of learning styles are being identified (Heah, 2019). As Cassidy (2004) argues, due to the extensive empirical research done in the area of learning styles, there are a variety of definitions, theoretical positions, models, interpretations, and measures of the construct. Even the task of selecting instruments to measure learning styles for given research is debatable and can lead to questions about the validity of the tool used.

Although many researchers have come to an agreement that the way students approach learning has an impact on performance and achievement outcomes (Cassidy, 2004), there are still some researchers who have made strong claims that learning style is only a fiction that follows the belief that matching instructions with students' learning styles leads to better academic outcomes. In the context of language learning, a study done by Gohar and Sadeghi (2015) investigated the effect of learning style on the students' foreign language performance. Using the Kolb Learning Style Inventory, the results reported that there is no significant relationship between learning style and students' academic achievement (Heah, 2019).

Even thought educators in various fields are now becoming more aware of the importance of understanding students' learning styles and preferences, many researchers (e.g., Bishka, 2010; Kirschner & van Merrienboer, 2013; Mayer, 2011; Norman, 2009; Riener & Willingham, 2010; Scott, 2010) still have doubts on the impact of the meshing hypothesis on student learning (Pashler, McDaniel, Rohrer, & Bjork, 2008).

It is important to realize that any attempt of integrating learning style into an educational program is made from an informative position (Cassidy, 2004). There is a limit to the existing research studies that fail to show the explicit use of learning style in actual second language online classes, however, the fact that learning style has provided some valuable insights in learning, including ESL learning, cannot be denied. Hence, it is important to first start with identifying what is meant by ‘learning styles’, and explain the theoretical framework behind the construct.

The four learning styles of interest are visual, auditory, kinaesthetic, and tactile learning styles (lee et al, 2016).

- Visual - The visual learning style factor focused on reading English text. Students were asked about the extent to which they find themselves learning better when they read instructions and see written text.

- Auditory - The auditory learning style factor focused on hearing. Students were asked about the extent to which they find themselves learning better when they hear instructions, information, and attend lectures.

- Kinaesthetic - For the kinaesthetic learning style, students were asked about their preference for activities such as role-play and discussion in class.

- Tactile - Four items asked students about their preference for doing something (e.g. project work) or making something (e.g., a model, an exercise).

2.3.2 Theoretical Framework – Models

For the purpose of this thesis, it is important to define the concept of learning style. It is worth mentioning that there is a large number of definitions and explanations in the literature. As De Bello (1990) states in his review, there exist almost as many definitions as do theorists in the field (Cassidy, 2004, p. 440). Both 'cognitive style', and 'learning strategy' have been used interchangeably in research in reference to learning style. However, in many other instances, they are used as separate definitions. Cassidy (2004) defines the cognitive style, as described by Allport in 1937, as the individual typical mode of problem-solving, thinking, perceiving, and remembering. Learning style, however, reflects the application of using a cognitive style in the learning context (Riding and Cheema, 1991). There are three key definitions of the two constructs 'learning style' and 'cognitive style' commonly used in literature. First, Riding and Cheema's description of cognitive style as a bipolar dimension (wholist-analytic) and learning style as a mix of other components including cognitive style. Second, Hartley (1998) defined cognitive style as the way individuals approach cognitive tasks; and learning styles as the way individuals approach learning tasks. Third, the other key term used in exchange with 'learning style' and 'cognitive style' is 'learning strategies', which Hartley (1998) defines as the strategies students embrace when studying (Cassidy, 2004; Oxford, 1990; O'Malley, et.al, 1990; Rubin, 1981). Hartley also argues that learning strategies may vary as students may use different learning strategies with different tasks, whereas learning style is more 'automatic'.

There is another debate regarding the learning style construct, which is the 'state' vs. 'trait' as Cassidy (2004) describes. A 'trait' refers to something that is stable and not changing

over time, whereas ‘state’ changes with each experience. Therefore, the debate is whether a learning style is something stable as a trait or rather a process that changes based on situations and experiences. Cassidy says that the most common view is that a learning style has some form of structure, but this structure is responsive to experiences and situations and allows for adaptive behaviour.

Another term Cassidy defines is the term ‘preference’, which refers to favouring one method of teaching over another. For example, some students prefer to study in groups whereas others prefer to work by themselves. Some of the more elaborate models of learning styles take into consideration the concept of preference.

Researchers over the years used different models to describe and explain the construct of learning/cognitive style. Some illustrated and described the concept using a metaphor. For example, Curry (1983, 1987) used the onion metaphor to describe the four layers associated with learning style. The first layer, ‘instructional preference’, refers to the preferred choice of the learning environment, and is considered the outermost layer. This layer is the most observable and the least stable level of measurement (Cassidy, 2004). The instrument found to measure this level of preference is the Learning Preference Inventory (Rezler and Rezmovic, 1981). The second layer is ‘social interaction’, which refers to the students’ preference for social interaction during learning. The instrument that takes this layer into consideration is the Student Learning Style Scale by Riechmann and Grasha (1974). The third layer is ‘information processing style’, which Cassidy refers to as the most stable layer, and describes the intellectual approach that an individual uses to process any given information. The instruments that measure this layer are: Kolb’s Learning Style Inventory (1976), Cognitive Preference Inventory by Tamir and Cohen (1980), and the Inventory of Learning Processes by Schmeck, Ribich, and Ramanaiah (1977).

The fourth and last layer is 'cognitive personality style', which refers to the permanent personality dimension and can only be seen when individual's behavior is observed across a number of different learning situations (Riding and Cheema, 1991, p. 159). The instrument that measures this layer is the Embedded Figures Test (Witkin, 1962), Myers Briggs Type Indicator (Myers, 1962), and the Matching Familiar Figures Test (Kagan, 1965).

Riding and Cheema (1991) described the concept of learning style using the *Riding and Cheema's Fundamental Dimensions* model, which includes categorizing styles into two broad categories: wholist – analytic and verbalizer – imager. The wholist – analytic dimension represents the manner in which individuals process information as a whole (wholist) or broken down (analytic). The verbalizer – imager dimension describes the way individual tends to present information using words (verbalizer) or using images (imager) (Cassidy, 2004). Riding and Cheema argue that the two dimensions exist independently from each other and not contingent upon one another.

Rayner and Riding's (1997) framework describes the concept of learning style using personality – centered, cognitive – centered, and learning-centered approaches. The personality – centered approach only appeared in the Myers and Briggs Style model (1962), which considers personality as a major factor. The cognitive – centered approach focuses on an individual's cognitive and perceptual functioning and is integrated into Riding and Cheema's (1991) model of dimensions. Finally, the learning-centered approach focuses on the impact of style in an educational setting (Cassidy, 2004).

According to Kolb's modes of learning theory, individuals learn in four different stages and knowledge is created from grasping and transforming one's experiences. There are two modes of grasping experience: Concrete Experience (CE) and Abstract Conceptualization (AC)

and two modes of transforming experience: Reflective Observation (RO) and Active Experimentation (AE) (Kolb, 1984). The combination of these learning modes is used to establish four learning-style categories in which learners fall into: accommodators (favored CE and AE), divergers (favored CE and RO), assimilators (favored AC and RO) and convergers (favored AC and AE) (Zacharis, 2010).

Each of these models provides definitions and frameworks for the construct learning style. Some of these models have been integrated into a number of learning style measuring tools and instruments. Others were not featured in any research or studies.

2.3.3 Factors Affecting Learning Styles in CALL

To investigate the factors influencing learning styles, many studies have been conducted to look at the possible variables that may enhance or hinder students' performance in second language learning environments. Some theorists in the field believe that there is a relationship between learning styles and many variables such as age, gender, the status of English learning, fields of study, race/culture and many others (Heah, 2019). Research has shown that age and gender are two fundamental variables, which are likely to have an influence on individual learners' perceptions and use of computer technology in the learning context (Morris & Venkatesh, 2000; Morris, Venkatesh, & Ackerman, 2005; Ong & Lai, 2006; Yeung, Taylor, Hui, Lam-Chiang, & Low, 2012). According to Morris and Venkatesh's work in 2000, and Morris, Venkatesh, and Ackerman (2005), attitudes (negative) towards technology use appeared to be more common among older adults (40 years old and older), but less common among the young adults (39 years old and below). They also reported that male students are found to have more self-confidence in their technology skills as well as more positive attitudes than female students (Li & Kirkup, 2007).

A study investigating the relationship between learning styles and age and gender of the University of West Indies students (Corbin, 2017) found a positive correlation between age and learning style. In this study, a classification system is used to categorize and scale students' learning styles. According to this scale, students' learning styles are divided into six categories: independent, dependent, collaborative, competitive, participant, and avoidant. The results show that gender differences affect the dependent, independent, participant and competitive learning styles. In addition, the results also show that learning styles are significantly dependent on the age of the students (Baneshi, Tezerzani & Mokhtarpour, 2014).

Kolb (1976)'s study of learning styles and gender differences using the Learning Style Inventory (LSI) found that on the average, men and women have different learning styles. "Women tend to score higher on the Concrete Experience orientation while men tend toward Abstract Conceptualization. No consistent differences between men and women have been identified on the active/reflectivedimension" (Kolb, 1976, p. 24).

A survey on learning styles and gender differences was conducted by Philbin, Meier, Huffman & Boverie (1995) found that females learn better in hands-on and settings, emphasizing the style of the affective and doing.

On the other hand, a study conducted by Lee et al, (2016) shows no significant evidence on the difference between age and gender and computer use for language learning. In many education institutes, there are a large number of students who were born after the 90s, and those are used to using computers for social interactions and learning. Their attitude towards using technology in educational settings is thought to be positive. This supports findings from Li and Kirkup (2007), Yeung et al. (2012) and Volman et al. (2005). Studies, which found no difference

in both the attitude and sense of competence in, and value of, technology application between the two genders.

With regards to gender, a study conducted by Li and Kirkup (2007) and used a self-reporting questionnaire to study gender and cultural differences between Chinese and British students in their use of and attitudes toward the use of the Internet and computers. Results show that male students were found to be more confident in their computer skills and have a more positive attitude compared to female students. Results also reported that male students used computers for personal interests such as using email more often than female students (Lee et al, 2016).

Although there exist many studies investigating age and gender effects on learning styles, there is still a contradiction in the field on whether this relationship stands true or not. There is a need for more empirical evidence regarding the influence of age and gender on the learning styles of second language learners. As Lee et al (2016) argue, if the e-learning factors such as learning style and age variables are further researched, computer technology can be improved and used more effectively in the context of language learning.

Race and culture are amongst the oldest variables that thought to have an impact on students' learning styles. According to Mestre (2006), researchers argue that individuals tend to fall into distinct categories related to the way in which they prefer to learn and, to a large degree, these preferences are culturally identified (Bentley, 2005; Dunn, 2000; Anderson and Adam, 1992; Claxton, 1990; Bodi, 1990; Cushner, 1990). A study done by Reid (1987) on 1,388 students investigating their perceptual learning style preferences shows that ESL students from different cultural and language backgrounds have different learning styles and preferences compared to native English speaking students. Reid argues that perhaps some other variables

such as gender, length of time abroad, field of study, level of education and age are related to differences in learning styles (Viriya and Sapsirin, 2014).

In addition, Reid's (1987) work on PLSPQ supported the claim that students learning ESL from different language backgrounds sometimes differed significantly from each other and from native speakers of English in learning style preferences (Lee et al, 2016). This PLSPQ has been adopted by researchers in the past few decades to investigate the learning styles of adult Spanish and Asian immigrant learners of English in two American community colleges (Rossi-Le, 1995), ESL students from different countries and language backgrounds in intensive English programs in the US (Stebbins, 1995), Indian higher secondary students (Karthigeyan & Nirmala, 2013), and Iranian university learners of English (Nematipour, 2012). The results of these studies show that the dominant major learning style for ESL learners varied with language and culture. Chinese ESL learners in the studies of Reid (1987) and Rossi-Le's (1995) show to have strong visual, kinaesthetic and tactile learning styles. However, both the Indian higher secondary students and the Iranian university students had visual and auditory styles (Lee et al, 2016).

Other factors thought to impact learning styles are learning strategies. A study done by Cassidy and Eachus (2000) measures the learning style of undergraduate students using the Approaches and Study Skills Inventory for Students (Tait and Entwistle, 1996). Results show that academic achievement positively correlates with a strategic approach. In addition, the learning styles found to correlate with other academic performance-related factors such as self-efficacy and locus of control (Cassidy, 2004).

2.3.4 Learning Style and The Use of Technology Applications

When it comes to computer-assisted language learning, they're thought to be some learning styles that perform better than others in this specific learning environment. Lee et al

(2016) argue that knowledge about how learning styles may predict learners' use of technology is essential for effective delivery of language programs. Kolb's (1984) learning styles consist of four styles: accommodators, divergers, assimilators, and convergers. Divergers learn best through concrete experiences and through reflective observation; assimilators learn through reflective observation; convergers learn through abstract conceptualization and active experiments; and accommodators learn through concrete experiences and active experimentation (Biabani and Izadpanah, 2019). According to Mestre (2006), out of the four learning styles described by Kolb, accommodators seem to be the most at risk in online learning environments (Simpson and Du, 2004; Holmes and Brown, 2000; Rourke and Lysynchuk, 2000). Rourke (2000) explains that accommodators have an active approach to perceiving and processing information. They perform best when more practical information is presented to them through interaction with peers and instructors. The best way they can learn is by applying authentic situations, which might be difficult to integrate into an online environment. On the other hand, researchers such as Moeller (2000) reported that the most dominant learning style found in computer-based learning environments is the accommodator (Mestre, 2006). Other studies show that assimilator and accommodator learning styles tend to have more of a positive attitude towards the use of technology in instructions (Federico, 2000; Ross, 1998). However, findings from Buch and Bartley (2002) from the results of a M. L. Miller / Computers in Human Behavior 21 (2005) training delivery mode preference survey, reported that convergers show a stronger preference for computer-based delivery and assimilators show a stronger preference for print-based delivery.

Kolb's work has been the base of many learning style in online environments. For example, Honey and Mumford (2000) developed a modified version of Kolb's learning style

inventory turning the doer, reflector, theoretical, and processor preferences into what they called: activists, reflectors, theorists, and pragmatists (Mestre, 2006). According to Mestre, activists enjoy being involved in a problem-solving experience, and they tend to act first and then consider the implications later. They also enjoy group work, but they prefer being leaders and give directions. Pragmatists, on the other hand, are very practical, they like the application side of concepts rather than lengthy discussions. Reflectors are what we call observant, as they like to stand back and look at a situation from different perspectives. They gather and analyze information before coming to a conclusion. Theorists tend to think problems through in a logical way. They like to analyze and synthesize and tend to be detached, analytical, and dedicated to rational objectivity rather than relying on subjectivity (Mestre, 2006).

According to Honey and Mumford, out of the four learning styles, reflectors and theorists tend to perform best in online environments. This is because the online environment might provide them with more time to think about their tasks. The other two learning styles, activists and pragmatists, have a various set of characteristics that allow them to benefit from online instructions but also perform well in a face-to-face type environment. Barron (2002) reported the results of research done by Brandfor who suggest that reflector learning style is more dominant among Asian students since they prefer taking the time to think about their responses before acting. Online environments are ideal for Asian students as they can review material, process them, and complete exercises at their own pace (Mestre, 2006). According to Downing and Chim, it is important to consider these learning characteristics when designing problems and tasks for Asian students in Western Universities (Downing and Chim, 2004).

According to Mestre, studies such as Terrell, 2002; Neuhauser, 2002 and Souder, 1993, which used Honey and Mumford's model of learning styles, found that theorists tend to perform

well in online environments. They prefer analyzing and synthesizing information in a logical manner rather than relying on subjectivity. They need time to explore the links between ideas and feel frustrated and find it difficult to speak up in the traditional classroom. Therefore, an online learning environment is perhaps a more effective environment for this learning style.

A study conducted by Lee et al, 2016, examined the relationships of Chinese second language learners' learning style preferences, genders, and ages to language learning through the use of computer technology. Using Reid's (1984) Perceptual Learning Style Questionnaire, she concluded that visual and kinaesthetic learning styles appeared to be the most common in a computer-based learning environment. She illustrated the relationship between students' learning styles and the use of computer technology in second language classes using Figure 1. The path model shows a significant relationship between visual and kinaesthetic learning styles and the use of computer technology in an ESL classroom. This suggests that visual and kinaesthetic learning styles tended to be more related to higher education students' use of the computer for self-directed English learning. However, not all learning styles are strongly associated with a preference for technology application in English learning. The study concludes that the university Chinese ESL learners with visual and kinaesthetic learning styles are more likely to benefit from using computers for language learning than those with auditory and tactile learning styles. In addition, according to Lee, the self-reported major learning style preferences of Chinese learners of English in Hong Kong universities are similar to those Chinese learners in the US universities reported by Reid and Rossi-Le in the 80s and 90s (Lee et al, 2016).

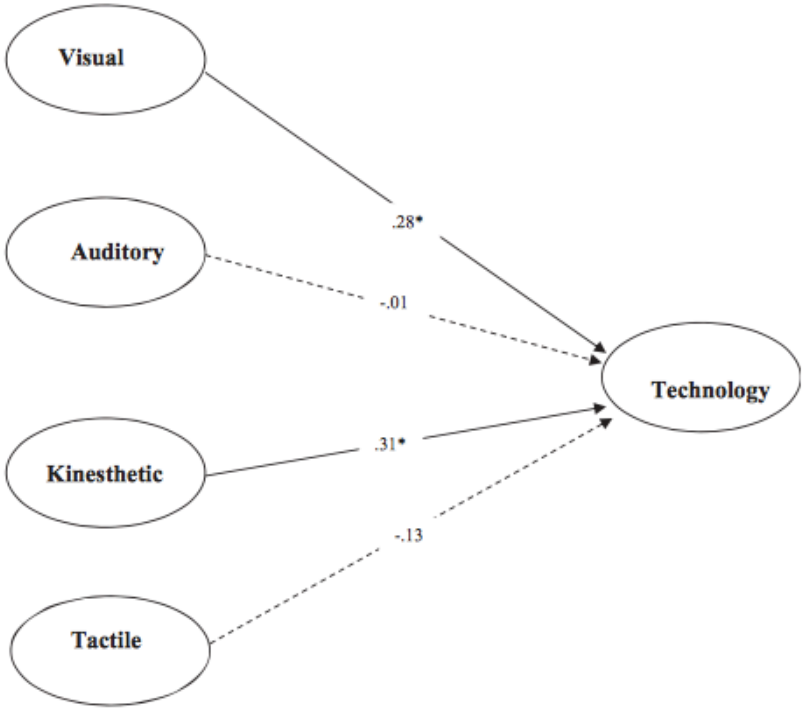


Figure 1. Path model relating learning styles to technology application ($^{*}p < .05$).

Figure 1: Path model from a study conducted by Lee et al (2016), illustrating the relationship between Chinese second language learners' learning style and the use of computer technology in a classroom.

In conclusion, several researchers point out the importance of creating flexible and creative online learning material to match students' different learning styles, which may be difficult to achieve in practice. However, the combination of learning styles will benefit more students, as they all will find material that matches their learning style and preference. In fact, when a diversity of learning approaches is offered, all students are enabled to choose from environments to make learning as efficient as possible. Currently, most online material best serves students who function well in a logical, text-based, passive environment. If equivalent services are to be provided to all students, it is essential that special attention is paid to

developing resources that support students who require a more personalized, interactive learning such as kinaesthetic learners (Mestre, 2006).

2.3.5 Instruments for Assessing Learning Styles

2.3.5.1 Overview

After years of extensive research on learning styles and as a result of various empirical investigations, researchers have developed a number of tools to measure and gain an understanding of different learning styles. Examples of these tools are: Kolb's (1976) learning style inventory (LSI), Felder and Soloman's (1991) index of learning styles, Honey and Mumford's (1992) learning style questionnaire, and Reid's (1987) Perceptual Learning Style Preference Questionnaire (PLSPQ) (Sun and Teng, 2017). These four instruments have been researched and used in different contexts. The PLSPQ, in particular, has been used in second language English contexts worldwide. These different measurement tools assess different dimensions of learning styles such as instructional practices, information processing, social-interaction tendencies, and the influence of personality (Mestre, 2006).

There exist a number of theoretical positions and definitions in the field, and as a result, there are many models and constructs of learning style, hence the concept is controversial (Cassidy, 2004). This section will provide an overview of the most commonly used learning styles measuring instruments. In addition, the Perceptual Learning Style Preference (PLSPQ) will be described in detail, as it is the instrument used to measure students' learning styles in this study.

2.3.5.2 Learning Styles Measuring Instruments

First, the learning style inventory (LSI), developed by Kolb (1976), to help gain insights on individuals' strengths and weaknesses in the stages of the learning cycle. In this model, learning is viewed as a continually recurring problem-solving process in the four-stage cycle: concrete experiences, reflective observations, abstract concepts, and active experimentation. It is a practical self-assessment instrument that can be used by students or teachers, as seen in figure 2. Once students calculate their scores for each learning style, they can create their learning style profile and place themselves on the learning cycle, which is illustrated in figure 3. This measurement tool has been criticized for its lack of validity and reliability (Koob and Funk, 2002).

1. Rank order each set of four works (going across) in the 10 items listed below. Assign a 4 to the word which *best* characterizes your learning style, a 3 to the next best, a 2 to the next, and a 1 to the *least* characteristic word. Assign a different number to each of the four words. *Do not make ties.*

1.	_____ involved	_____ tentative	_____ discriminating	_____ practical
2.	_____ receptive	_____ impartial	_____ analytical	_____ relevant
3.	_____ feeling	_____ watching	_____ thinking	_____ doing
4.	_____ accepting	_____ aware	_____ evaluating	_____ risk-taker
5.	_____ intuitive	_____ questioning	_____ logical	_____ productive
6.	_____ concrete	_____ observing	_____ abstract	_____ active
7.	_____ present-oriented	_____ reflecting	_____ future-oriented	_____ practical
8.	_____ open to new experiences	_____ perceptive	_____ intelligent	_____ competent
9.	_____ experience	_____ observation	_____ conceptualization	_____ experimentation
10.	_____ intense	_____ reserve	_____ rational	_____ responsible
(for scoring only)	_____ (CE)	_____ (RO)	_____ (AC)	_____ (AE)

Figure 2: Learning Style Inventory (LSI) instrument developed by Kolb (1976).

Second, the index of learning style, formulated by Felder and Soloman (1991), which is designed to capture learners' preferences on the four bipolar types of learning style.

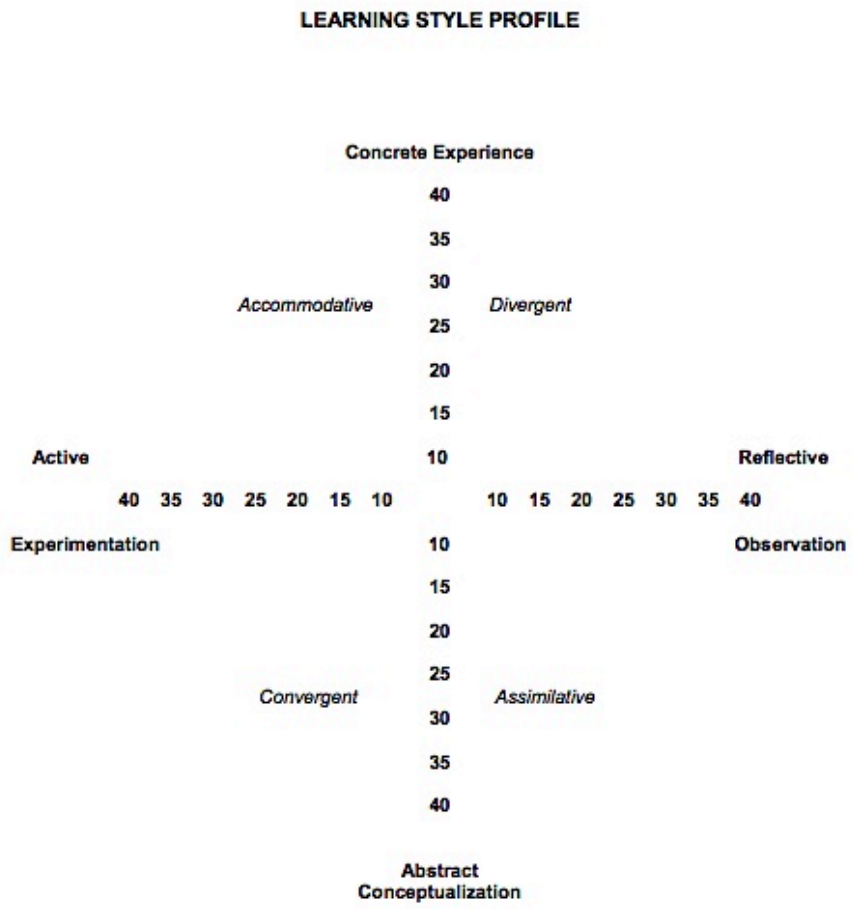


Figure 3: Learning Cycle of the Learning Style Inventory (LSI) as developed by Kolb (1976).

This questionnaire contains 44 multiple-choice questions, each question has a and b options. Learners need to complete all questions by selecting an option that best describes them. Then, they can use the self-scoring sheet to calculate their score and figure out the kind of learners they are by placing themselves in one of the four categories of learning: activist/reflector sensing/intuitive, visual/verbal, and sequential/global. This tool has been proven as a reliable, valid and suitable instrument in the tertiary context (Felder and Spurlin 2005).

The third instrument is the learning style questionnaire, developed by Honey and Mumford (1992). They adopted Kolb's idea of experiential learning and designed a tool that

measures individuals' intrinsic learning traits including activist, reflector, theorist, and pragmatist. This questionnaire includes 80 statements that learners need to agree or disagree with. Scores then can be calculated and learners can identify their learning style by placing their score on the learning cycle, similar to the one used for Kolb's Learning Style Inventory. Although this questionnaire has been taken as an acceptable alternative instrument to Kolb's, it is still criticized as an unsatisfactory instrument given its low reliability and poor factor structure (Zwanenberg and Wilkinson 2000).

The fourth, and most used learning style measurement tool in the field of the second-language, is the Perceptual Learning Style Preference Questionnaire (PLSPQ), which was designed by Reid (1987). This tool is discussed in detail in the following section.

2.3.4.3 Perceptual Learning Style Preference Questionnaire (PLSPQ)

The PLSPQ measuring tool has been extensively utilized in second language research. In ESL research, Reid's measurement has been frequently used to identify and compare the styles and language learning patterns of ESL learners from different cultural backgrounds from the 1990s to present (e.g., Karthigeyan & Nirmala, 2013; Nematipour, 2012; Rossie-Le, 1995; Stebbins, 1995). It is also believed to directly influence teachers' methodological decisions (Hyland, 1993; Karthigeyan & Nirmala, 2013; Peacock, 2001). This questionnaire is the end product of the several modifications made on the existing instruments by the non-native speaker informants and US consultants in the linguistic field (Ghaedi & Jam, 2014). Reid examined the learning styles of both native English-speaking and ESL students from nine different language backgrounds. As a result of her intensive research, she identified six learning styles; visual (reading charts or watching a film), auditory (listening to lectures or audiotapes), kinaesthetic

(emphasizing total physical involvement such as playing games or talking to people while learning), tactile (emphasizing hands-on learning such as making a model), group, and individual learning. Lee et al (2016) suggest that the first four learning styles are perceptual and may be related to other individual characteristics, whereas the last two learning styles (individual and group) are considered social styles.

The PLSPQ is utilized to find out the frequency of the use of each learning style and it is set on the five-point Likert Scale, ranging from 'strongly disagree' to 'strongly agree'. A total of 5 statements are set for each type of learning style (visual, auditory, kinaesthetic, tactile, individual, and group), and the 30 questions are randomly ordered. However, the questionnaires offer little information about how the learning style preference may be associated with the use of technology for language learning.

Reid's questionnaire is designed to help learners identify their learning style and preference and for teachers to provide all resources and accommodations to assist students in achieving better scores in their studies. Knowing about the learning styles preferences helps teachers describe students' characteristics. Many researchers on learning styles such as Lee et al (2016) who adapted the PLSPQ, have included tips and recommendations to help teachers accommodate learners' styles and preferences.

Based on the PLSPQ instrument, a self-scoring tool has been developed, as presented in Appendix C. This tool can be used easily by individuals who aim to learn more about their learning style. Individuals must first complete the PLPQ questions. Then, they can use the self-scoring sheet to calculate the score for each learning style. Any learning style scores 38-50 is considered a major learning style, anything between 25-37 is considered a minor learning style, and any score below 25 can be neglected. Neglected learning styles are the ones that a learner

may have a hard time learning in that style. The self-scoring tool also provides explanations for each learning style preference for individuals to understand the characteristics of each major learning style. These definitions are adapted from the C.I.T.E. Learning Styles Instrument, Murdoch Teacher Center, Wichita, Kansas 67208:

1. Visual major learning style preference

> "You learn well from seeing words in books, on the chalkboard, and in workbooks. You remember and understand information and instructions better if you read them. You don't need as much oral explanation as an auditory learner, and you can often learn alone, with a book. You should take notes of lectures and oral directions if you want to remember the information." (p. 4)

2. Auditory major learning style preference

> "You learn from hearing words spoken and from oral explanations. You may remember information by reading aloud or moving your lips as you read, especially when you are learning new material. You benefit from hearing audio-tapes, lectures, and class discussions. You benefit from making tapes to listen to, by teaching other students, and by conversing with your teacher." (p. 5)

3. Kinaesthetic major learning style preference

> "You learn best by experience, by being involved physically in classroom experiences. You remember information well when you actively participate in activities, field trips, and role-playing in the classroom. A combination of stimuli-for example, an audio-tape combined with an activity-will helps you understand new material." (p. 5)

4. Tactile major learning style preference

> "You learn best when you have the opportunity to do "hands-on" experiences with materials. That is, working on experiments in a laboratory, handling, and building models, and touching and working with materials provide you with the most successful learning situation. Writing notes or instructions can help you remember information, and physical involvement in class-related activities might help you understand new information." (p. 5)

5. Group major learning style preference

> "You learn more easily when you study with at least one other student, and you will be more successful in completing work well when you work with others. You value group interaction and classwork with other students, and you remember information better when you work with two or three classmates. The stimulation you receive from group work helps you learn and understand new information." (p. 5)

6. Individual major learning style preference

> "You learn best when you work alone. You think better when you study alone, and you remember the information you learn by yourself. You understand new material best when you learn it alone, and you make better progress in learning when you work by yourself." (p. 5)

It is important to mention that this instrument has been previously critiqued in the literature as well. Researchers such as Sun and Teng (2017) have identified a few issues concerning the psychometric qualities of the PLSPQ instrument. In fact, in a study done by Reid (1990), she explicitly claimed that it was "difficult to obtain satisfactory internal reliability for the six learning style scales" (Wintergerst et al, 2001, p. 388). Other researchers have pointed out a concern that the PLSPQ lacked construct validity and that some of the items in the

questionnaire are not compatible with Reid's original and conceptualized learning styles (Sun and Teng, 2017). Furthermore, researchers such as Peacock (2001) claimed that the PLSPQ items did not provide concrete examples of activities of each learning style, but only described the learning styles in vague terms. For example, the statements "I prefer doing something in class" and "I learn best when I work with others" may confuse the participants especially those who have different cultures and educational backgrounds. Finally, According to Sun and Teng, when Reid (1987) categorized learning styles as major (13.5 and above), minor (11.50–13.49), and negative (11.49 or less), she did not clarify the logic behind the cut-off points between the three ranges of styles. In fact, she did not provide justifications with sufficient statistical evidence.

2.3.5.3 Learning Styles Research Based on the PLSPQ

Previous studies have used the PLSPQ as their primary research instrument to investigate the learning styles and preferences of second language learners, especially in the ESL context. One of the studies done by Peacock (2001), examining 206 EFL learners in Hong Kong, found that unlike individual and group styles, kinaesthetic and auditory learning styles were favoured by students. In fact, learners who favoured group learning styles were perhaps less proficient in EFL (Sun and Teng, 2017). The same issue regarding the validity and reliability of the instrument was raised for this study. Similar to Reid, Peacock did not provide rationale justification behind the three ranges of learning styles (major, minor, and negative).

In Korea, Isemonger and Sheppard (2003), conducted a similar study on 710 EFL students investigating their learning style preferences using the PLSPQ. The results of this study show that kinaesthetic was the most favoured learning style among EFL learners followed by auditory and tactile. Results also indicated that individual learning style is the least favoured

learning style among these learners. When investigating factors that may contribute to learning styles, Isemonger and Sheppard found that age and university majors did not positively correlate with learning style preference. In addition, contradicting Peacock (2001)'s findings, Isemonger and Sheppard found that learning styles could not predict learners' EFL proficiency.

In Iran, Naserieh and Anani Sarab (2013) conducted a study on 138 EFL graduate students using the PLSPQ in order to investigate their learning style preference. Results showed that kinaesthetic and tactile learning styles are the most favored learning styles and group learning style is the least favoured one (Reid 1987; Peacock 2001). In addition, contradicting Isemonger and Sheppard (2003)'s findings, Naserieh and Anani Sarab's results showed a significant correlation between age and university major and students' learning styles. Issues concerning this study are described by Sun and Teng (2017) and include; first, that the self-perceived language proficiency, as rated by students, may suffer from biased results since there was no rubric. These self-rating results may not be a reliable indicator of proficiency level. Second, since there was a relatively small-scale quantitative data, a qualitative method of data collection should have also been adopted to enable a more comprehensive understanding of the findings of this study.

The relationship between perceptual learning style, English learning motivation, and achievement is investigated by Kim and Kim (2014). This study used a modified 5-point Likert scale of PLSPQ to research the learning style and motivation of 2682 Korean EFL students from elementary, junior high and high schools. Results indicated that both visual and auditory learning styles were positively correlated with motivational variables and English proficiency, while a kinaesthetic learning style was negatively correlated with them. In addition, when looking for factors that may contribute to learners' increased motivation and language proficiency, Kim and

Kim found that visual style is considered one of the most critical factors. Based on these results, a structural equation model was generated. This model illustrated the direct relationship between perceptual learning styles and factors such as imagination, motivation, and proficiency. One concern regarding this study is that self-reported language proficiency levels are measured in house in each school. This may result in proficiency level to vary from one school to another, which can influence participants' self-perceived English proficiency, making these findings less convincing.

A study conducted by Ong, Rajendram & Yusof (2006) examined the two variables relating to learning the English language: writing performance and learning styles. This study used PLSPQ to gather information on students' learning styles. Findings show that learners favour the kinaesthetic learning style (Heah, 2019).

Another study was conducted by Mulalic, Shah & Ahmad (2009) on 160 university students in Malaysia. The PLSPQ was administered to show that most students rely on the kinaesthetic style in their learning. However, some students also appeared to rely on visual, auditory, and group styles. This study also investigated possible factors that may relate to students' learning styles, and findings reported that gender difference and ethnicity have an influence on learning style. Unlike females, male students appeared to be using the kinaesthetic and auditory learning styles when approaching a task. With regards to race, it was found that Malay students, as well as Chinese students, prefer the kinaesthetic style while Indian students mainly depend on the visual, auditory and individual learning (Heah, 2019)

In summary, the above studies suggest that kinaesthetic, auditory and tactile learning styles are most favoured by learners in second-language learning contexts. However, research showed that kinaesthetic negatively correlates with learners' language proficiency, and both

visual and auditory styles positively correlated with language proficiency. One limitation of the literature is that most of the research regarding learning style has been conducted in the context of English as a second language. The literature is lacking evidence from other second languages. In addition, the PLSPQ instruments are in need of further investigation given its reliability and validity issues (Sun and Teng, 2017).

Chapter 3: Methodology

3.1 Overview

This chapter outlines the methodology used for this study, starting with recalling the research questions guiding the study, followed by the data collection procedures. As this study involves two target populations, LINC online students and LINC teachers. The instruments and data collection procedure will be outlined separately for each group. A brief reminder of the research objective will be recalled at the start of each section in this chapter.

3.2 Recall of Objectives and Research Questions

As previously stated in the introduction chapter, the aim of the study is to investigate the learning styles of students in an online distance LINC program, from both learners' and teachers' perspectives. Also, we are interested in looking at other characteristics and preferences that may be common among these online students. These perspectives from students and teachers will then be compared.

The profiles of the online students were investigated through; 1) administering an online questionnaire to a sample of online LINC students to learn about their individual differences and learning styles, and 2) administering an online questionnaire and follow-up interviews with LINC teachers to investigate their perspective on the profiles of these online students. We then analyzed and compared data collected from both online LINC students and teachers in order to answer the following research questions.

1. What does the online learners' profile in the LINC program look like, in terms of;
    a. Demographic variables (factors); and
    b. Perception of learning styles and preferences.

2. What is the teachers' perception of their online learners' profile, in terms of;
    a. Demographic variables (factors); and
    b. Perception of learning styles and preferences.
3. How do these perceptions compare? What pedagogical recommendations can be made out of these results?

3.3 Participants

3.3.1 Online LINC Students

Participants of the first part of this study (question 1) were recruited from an Ontario distant LINC program with a language proficiency level between 3 and 7 according to the Canadian Language Benchmark (CLB). The CLB is the national standard used in Canada for describing and recognizing the English language proficiency of adult immigrants. The benchmarks describe language tasks that can be performed in listening, speaking, reading and writing. The CLB is used to assess and describe the student level proficiency for placement in LINC levels in any LINC programs. All participants were enrolled in the online option of the distance LINC program. They received 30 minutes of instruction every week from their LINC teacher either by phone or via Skype. In addition, these online students had different teachers and were in different LINC levels. Students might have had different language instructors for different LINC levels.

It is worth mentioning that all LINC students are immigrants from different countries around the world and residents of Ontario, Canada. Their education level varies from zero to over 16 years or more of formal education from their home countries. Some of these students are seeking to obtain some form of education in Canada, and others are just looking to obtain a

language certificate in order to proceed with their Canadian citizenship. However, all students are enrolled part-time in the LINC program to study English in order to work or continue their studies in Canada. All students participating in this study were invited to participate in the online questionnaire using the same means of invitation (e-mail). Therefore, all students received an email from the program administrator inviting them to participate in this study.

3.3.2 LINC Teachers

The participants for the second part of this study (question 2) were language teachers teaching LINC over a distance recruited from a distance LINC program in Ontario, all of whom were well versed in online and distance language teaching. They taught all different CLB levels in the program. All teachers taught both online and correspondence program options. They taught between 8 and 20 students, offering one hour for each student per week. In addition, these LINC teachers had various years of teaching experience in the program. Some had only taught for one year, others had been teaching in this program for more than five years. They also came from different ethnic backgrounds and withheld different levels of education. However, all teachers were members of TESL Ontario, a non-profit organization serving the needs of teachers of English as a Second Language and English Literacy Development. These teachers were located across the province of Ontario and taught ESL online or through the phone. All of these teachers received the same invitation email from their program administrator inviting them to participate in this study.

With regards to the follow-up interview, LINC teachers were recruited through the online teachers' questionnaire. They were kindly asked (using the last question in the questionnaire) to participate in a follow-up-interview conducted by the researcher and they had the option to agree or disagree.

3.4 Study Instruments

This mixed-method study contained quantitative and qualitative parts. The quantitative part was used to gather data on students' individual differences, and learning styles. This part involved two phases. Phase 1 statistically measured students' learning styles, and demographic factors using a modified PLSQ questionnaire. Phase 2 investigated the LINC teacher's perspective on the profile of students in the online LINC program. A questionnaire was sent to the program teachers to study their opinion of their students' individual differences and Learning Styles.

Both students' and teachers' questionnaires were designed and delivered online using the Canadian version of Survey Monkey in order to get automated responses. The procedure for distributing the questionnaire and gathering results followed the university ethics guidelines.

3.4.1 Students Online Questionnaire

The student questionnaire is an instrument designed to investigate online students' learning styles as well as other characteristics and demographic factors. This online questionnaire had two parts; Part A: 16 demographic questions, and Part B: 30 learning styles questions. Participants of this questionnaire required about 20-25 minutes to answer all questions.

3.4.1.1 Demographic Questions

The background questionnaire served as a vital part of this research as it allowed us to understand more about the historical background of the respondents and ensure a better understanding of respondents' response during the data collection. Also, the insertion of the

background questionnaire was to verify that the correct respondents are selected, as this matter would affect the reliability and validity of the data collected.

This part of the questionnaire included all the demographic questions, which aimed at identifying the sample's demographic information. It included questions about age and gender, CLB level, years spent in the LINC program, years of formal education, total years lived in Canada, in addition to opinion questions on the effectiveness of the online program. The questionnaire also included questions on students' satisfaction levels towards the program. There were also questions about the ease of use of the Learning Management System (LMS) tools used in the LINC program and other education technology tools that might have been used during the course of the class. It also included questions asking students to provide, in writing, reasons why they choose a distance language program. The demographic questions were designed to collect data on individual differences and other possible factors such as age and gender that may contribute to students' preference for the online classes. The other questions about the formal years of education and years lived in Canada were additional interesting factors to consider; since they may have a significant impact on students' technology competency level and willingness to try new ways/ methods (learning online).

3.4.1.2 Learning Styles Questions – PLSPQ

This questionnaire was designed using a modified version of the Perceptual Learning Style Preference questionnaire. The PLSPQ questionnaire, which was originally designed by Reid, 1987, was used to collect data on learning styles and preferences. It contained 30 statements that students needed to agree or disagree with. We modified the PLSP questionnaire in order to; a) simplify the language used in the statements to make more sense to students with lower language proficiency levels, and b) make it reference to today's learning environment (online

vs. classroom). The purpose of simplifying the statements was to make it easier for second language learners to understand and respond to each statement accurately. For example, in the original PLSPQ, one of the statements reads, “When the teacher tells me the instructions I understand better” and in our modified version, “I understand oral instructions (when the teacher tells me the explanation) better than written instructions (when the teacher writes the explanation)”. We also removed any references the PLSPQ made to a classroom in order to avoid confusing the students of being physically in a classroom.

Each of the 30 questions presented a statement that the students had to agree or disagree with. They could also choose to strongly agree, neither agree nor disagree or strongly disagree. As indicated in Appendix B, each of these statements then got assigned a number in order to calculate students learning styles and preferences. Amongst these 30 questions/statements, there were statements about visual learning, such as “I learn better by reading what the teacher writes on the board/screen”, “when I read instructions or explanations I remember them better”, or “I learn more by reading textbooks than by listening to teacher explaining”. Some other statements counted towards the auditory learning style and preference; for example “I understand oral instructions (when the teacher tells me the explanation) better than written instructions (when the teacher writes the explanation)”. Others counted towards the tactile learning style and preference. These included statements such as: “ I learn better when I make drawing as I study”. Statements that counted towards the kinaesthetic learning style and preference included ones such as: “I understand things better when I participate in role-playing." Finally, there were statements that counted towards the Individual and Group learning style and preference scores. For example, an individual learning style statement was: “When I study alone, I remember things better”; and a group learning style statement was: “ I get more work done when I work with other students”.

In the 30 questions/statements, there were 5 questions for each learning category (visual, auditory, tactile, kinaesthetic, group, and individual). For example, to find out the score on the visual learning style and preference, we added the scores from visual statements: 6, 10, 12, 24, and 29.

3.4.2 Teachers Online Questionnaire

This questionnaire aimed at investigating teachers' opinions on the learners' profiles of their online students in the LINC program. The questionnaire included a total of 14 questions and participants required about 10 minutes to complete the questionnaire. This questionnaire was designed with open-ended questions about the type of students enrolled in the online program option in terms of their profiles and learning styles, Appendix D contains a list of questions from the teachers' online questionnaire. This questionnaire included questions about the program option they currently teach, years spent teaching with the LINC program, the number of students they currently have, and the frequency of receiving new students. It also included questions about the kind of learners in the online program option, what is their profile, and what are their learning styles. We also asked the teacher to tell us which learning style would perform best and benefit more from the online program, their opinion on what should influence students' decision, and their recommendations regarding how to better direct students to the suitable delivery option. At the end of the questionnaire, we asked teachers if they would be interested in a follow-up interview with the researcher.

The questionnaire was designed using Survey Monkey, sent electronically by email and the responses were collected anonymously and electronically. The procedure for distributing the questionnaire and gathering results followed the university ethics guidelines.

3.4.3 Teachers Follow-up Interview

This part of the study was considered the qualitative phase of Part 2, which involved the LINC teachers. Participants of this part were teachers who expressed interest in the online questionnaire to participate in a follow-up interview with the researcher over the phone. This interview was semi-structured and aimed at gaining more insights on teachers' perspectives with regards to online students' individual differences and profiles. The interview had 15 questions and lasted between 20 - 40 minutes.

According to Ritchie and Lewis (2003), interview consists of a verbal interchange, which is the two-way communication between the interviewer and interviewee. In order to achieve an effective communication, many elements must be addressed during the interview; such as the techniques used by the interviewer to raise questions, the ability of the interviewee to pay the full attention during the interview, the capability of the questions being asked to raise the interviewees' interest and so on (Aljuadi, 2015).

During the interview, the researcher asked the teachers some open-ended questions about students' profiles and learning styles. Teachers were asked to elaborate on some of the questions that were previously asked in the online questionnaire. Examples of these questions were: "How long have you been teaching in the program?", "How do you deliver your distance classes?", "What kind of learners do you have in each program option?", etc. The complete list of the interview questions is included in Appendix E. The purpose of repeating these questions was to get a full story or opinion from these teachers since we could not associate the answers from the online questionnaire with participants. This means that we could not tell which teachers answered what as the online questionnaire was designed to be anonymous. In addition, we asked the teachers more open-ended questions about students' learning styles and factors that may

influence students' options, as well as if the ever made recommendation to switch program options.

They were also asked to talk in detail about the learning style (s) that they think may perform better in the online option. The focus of this follow-up interview was the kind of learners that teachers have in their online classes, and how the online option suits these students' learning styles. In addition, teachers were asked about the way they deliver their online classes and the tools they use to support their teaching.

Teachers were asked to give their verbal consent at the beginning of the interview and were informed that the interview was being recorded for the sake of qualitative analysis. The interview was recorded using a Voice Memos app called REKK on the researcher's phone. These recordings were then uploaded into the researcher computer in order to save them on a password-protected file.

3.5 Data Collection Procedure

This study was designed following the University of Ottawa guidelines. An ethic certificate was granted to this study (refer to Appendix F for ethics certificate). The invitation letters (for students and teachers) to these questionnaires were emailed to the LINC program coordinator, who sent them to both online LINC students and LINC teachers via email. All participants were first asked to give their consent to participate in the questionnaire. Then, they were able to proceed with the questionnaire and answer the survey questions online.

Prior to sending out the invitations to the study, we contacted the LINC program administrator and granted her permission to conduct this study with their students and teachers. We had a number of conversations with her, explaining the aim of the study, walking her through

the procedure of data collection and analysis, explaining the possible outcomes and benefits, and finally sharing all research documents, which included study proposal, research questions, research instruments, and ethics certificate. We were requested by the LINC program to make some changes to our instruments and collection procedure in order to protect the privacy of the program and participants. As requested, we amended the research documents and shared them with the LINC program. After she agreed to all our instruments and collection procedures, we proceeded with recruiting participants.

This study was designed with total transparency with participants, both students and teachers. That is they were made aware, before giving their consent, of the purpose of study, researcher name and contact, confidentiality and anonymity of the study, voluntary participation, and approximate time needed to complete the questionnaire.

3.5.1 Students Online Questionnaire

An invitation letter was created and sent to the LINC program administrator to share with their students. The LINC administrator shared this invitation with all online LINC students via email. In this letter, the researcher kindly invited all students to participate in the study by clicking on the questionnaire link that was at the end of the invitation email. The invitation letter is kept simple in order to enable second language learners to understand it and follow instructions. All information related to the risk and benefits of the study, as well as confidentiality and voluntary participation, was moved to the first page of the online questionnaire. When students first opened up the questionnaire link, they were directed to a page that gives a little more information about the study, including the purpose of study, researcher name and contact information, and confidentiality and anonymity. Students' consent was collected in the form of a Yes or No question: "Do you consent (agree) to

participate in this study?". If students agreed to give their consent, they were able to begin the questionnaire. However, if students did not give their consent, they were kindly thanked and the questionnaire was closed.

There were two parts to this questionnaire. Data on student demographics and individual characteristics were collected from Part 1: Demographic Questions. However, data on student learning styles and preferences were collected from Part 2: Learning Style Questions. At the beginning of each part, students were informed of the number of questions this part contained and the approximate time they needed to complete it.

The questionnaire was designed and delivered online to the students through their LINC program email accounts and the responses were collected anonymously and electronically. For that reason, the questionnaire was designed using Survey Monkey to get automated responses. The procedure for distributing the questionnaire and gathering results followed the university ethics guidelines.

3.5.2 Teachers Online Questionnaire

To gather data from LINC program teachers, an invitation email was sent through the LINC program administrator to all program teachers. In this invitation letter, the researcher shared with participants the purpose of the study, risks, and benefits, and well as some information about confidentiality and anonymity of participants. The researcher kindly asked teachers to participate in this study to help gather information about online students' profiles and learning styles. Teachers were given a link to access the questionnaire. In the questionnaire, their consent was collected in the form of a Yes or No question. If they agreed to give their consent, they were able to proceed and begin answering the questions. Otherwise, they were kindly thanked and the questionnaire window was closed.

The questionnaire was designed using Survey Monkey, sent electronically by email and the responses were collected anonymously and electronically. The procedure for distributing the questionnaire and gathering results followed the university ethics guidelines.

3.5.3 Teachers Follow-up Interviews

The qualitative part of this study involved follow-up interviews with the LINC program teachers who answered the online questionnaire and were interested in sharing their observations with the researcher. The aim of this step was to gain further insights into their perspective of students' profiles in the online program. Therefore, these participants were gathered through the online questionnaire.

The invitation to these follow-up interviews was sent via email to all teachers who shared their email address at the end of the online questionnaire. The researcher sent a generic email invitation to all these teachers, and each was asked to reply in order to schedule the interview time. When they replied with a specific time, the researcher sent some information about the interview, including some of the interview questions in order to help them prepare and reduce any unnecessary anxiety they may have towards the interview. The researcher also informed them that the interview was being recorded for the sake of qualitative analysis and to look for general trends among the interviews.

Data on students' profiles and learning styles were gathered through a series of open-ended questions that the researcher directed to the participating teachers. Their answers and recommendations were recorded in a notepad the researcher carried with her.

It is worth mentioning that the concept of learning styles was clearly defined by the researcher at the beginning of the interview and discussed with all teachers. Therefore, all teachers had a shared understanding of the concept and were given the same examples.

3.6 Data Analysis Procedure

3.6.1 Students Online Questionnaire

3.6.1.1 Demographic Questions

Demographic questions from the students' questionnaire were analyzed based on common themes and factors that appear among students' answers. The data analysis feature of Survey Monkey was used to look at the summary tables and graphs in order to learn more about our population sample. First, the population sample's CLB level, age group and gender were analyzed. Then, information regarding employment, education level, country of origin, years spent in Canada, and years spent studying ESL was gathered. As illustrated in Table 1, a table was created to gather all this demographic data in order to ease the analysis procedure.

Table 1

Online LINC Students Demographic Information Gathered Table

Student	Program Option	CLB Level	Gender	Age	Origin	Employment	Education	Years lived in Canada	Years studied English	Reason of choice
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

All this data was then carefully analyzed to look at common age groups, education levels, gender and employment. By looking at the data in this table, we could see the kind of students

enrolled in the online program, reasons why they opt for distance online program option, and some background information about them. Since we were interested in studying our population sample, we then looked at how many of these students are females and how many are males, as well as how many of them are educated and currently employed, etc.

3.6.1.2 Learning Styles Questions

When analyzing the learning styles questionnaire, the scores students assigned to each question/statement were manually calculated to find out their learning styles. For the 30 questions/statements, each one got assigned a numerical value. For example, if a student strongly agrees with a statement, then it gets a score of 5, if she/he simply agrees with it then it's a score of 4, neither agree or disagree gets a score of 3, disagree gets a score of 2, and finally, strongly disagree gets a score of 1. See Appendix C for the scoring sheet. All the scores were then added up and multiplied by 2 to find out the final learning style score. Table 2 illustrates the number of statements assigned to visual and tactile learning styles and the calculation for the final score or total.

Table 2

PLSPQ Self-Scoring Tool for Visual and Tactile Learning Styles.

SCORING SHEET

VISUAL	TACTILE
6 - ___ 10 - ___ 12 - ___ 24 - ___ 29 - ___	11 - ___ 14 - ___ 16 - ---_____ 22 - ___ 25 - ___
TOTAL_____X 2 =_____(SCORE)	Total__x 2 = _____(Score)

In order to then find out which learning styles are considered major and which are considered minor, the scores of each learning style were compared to the total number of scores given. For example, any score between 38 and 50 was considered a major learning style. See table 3 for major and minor learning style scores indicator.

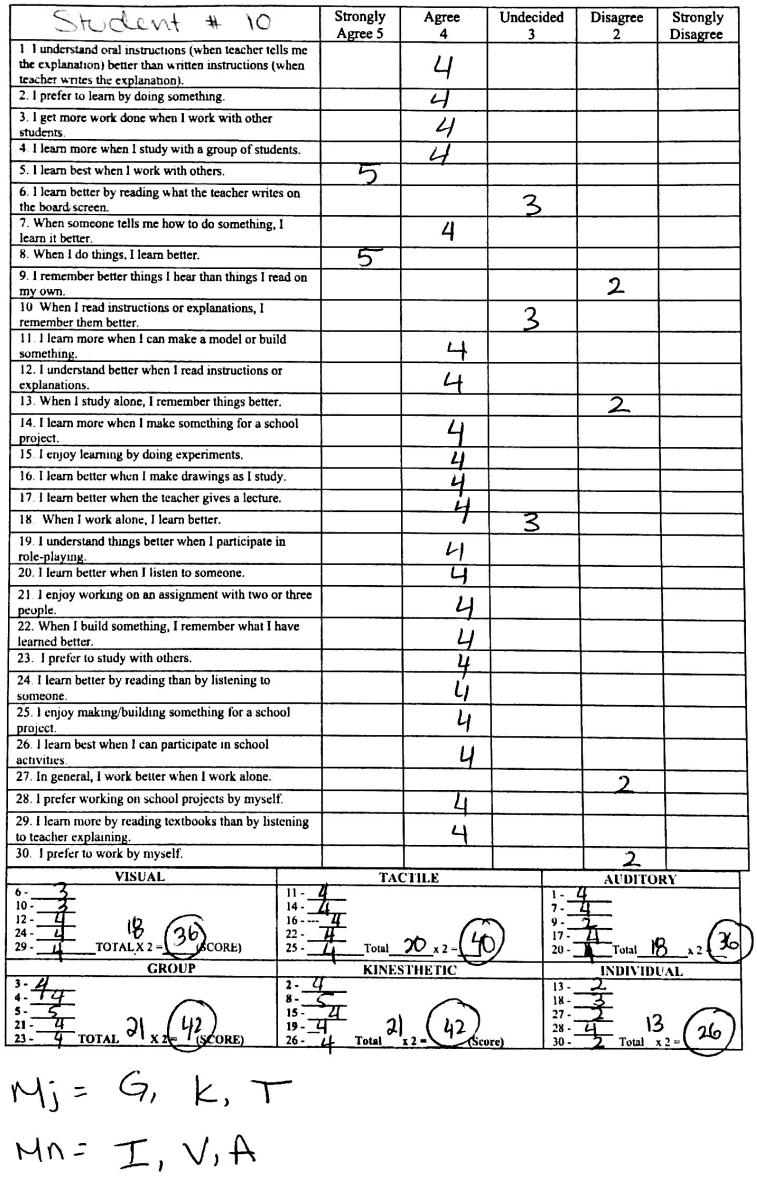
Table 3

PLSPQ Self-Scoring Tool - Major, Minor, and Negligible Learning Style Scores

MAJOR LEARNING STYLE PREFERENCE	38-50
MINOR LEARNING STYLE PREFERENCE	25-37
NEGLIGIBLE	0-24

Figure 4 illustrated a sample of a manual learning style calculation for student 10. First, all the scores from the online questionnaire were manually copied to this table shown in figure 4. Then, all the scores from each learning style category were added up. For this student, it was found that the visual learning scores added up to 36, tactile added up to 40, auditory added up to 36, kinaesthetic added up to 42, group added up to 42, and individual added up to 26. According to the learning style score from table 3, we could conclude that this student's major learning styles are tactile, kinaesthetic, and group, whereas her/his minor learning styles are visual, auditory, and individual. Therefore, it was safe to say that this student had a kinaesthetic and group learning styles.

After calculating all students learning styles, two more columns, named 'Major Learning Styles' and' Minor Learning Styles' (see Table 4) were added to Table 1: *Online LINC Students Demographic Information* to record every learning style from each student.



Student # 10	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly Disagree
1. I understand oral instructions (when teacher tells me the explanation) better than written instructions (when teacher writes the explanation).		4			
2. I prefer to learn by doing something.		4			
3. I get more work done when I work with other students.		4			
4. I learn more when I study with a group of students.		4			
5. I learn best when I work with others.	5				
6. I learn better by reading what the teacher writes on the board screen.			3		
7. When someone tells me how to do something, I learn it better.		4			
8. When I do things, I learn better.	5				
9. I remember better things I hear than things I read on my own.				2	
10. When I read instructions or explanations, I remember them better.			3		
11. I learn more when I can make a model or build something.		4			
12. I understand better when I read instructions or explanations.		4			
13. When I study alone, I remember things better.				2	
14. I learn more when I make something for a school project.		4			
15. I enjoy learning by doing experiments.		4			
16. I learn better when I make drawings as I study.		4			
17. I learn better when the teacher gives a lecture.		4			
18. When I work alone, I learn better.			3		
19. I understand things better when I participate in role-playing.		4			
20. I learn better when I listen to someone.		4			
21. I enjoy working on an assignment with two or three people.		4			
22. When I build something, I remember what I have learned better.		4			
23. I prefer to study with others.		4			
24. I learn better by reading than by listening to someone.		4			
25. I enjoy making/building something for a school project.		4			
26. I learn best when I can participate in school activities.		4			
27. In general, I work better when I work alone.				2	
28. I prefer working on school projects by myself.		4			
29. I learn more by reading textbooks than by listening to teacher explaining.		4			
30. I prefer to work by myself.				2	

VISUAL	TACTILE	AUDITORY
6 - 3 10 - 3 12 - 4 24 - 4 29 - 4 TOTAL 18 X 2 = 36 (SCORE)	11 - 4 14 - 4 16 - 4 22 - 4 25 - 4 Total 20 x 2 = 40	1 - 4 7 - 4 9 - 3 17 - 4 20 - 3 Total 18 x 2 = 36
GROUP	**KINESTHETIC**	**INDIVIDUAL**
3 - 4 4 - 4 5 - 5 21 - 4 23 - 4 TOTAL 21 X 2 = 42 (SCORE)	2 - 4 8 - 5 15 - 4 19 - 4 26 - 4 Total 21 x 2 = 42 (Score)	13 - 2 18 - 3 27 - 3 28 - 4 30 - 1 Total 13 x 2 = 26

Mj = G, K, T

Mn = I, V, A

Figure 4: PLSPQ - A sample of learning style manual calculation for online LINC Student 10

Table 4

Two columns 'Major Learning Styles' and 'Minor Learning Styles' added to Table 1 - Online LINC Students Demographic Information

Major Learning Style						Minor Learning Style					
V	**A**	**T**	**K**	**G**	**I**	**V**	**A**	**T**	**K**	**G**	**I**

In a case the learning style scores were very similar, we suggested figuring out which learning style scores were higher and placed this student a little higher on that specific learning style rank. However, if all learning styles were found to be major learning styles, then we could suggest that this learner does not have a specific learning style preference.

3.6.2 Teachers Online Questionnaire

This questionnaire was analyzed based on common themes and factors teachers mentioned regarding their students learning styles or individual characteristics. We used Survey Monkey data analysis feature to study the summary tables and graphs in order to learn more about our population sample. We first looked at all participants and recorded the number of years they have been teaching in this LINC program. We also looked at the data we gathered regarding the delivery of their distance online classes. Then we looked at the learning styles of their students and we analyzed and compared the data to the total number of participants. For example, out of 11 participants, 5 said that online students are individual learners. This gave us the percentage of our population, approximately 45%, who believe that online students have an individual learning style.

Since most of the questions were open-ended, teachers took the time to write out their responses. Therefore, the analysis of these questions was based on common themes and variables. For example, when teachers were asked to list out all possible factors that may contribute to students' choice of online learning, many of these factors were mentioned a few times. We looked at each factor and counted how many times it was mentioned. The factor that was mentioned the most was considered the number 1 variable with regards to teachers' perspective.

3.6.3 Teachers Follow-up Interview

Analysis of these follow-up interviews was done using thematic analysis as well (Guest, MacQueen & Namey, 2011). We identified common patterns amongst teachers and then we compared these patterns to the teachers' online questionnaire to see if these few teachers agreed with the general population perspective. We started by looking at each interview questions and identifying themes that appeared in the answers. Then we looked at how teachers explained these themes and provided some verbatim. All interview notes and recordings were carefully analyzed in order to record all themes and opinions teachers may have about the students and their learning styles.

We analyzed the questions related to students' learning styles a little differently since not all teachers had the same kind of learners. However, thematic analysis was also used in these kinds of questions. We then counted the number of teachers with very similar opinions and then the teachers who had contrasting opinions.

Chapter 4: Analysis And Results

4.1 Overview

This chapter presents the results of both the quantitative and qualitative analysis conducted in order to answer the research questions and achieve the objectives of this study. The results for the first research questions are presented first and followed by the second and third research questions. Both results from students' and teachers' perspectives are presented in this chapter. Furthermore, findings from the qualitative part of this study are presented using a thematic analysis. After analyzing the data, many interesting qualitative observations were made. These qualitative observations are later discussed in chapter 5.

Data Collected

This data was collected through two phases. The original plan for data collection was followed carefully as indicated in the Methodology – Data Collection Process section. However, during the data collection step, we ran into a few difficulties. We proceeded with distributing the invitation letters that contained links to the online questionnaires to all LINC students and teachers. The LINC program coordinator was responsible for sending out these invitation letters to protect students' privacy. However, after a few attempts of sending these letters, we only received participants from the online option. We ended up with 33 participants from the student group and 12 participants from the teacher group. Out of those 33 students, 27 successfully answered all survey questions, and the rest have either skipped all questions or randomly answered, "agree" to all questions. This means that 27 responses would be valid and therefore could be taken into consideration for this study. The rest of the responses were discarded since they were noisy data.

With regards to the teachers' questionnaire, the invitation to the online questionnaire was sent to about 45 active teachers. As said, 11 of these teachers have answered all questions and 6 expressed an interest in the follow-up interview. This means that for the first part of the teachers' study, we have 11 participants and for the second part, the follow-up interviews, we have 5 participants.

As a result of this dilemma, we decided to shift the focus of study to concentrate on the online student. The design of this study is to focus on students and then confirm findings by investigating teachers' opinions. We have analyzed the 27 responses from online students and compared findings with the 12 teachers' observations.

4.2 Research Question 1 – Online Students' Profile

The results discussed in this section attempt to answer the first research question,

What does the online learners' profile in the LINC program look like, in terms of;

a. Demographic variables (factors); and
b. Perception of learning styles and preferences.

4.2.1 Student Online Questionnaire

This questionnaire was divided into two parts; Part A: Demographic Questions, and Part B: Learning Styles Questions. Out of the 33 students who participated in this study, only 20 completed both parts. The breakdown of the other 13 students is as follows: 6 students did not answer both parts, and 7 students only answered Part A. To clean up this data, and to eliminate any noisy data, we decided to eliminate the 6 students who did not answer a single question in the survey. The other 7 who only responded to the demographic questions, only their responses

from Part A were considered as they were eliminated from Part B. As a result, 27 students answered Part A and 20 students answered Part B.

4.2.1.1 Demographic Questions

Twenty-seven (27) online students participated in the online demographic questionnaire. This analysis provided us with background information about our population sample. Understanding this background information gave us insights on the online students' profile. It also helped us understand the kind of learners in the online LINC program. Our findings confirmed that all students who participated in this study were enrolled in the online program option, a factor that we needed to confirm for the validity of the study. Since this study investigated online learners, it was important to place a question to confirm that all participants were indeed enrolled in the online program. These results also showed that the majority of the students had CLB levels 3, 5 and 6 (see figure 5). To be precise, 33.33% of the sample size was in level 5, 22.22% in level 3, 11.11% in level 4, 18.52% in level 6, and 14.81% in level 7. With regard to their age, the majority of students were between 25 and 35 years old, or 40 to 50 years old (37.04% and 33.33%, respectively). Only about 18% were between 35 and 40 years old and 11% between 50 and 70 years old. The majority of students participated in this questionnaire were females (20 out of 27); therefore there was only little input from the males' side of the population. In addition, we asked the students about the number of years they have resided in Canada, and the majority 37% (10 students) said between 1 and 3 years. However, there was about 18% (5 students) that has lived in Canada between 3 and 5 years and another 18% (5 students) for more than 10 years. In addition, 12 out of the 27 students has been studying English for less than a year and about 8 of them between 1 and 2 years, as illustrated in Figure 6. This

does not only include the years spent at this distance program, but rather learning the language in any other programs.

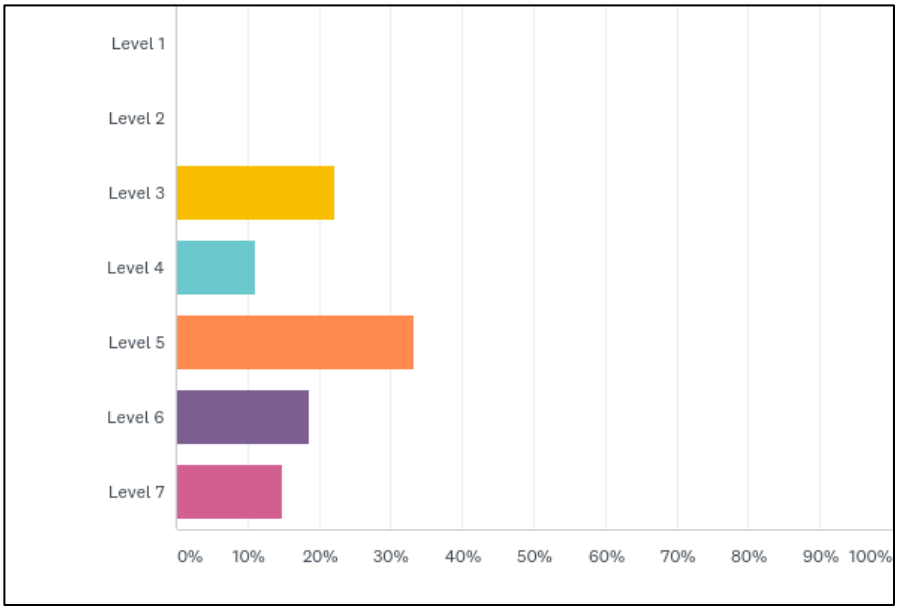


Figure 5: Online LINC students' CLB levels

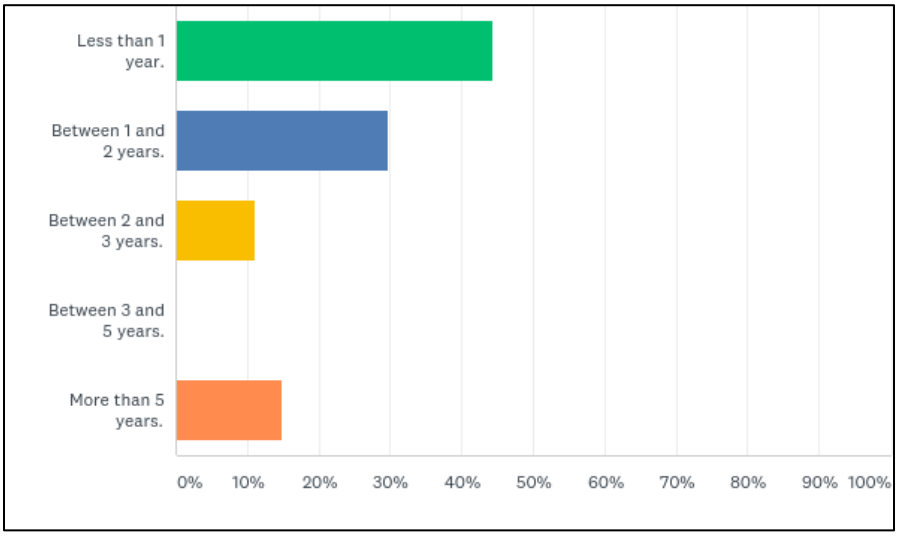


Figure 6: Number of years online LINC students spent studying English

With regards to years of formal education, and as illustrated in figure 7, most of the students in this study had a university degree. However, there are few with only highschool or college diplomas. Five (5) of the students had graduate degrees. The education factor will be further discussed in chapter 5. Also, most of the students were workers; 9 students worked full-time, 9 students worked part-time, and the rest were either studying or currently unemployed.

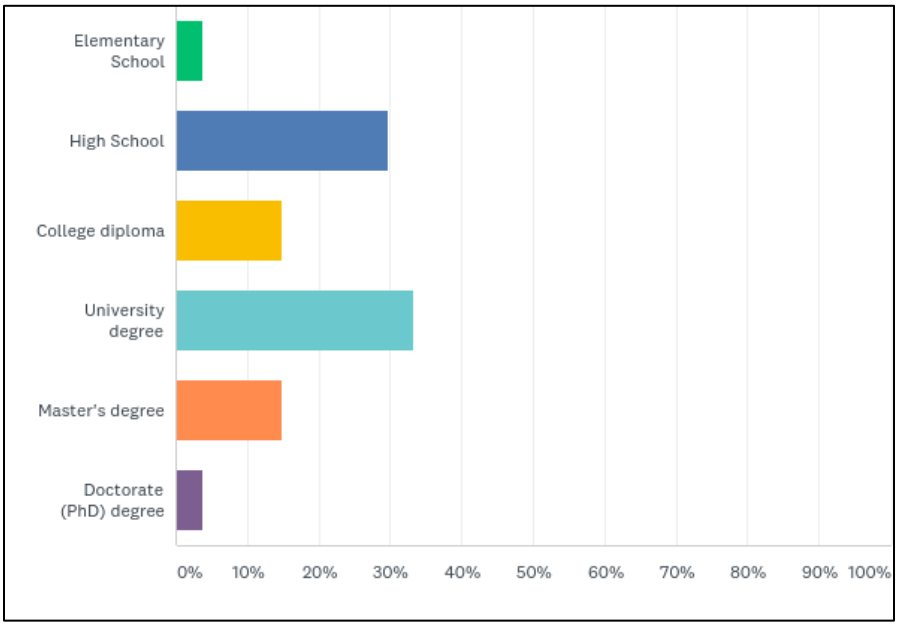


Figure 7: Online LINC students' formal education levels

One of the questions we asked the students was concerning the reason behind their choice of the current program option (online). As seen in figure 8, the majority of students answered that they chose this option because it better suited their at-home situation. Only a few students mentioned that they believe they could learn better if they studied online. However, a number of students said the reason was that they could not attend an English school, and this was mostly because either there was no school nearby or their situation did not allow them to physically attend school. Some students expressed their reasons in writing:

"I have a disability and had surgery. I cannot go to an English school or attend the classes because of my condition. I wrote a paragraph and it got published at school, if you want to read it I can Email you Miss If you please send me your Email. Thanks"

"I am newcomer in Canada. I work full time to support my family. Therefore I am taking online classes to improve my language skill"

ANSWER CHOICES	RESPONSES	
I believe that I can learn better if I choose online classes.	11.11%	3
I took online classes before and I liked them.	3.70%	1
I wanted to try something new.	3.70%	1
I learn better with a computer.	0.00%	0
I have friends who are in the online class and they like it.	0.00%	0
It suited best my life situation (at home situation).	44.44%	12
I cannot go to an English school.	18.52%	5
The English program administrator recommended the online option to me.	3.70%	1
My teacher told me to pick the online class.	0.00%	0
I don't know.	3.70%	1
I don't study English online.	0.00%	0
Other (please specify)	11.11%	3
TOTAL		27

Figure 8: Online LINC students' answers to why they choose to opt for online language learning program.

Also, few students had mentioned that the reason they chose this program option was that a program administrator or a teacher had recommended this option for them. According to the students, sometimes they opt for one of the options and then their teacher recommends them to switch into the other option. Also, students might have felt uncomfortable with the option they chose and requested to switch modes.

In addition, most students expressed their satisfaction with the program option they were in and were willing to recommend it to a friend. This means that those online students liked the online program and were enjoying their learning experience

Therefore, as a result of this demographic questionnaire, we know that our population sample is mostly middle-aged female, educated and working part or full-time. They had lived in Canada for a few years. They chose to study English online because they believed that it is more convenient and suited their at home situation.

4.2.1.2 Learning Style Questions

As mentioned previously, out of the 27 participants, 20 answered the learning style questionnaire. These included students 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15, 16, 18, 19, 20, 22, 23, 24, 25, and 26. All of these students also answered the demographic questions from Part A, which means that we had some background information about them. To illustrate our findings, we gathered both demographic and learning styles data in table 5 to try to find any correlation or relation that may exist between students' age, gender, previous education, etc. and their learning style preference.

Using Reid's PLSPQ to measure students' learning styles and based on the results, the majority (12) of the 20 participants favoured kinaesthetic and auditory styles (students 4, 5, 6, 7, 9, 13, 15, 16, 20, 22, 23, 24) as illustrated in yellow rows in table 6. Such results echoed finding from Peacock (2001), Isemonger & Sheppard (2003), and Naserieh and Anani Sarab (2013). In addition, based on our results, most of these online students were also group learners, which means they preferred learning with a group rather than individually. Unlike Kim and Kim (2014) who found that the majority of students favour visual learning style, in our case, there were only a few students who favoured the visual learning style. In fact, based on this questionnaire, the

visual learning style was considered a minor learning style for most of the students. Many of them also had other minor styles such as individual learning style.

Table 5

Online LINC Students Demographic and Learning Styles Information - Collected from Online Questionnaire

Student	Option	CLB Level	Gender	Age	Origin	Employment	Education	Years lived in Canada	Years studied English	Reason of choice	Major Learning Style						Minor Learning Style					
											V	A	T	K	G	I	V	A	T	K	G	I
3	O	3	M	40-50	Mexico	F-T	H.S	5-7	<1	Suits life situation	V				G			A	T	K		I
4	O	4	F	25-35	Honduras	P-T	College	7-10	<1	Can't go to school		A	T	K			V				G	I
5	O	5	F	25-35	India	Not Working	University	5-7	1-2	Suits life situation	V	A	T	K	G	I						
6	O	5	M	35-40	China	Not Working	H.S	7-10	<1	Can't go to school	V	A	T	K	G	I						
7	O	7	F	40-50	India	P-T	Master's	>10	2-3	Suits life situation		A		K	G		V		T			I
8	O	5	F	35-40	Venezuela	P-T	University	7-10	<1	Suits life situation			T	K	G		V	A				I
9	O	5	F	40-50	Pakistan	F-T	College	3-5	<1	Working F-T		A	T	K	G		V					I
10	O	5	M	35-40	Iraq	F-T	University	1-3	<1	Can't go to school			T	K		I	V	A				
11	O	6	F	50-70	Iran	Not Working	PhD	1-3	1-3	Trying something new						I	V	A	T	K		
13	O	4	F	25-35	Sri Lanka	Leave	H.S	1-3	<1	Suits life situation	V	A	T	K	G	I						
15	O	5	M	25-35	Afghanistan	Studying	Elementary	1-3	2-3	Can't go to school		A		K			V		T		G	
16	O	6	M	40-50	Turkey	Not Working	University	1-3	2-3	Can't go to school	V	A	T	K	G							I
18	O	7	F	25-35	Sri Lanka	F-T	Master's	3-5	>5	Suits life situation		A			G	I	V		T	K		
19	O	7	F	35-40	Pakistan	P-T	University	>10	>5	Suits life situation		A			G		V		T	K		
20	O	7	F	25-35	India	Studying	Master's	1-3	<1	Suits life situation		A		K			V		T		G	
22	O	6	F	40-50	Mexico	P-T	College	3-5	1-2	Administrator recommended it	V	A	T	K	G	I						
23	O	6	F	25-35	India	P-T	University	1-3	<1	Suits life situation		A		K		I	V		T		G	
24	O	6	F	35-40	Mexico	F-T	University	3-5	1-3	Suits life situation		A	T	K	G		V					
25	O	5	F	50-70	Kazakhstan	P-T	University	5-7	>5	Can't go to school	V		T	K	G			A					
26	O	3	F	40-50	St. Vincent	F-T	H.S	>10	>5	I don't know	V		T	K		I		A			G	

Table 6

Online LINC Students Who Favour Kinaesthetic and Auditory Learning Styles are indicated in Green

Student	Option	CLB Level	Gender	Age	Origin	Employment	Education	Years lived in Canada	Years studied English	Reason of choice	Major Learning Style						Minor Learning Style					
											V	A	T	K	G	I	V	A	T	K	G	I
3	O	3	M	40-50	Mexico	F-T	H.S	5-7	<1	Suits life situation	V				G			A	T	K		I
4	O	4	F	25-35	Honduras	P-T	College	7-10	<1	Can't go to school		A	T	K			V				G	I
5	O	5	F	25-35	India	Not Working	University	5-7	1-2	Suits life situation	V	A	T	K	G	I						
6	O	5	M	35-40	China	Not Working	H.S	7-10	<1	Can't go to school	V	A	T	K	G	I						
7	O	7	F	40-50	India	P-T	Master's	>10	2-3	Suits life situation		A		K	G		V		T			I
8	O	5	F	35-40	Venezuela	P-T	University	7-10	<1	Suits life situation			T	K	G		V	A				I
9	O	5	F	40-50	Pakistan	F-T	College	3-5	<1	Working F-T		A	T	K	G		V					I
10	O	5	M	35-40	Iraq	F-T	University	1-3	<1	Can't go to school			T	K		I	V	A				
11	O	6	F	50-70	Iran	Not Working	PhD	1-3	1-3	Trying something new						I	V	A	T	K		
13	O	4	F	25-35	Sri Lanka	Leave	H.S	1-3	<1	Suits life situation	V	A	T	K	G	I						
15	O	5	M	25-35	Afghanistan	Studying	Elementary	1-3	2-3	Can't go to school		A		K			V		T		G	
16	O	6	M	40-50	Turkey	Not Working	University	1-3	2-3	Can't go to school	V	A	T	K	G							I
18	O	7	F	25-35	Sri Lanka	F-T	Master's	3-5	>5	Suits life situation		A			G	I	V		T	K		
19	O	7	F	35-40	Pakistan	P-T	University	>10	>5	Suits life situation		A			G		V		T	K		
20	O	7	F	25-35	India	Studying	Master's	1-3	<1	Suits life situation		A		K			V		T		G	
22	O	6	F	40-50	Mexico	P-T	College	3-5	1-2	Administrator recommended it	V	A	T	K	G	I						
23	O	6	F	25-35	India	P-T	University	1-3	<1	Suits life situation		A		K		I	V		T		G	
24	O	6	F	35-40	Mexico	F-T	University	3-5	1-3	Suits life situation		A	T	K	G		V					
25	O	5	F	50-70	Kazakhstan	P-T	University	5-7	>5	Can't go to school	V		T	K	G			A				
26	O	3	F	40-50	St. Vincent	F-T	H.S	>10	>5	I don't know	V		T	K		I		A			G	

Therefore, based on our data, we could conclude that the majority of the online LINC students from this study were auditory and kinaesthetic learners. Moreover, the majority of these online students favoured group learning style more than individual learning style. As illustrated in figures 9 to 13, most students agreed on the statements that feature group learning styles. A lot of them either disagreed or were neutral about the statements related to individual learning. This

means that not all online learners were individual learners, but rather some enjoyed learning in groups. The concept of individual vs. independent will be discussed in chapter 5.

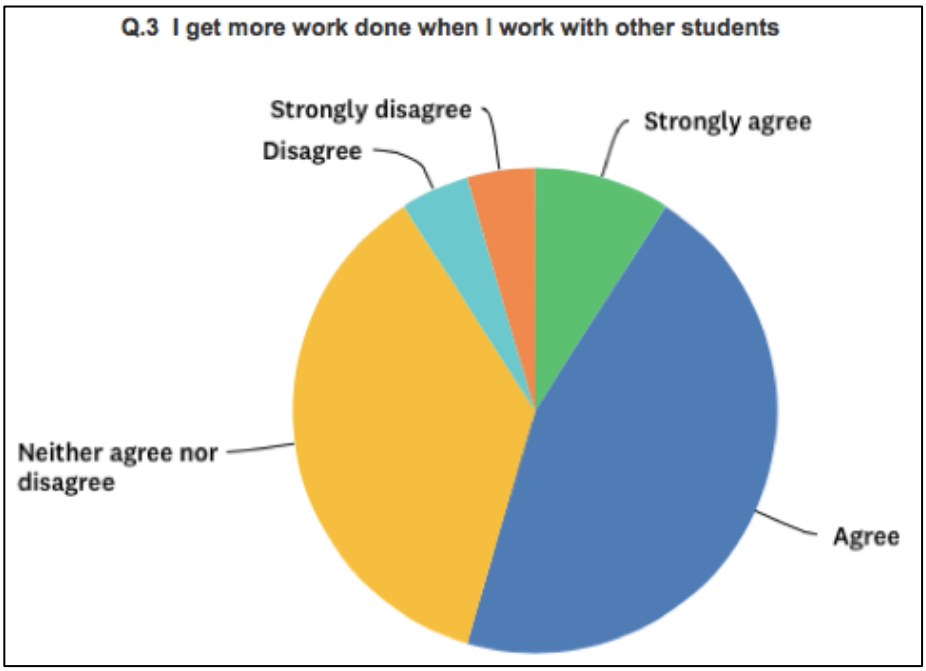


Figure 9: Online LINC students' answer to the learning style question " I get more work done when I work with other students"

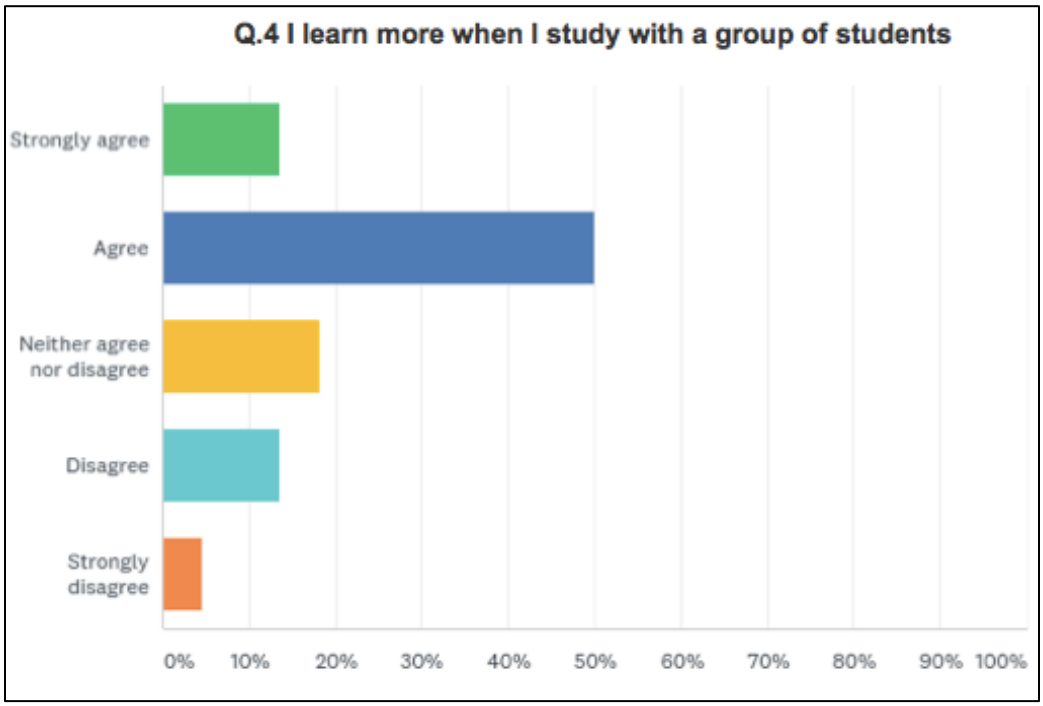


Figure 10: Online LINC students' answer to the learning style question "I learn more when I study with a group of students"

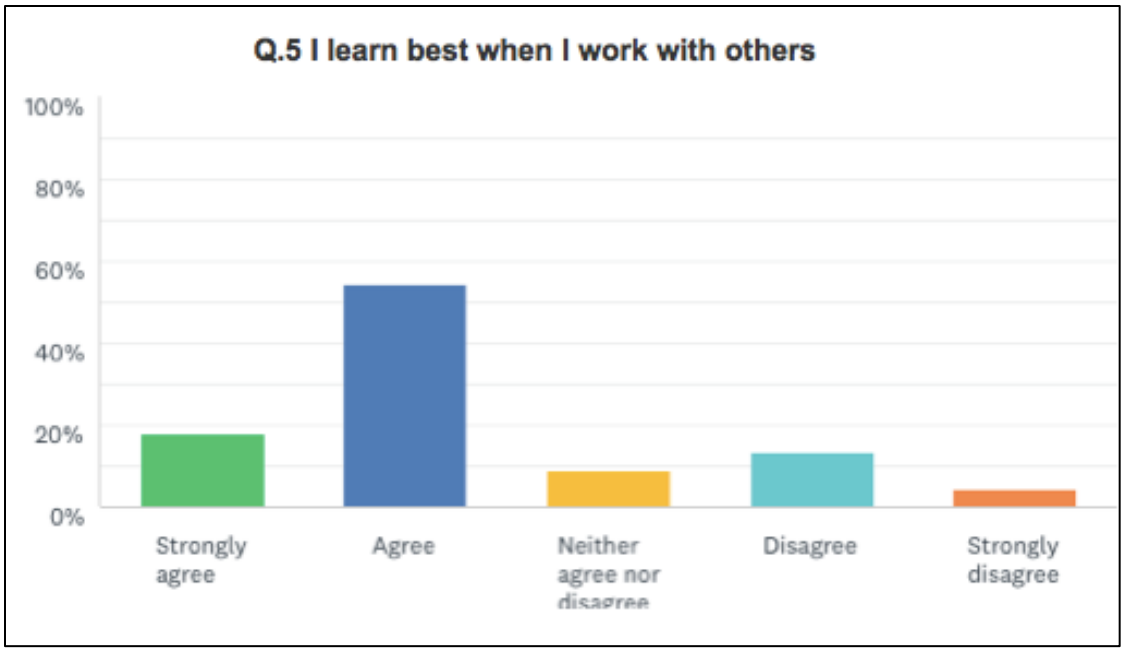


Figure 11: Online LINC students' answers to the learning style question " I learn best when I work with others"

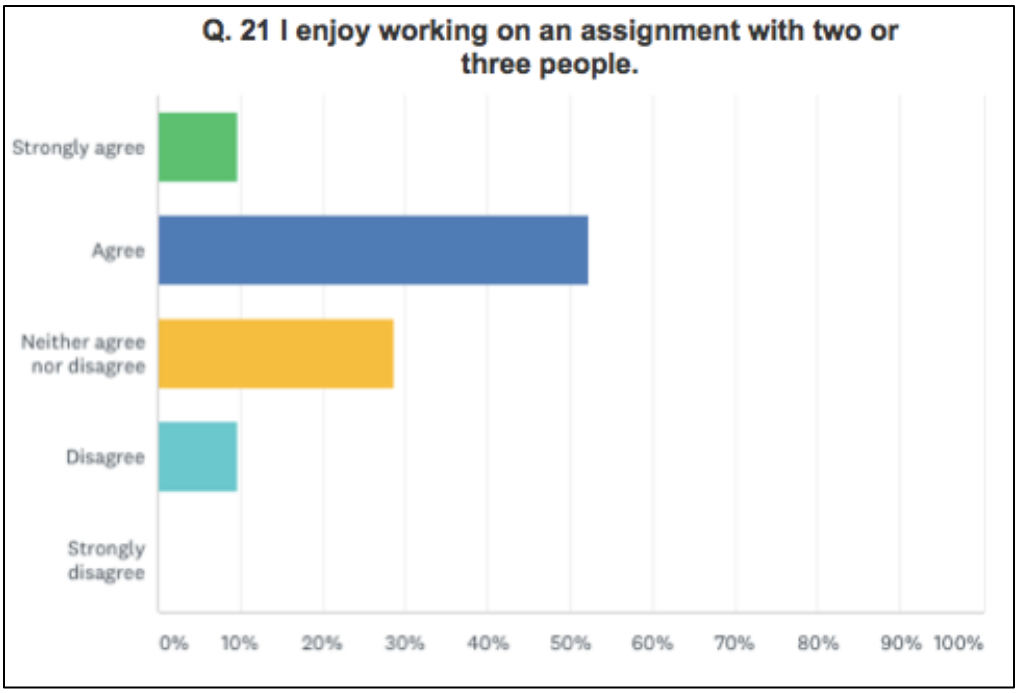


Figure 12: Online LINC students' answers to the learning style question, "enjoy working on an assignment with two or three people"

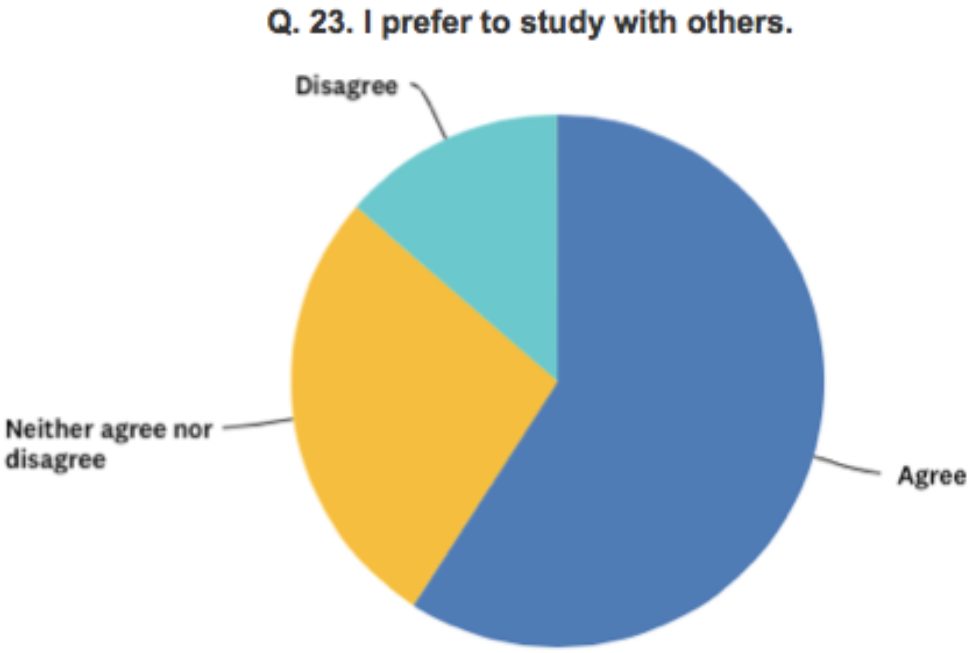


Figure 13: Online LINC students' answers to the learning style question, "I prefer to study with others"

Therefore, the majority of online learners who participated in this study prefered working with a group of students.

Furthermore, when asking these 20 students about why they chose to study English online, or enroll in a distance language program, the majority said because they could not attend schools or that this option suited their life situation better. Again, the majority being female learners, this makes a lot since some of them had young children to take care of.

From the data collected, and based on our analysis, there was no clear relationship or correlation between learning styles and students' choice of the online program. However, there might be a minimal correlation between the kinaesthetic and auditory learning styles and the use of technology in learning. However, this analysis provided us with information about online

learners, including their demographic background, education and employment, and learning styles. It was very difficult to claim significant relations between the learning styles and the demographic factors, due to the small empirical data sample. Although the results showed that online learners were both auditory and kinaesthetic, it was hard for us to conclude that those online students chose to study online because they were auditory and kinaesthetic learners. However, it makes sense that auditory and kinaesthetic learners enjoyed learning using the online LMS (book) since they could hear a lot of audio recording, the teacher's voice, watch videos and presentations and complete their exercises by doing tasks on the computer. The online LINC program includes all these kinds of inputs that may benefit auditory and kinaesthetic learners a little more than tactile and group learners. To sum up, we might say that students picked the delivery mode that better suit their life situation and circumstances rather than their learning style or preference. Factors influencing students' choice to opt for online classes will be discussed in chapter 5.

4.3 Research Question 2

The results discussed in this section attempt to answer the second research question,

What is the teachers' perception of their online learners' profile, in terms of;

a. Demographic variables (factors); and

b. Perception of learning styles and preferences.

4.3.1 Teacher Online Questionnaire

This questionnaire aimed at answering research question 2. Teachers' opinions on online learners' profiles and learning styles were investigated. We were also interested in learning about what they think influences students' decisions on the choice of an online program. The analysis of this online questionnaire lead us to find out: 1) if LINC teachers can profile their own online students and perhaps tell us more about their learning styles and preferences, and 2) if they share the same understanding of learning styles as their students. The questionnaire included a total of 14 questions about their way of class delivery, tools they use, the kind of students they have, and their perspective on the learning style that best suits online learning.

A total of 11 teachers participated in this online questionnaire, all with different years of experience. Some teachers had been in the program for over 10 years and some less than 5, however, the majority of teachers had been teaching in this program for between 5 and 10 years (See figure 14). There seemed to be a general trend in teachers' answers, and most teachers seemed to agree on the kind of learners they had in their online classes. The number of students each teacher had in her/his online class varied. The majority of teachers had between 8 and 20 online students.

According to this study, about 73% of teachers said the usually get new students in the online class.

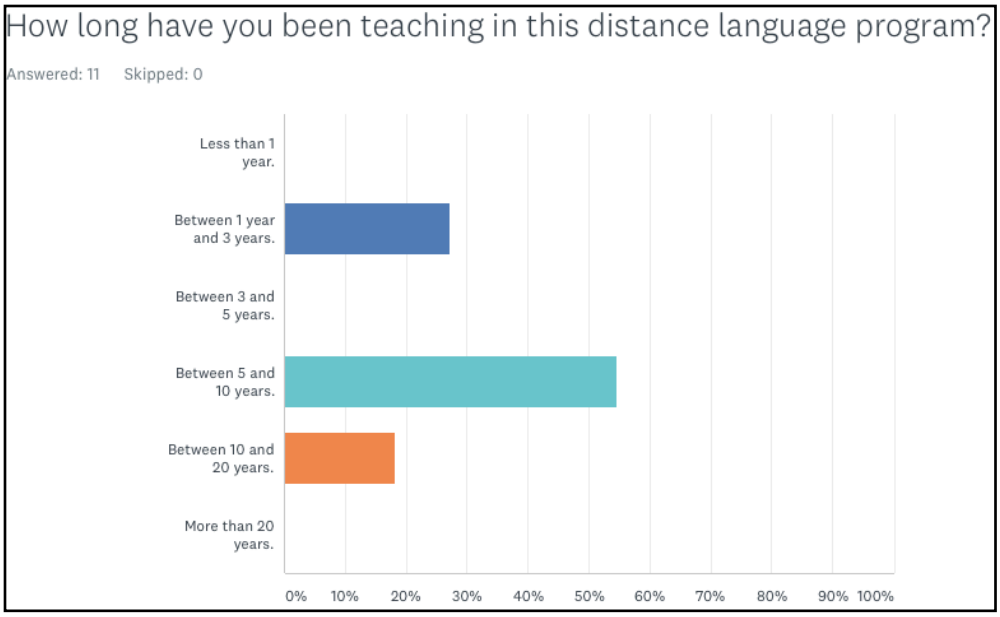


Figure 14: LINC teachers' years spent teaching at this distance LINC program.

In addition, almost all teachers delivered their distance online classes using Skype. However, some teachers chose to use the phone in addition to Skype, but the majority used both. As illustrated in figure 15, teachers preferred using Skype video-conference for face-to-face connection with their students, and based on their answers, students seemed to enjoy Skype video-conference as well.

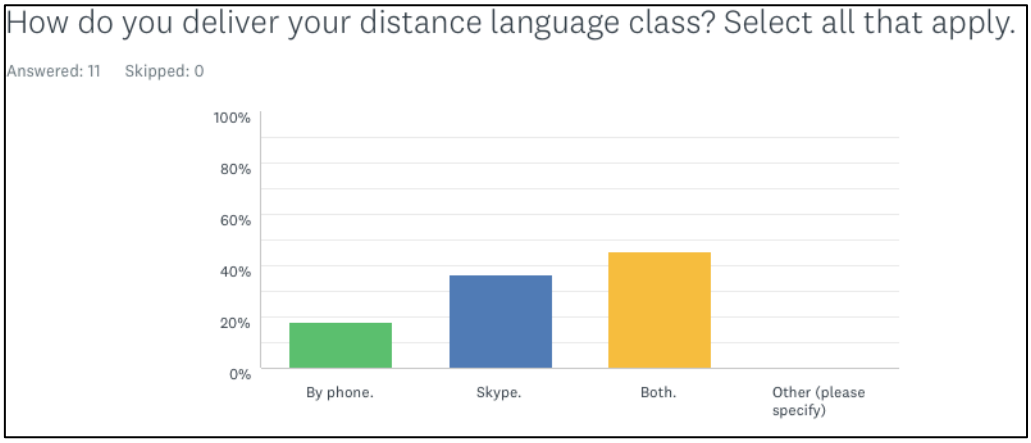


Figure 15: How LINC teachers deliver their distance classes.

4.3.1.1 Online LINC Students' Learning Styles

With regard to students' learning styles, we asked the teachers to profile their online students based on individual characteristics and learning styles. To give them more guidance and help them understand the context, we provided them with an explanation of the concept and a description of each learning style. According to figure 16, most teachers said that online learners were visual and independent learners, 36% said they were visual and 45% said they were individual learners. Only few teachers said that they were auditory learners. Absolutely no teachers said that online students were kinaesthetic or group learners in this questionnaire. However, teachers' perspective contradicted students' perspective of their learning styles. Students self-assessed their learning styles and according to them, they favour kinaesthetic and auditory learning styles.

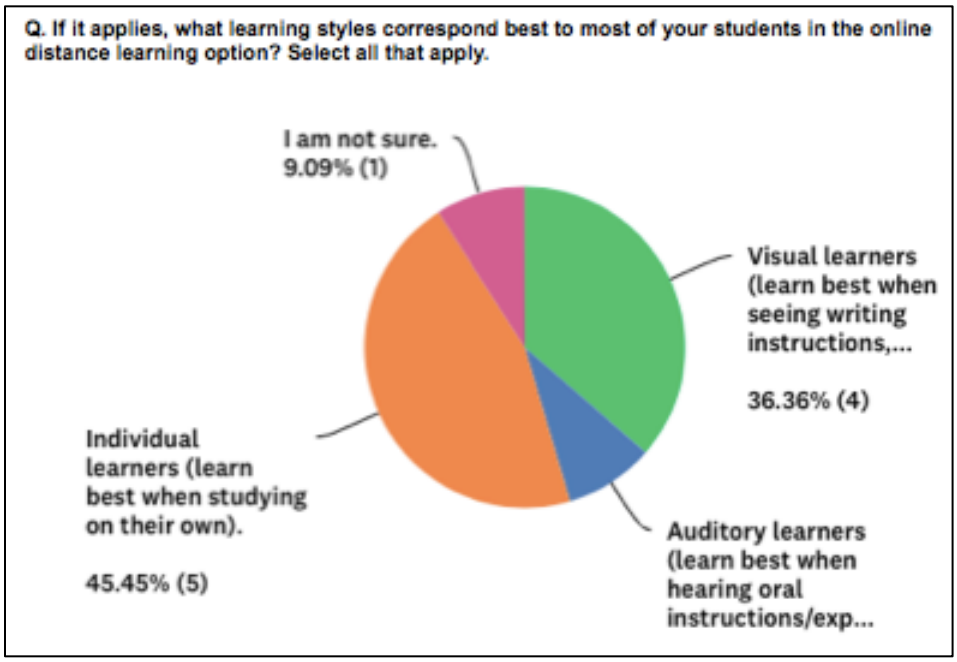


Figure 16: LINC teachers' perspective on the learning styles of their online students.

According to figure 16, teachers perceived online students as having individual learning style. However, this doesn't mean that online students preferred working 'alone' as opposed to 'collaboratively' with other students, but rather 'they can do it'. It is the idea of preference versus ability. Teachers referred to individual learning style as the ability rather than preference, since the preference does not seem to be a realistic criterion in their work environment. In other words, teachers were saying that online students had the ability to work alone, which doesn't mean that was their preference.

Since the LINC program also offers correspondence distance classes as well, teachers couldn't help it but compare online students to correspondence ones. Correspondence students also received their weekly instructions over a distance by phone or Skype, but the only difference is that they had their material in a book as opposed to online. This means that they did not have to use the computer to access their material. Although the number of correspondence students in

the LINC program was very small relative to the number of online students, most of these teachers taught both kinds of students (online and correspondence). According to figure 17, teachers perceived their online students as having autonomous and visual learning style.

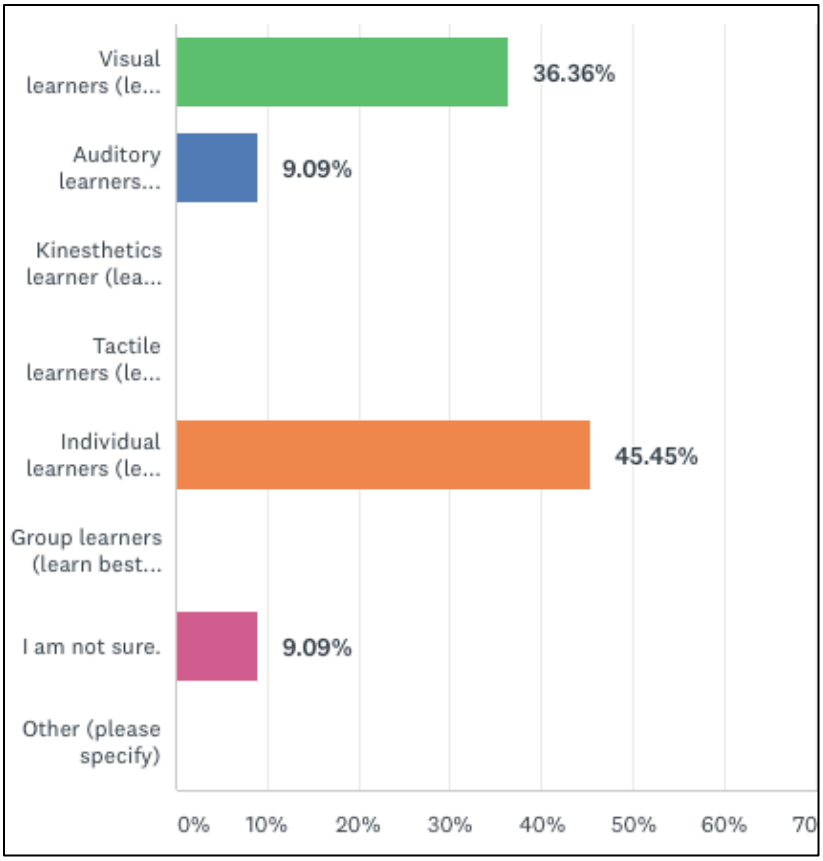


Figure 17: LINC teachers' perspective on the learning styles that corresponded best to most of their online students.

Figure 17 illustrates teachers' perspective of online students' learning styles. However, it also represents the ideal styles for online learning according to teachers. When teachers were asked about the learning styles or preferences they think best suited their online students, most of them responded with both visual and independent learning styles. Although this matched their perspective of the kind of learners online students are, which indicated that their students were in

the correct program given their learning style, yet this response seemed to be based on the nature of the online classes.

With teachers' answers regarding the learning styles of their students, we started to see a trend in their observations and opinions. Teachers seemed to be convinced that online learning is good for both visual and independent students. Although they were given other learning style options to select from, and they had the ability to select multiple styles, still 45% of them said visual and 45% said independent learning style (see figure 18).

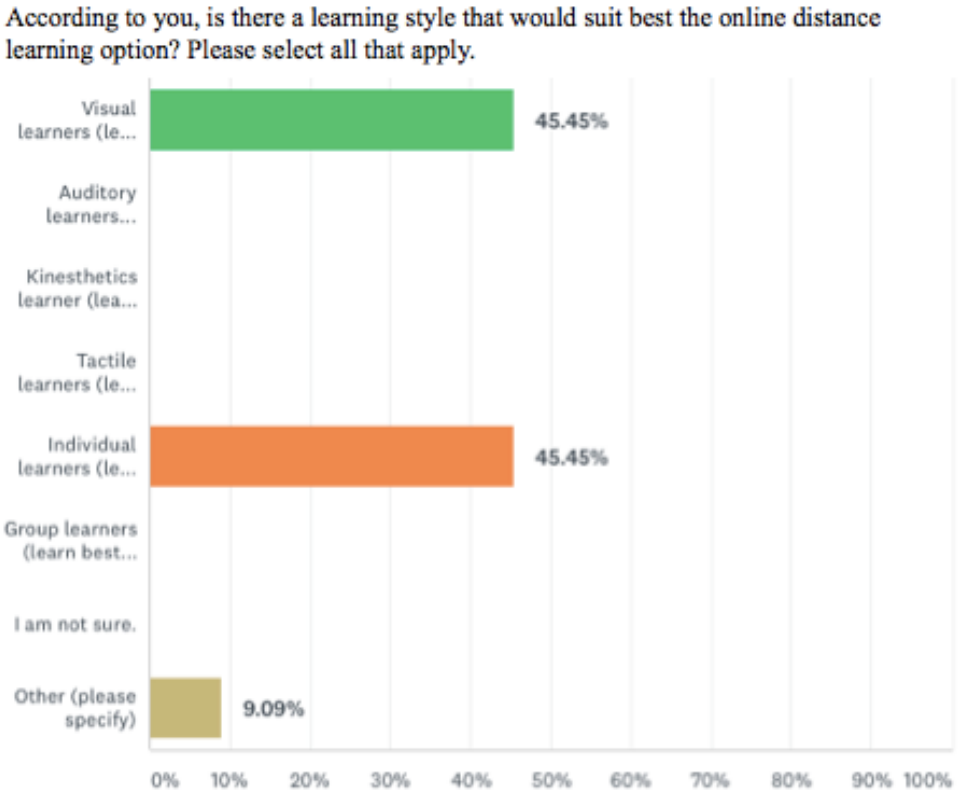


Figure 18: LINC teachers' perspective on the learning styles that would suit best their online students.

Therefore, according to teachers, most online students were visual and independent, and those are the best suiting learning styles for that delivery option.

4.3.1.2 Factors Contributing to the Choice of Online Learning

Based on the teachers' questionnaire, students in different program options may have different learning styles or preferences. However, it was interesting to investigate the reasons why students chose to opt for each program option. We examined possible factors that may contribute to students' choice of online learning. Was it their learning style and preference what made them opt for their program of choice, or is it something else?

We placed a question in the teachers' online questionnaire in order to investigate the factors that may have influenced students' choice of program option. The answers we got were very interesting. Most teachers think that not only learning styles contributed to students' choice or success in the program option, but rather other factors such as technology literacy and availability. The majority talked about technology skills, computer literacy, and convenience. Here are some of the teachers' answers when asked them about the factors that may have contributed to students' decisions of choosing online or correspondence.

> "It mostly depends on the level of computer knowledge and skill, and also the availability in the household."
>
> "Convenience is the most important factor when choosing online learning"
>
> "They cannot attend a physical classroom because their schedule does not permit, they have children in the house, they have no transportation."
>
> "Computer literacy level access to internet how they are comfortable learning, so perhaps age"
>
> "Time, work schedules, transportation, weather, children, dependent family members are some of the factors that may influence the students' decision"
>
> "Family life and availability of technology"

We will later see if the follow-up interviews confirm these findings.

We also asked teachers about the factors that they think may influence students' decision of studying a language at a distance. In other words, why did students decide to enroll in a distance or online program instead of attending language classes that may be offered in their community and at convenient times. Most teachers said that time and convenience were two big factors contributing to students' decisions. Since all of these learners are adults, almost all of them are parents and the majority are working either full-time or part-time. It is difficult for parents to find time to go to school when they have to work to provide for their children. Also, some teachers mentioned that for some students, living in a rural area is what motivates them to study at a distance. In some areas, there are no language classes nearby, which makes it difficult for students to attend schools.

"availability, work schedule"

"time available and convenience"

"computer literacy"

"Students rarely get one-on-one time from a teacher when in a crowded classroom"

"they cannot attend a physical classroom because their schedule does not permit, they have children in the house, they have no transportation"

"access to computer or computer support and or literacy"

"Time, children access to a classroom"

"Family life, technology and confidence"

These comments seemed to provide evidence that perhaps factors other than learning styles and preferences seemed to influence students' choice of studying language remotely, which completely support findings from the student group. Some of these comments tell us why some students choose to opt for the online option; for example one-on-one student-teacher interaction, convenience, technology, work schedule, and family life.

The last point we wanted to explore was whether teachers impact students' choice of program options. That is, can teachers move students from one option (correspondence) to the other (online), and if so, why. In order to gather that kind of information, we asked teachers if they ever recommended students to change their distance learning choice, i.e. asked them to switch from one option to the other. The 11 teachers who participated in the questionnaire agreed that they have recommended students to switch options and they will continue to do so if they find that the chosen option is not suiting the student and affecting their performance. The majority said that they have recommended students to switch from the correspondence to the online. A lot of teachers expressed their preference for the online option since it is perceived to be more convenient and more accessible for teachers. The online option appears to be more convenient for teachers because; a) all the material is presented online on the LMS, and teacher could share her screen to guide students, b) the majority of the homework is autocorrected by the LMS, c) teacher ability to video chat with the students, d) easier for students to send completed homework by email, etc. It is also accessible for teachers because they don't have to carry the book with them all the time, and also they can provide students more resources and extra

exercises using the Internet. Also, some teachers believe that technology skills are so important for settlement in Canada, and therefore it is important for students to start learning to use computers, even if challenging. Therefore, some of these teachers recommend students to switch to the option that is more convenient for both parties. Here are some comments we collected from the online questionnaire;

> "yes, I recommended correspondence students to switch to online because having some computer skills is important for their life and work in Canada"
>
> "Using Skype has several advantages. I can share the screen and show them pictures of new vocabulary. I can also show them how to use their computer, i.e. send an email, send a picture or share a file, look up for information on Google"
>
> "Yes, for ease and the plethora of extension / extra activities that exist online"
>
> "Yes. Mostly the correspondence students have been requested to change over to the online option as it makes learning a better experience for them. I use "screen sharing' option a lot, so it is easier if both of us are on the same page"
>
> "Lack of exposure to English, a student wanting daily interaction"
>
> "Yes. Usually, it is correspondence online. Sometimes it is clear that they are just unfamiliar or afraid of technology. I show them (using screen share on Skype) what it looks like and how to use it and many switch over"

To conclude, the open-ended questions from this online questionnaire allowed us to gather very interesting data, which is worth investigating further in a follow-up interview. Teachers were invited at the end of the questionnaire to participate in a

follow-up interview done by the researcher, and 5 out of the 11 agreed. We contacted these teachers to conduct the interviews, and we analyzed the results in the follow-up interview section.

4.3.2 Teachers Follow-up Interviews

We conducted the follow-up interviews in order to further investigate teachers' opinions on the kind of students they have in each program option. Also, the answers we gathered from teachers' online questionnaire were very interesting and directed our attention towards other angles we didn't really think about. We wanted to talk to these teachers individually to gain further insights.

In analyzing interview data, common themes have emerged. Most teachers seemed to have a similar experience with identifying students' learning styles and preferences. Also, their description of the students they have in both options matched. They all pointed out similar students' characteristics. We analyzed the data from the interviews and we found that teachers focused more on students' general characteristics than specific learning styles. Teachers pointed out that it is difficult for them to identify students' learning styles over distance and also since they only talk to them for 30 minutes every week. Some teachers use a lot of visual aids and videos in addition to the written material presented to the students in their online modules. They believe that visual aids help students understand information.

In terms of the number of students, all participating teachers had only one or two correspondence students, and the rest were online students. This means that we have a lot of input about those online students. Most teachers have between 10 and 20 students, however, throughout the years, the number of students changes depending on the levels they teach.

Teachers usually start with a minimum of 8 students and then work their way up until they reach 20, which is the maximum number of students one teacher could have.

We had the pleasure of speaking to 5 teachers, from all over Ontario. Three of these teachers had taught in this distance program between 3 and 5 years, one has been teaching for 7, and one for more than 10 years. Hence, the information we gathered from these interviews spoke of program students throughout the years. Teachers were very honest and informative about their opinions.

4.3.2.1 Distance Class Delivery Method

In response to the delivery method question, three themes have emerged throughout teachers' conversations. These themes are; 1) teacher to student connection, 2) enhancing the learning experience, and 3) technology as a settlement skill.

- **Theme 1:** Teacher to Student Connection

When delivering their distance classes, whether it was online or correspondence, all teachers used Skype. Teachers said that Skype was the best way to communicate with both online and correspondence students. All of these teachers use video conference calls in order to get that face-to-face connection with students. One teacher said;

> "…we should see each other's faces, it is part of the conversation! … When we talk about idioms, if they are [not understanding], I switch to body language. A lot of that is carried over. They (students) don't forget that they can use hands, shoulders, and face if they don't have the exact word. Just use your first language and some body language and people will figure it out..". Teacher 4

Although, some students with minimal technology skills do not necessarily know about or have Skype accounts. However, these teachers always helped guide their new students in creating Skype accounts and showed them how to use it. From the teachers' point of view, this is done to improve communication and ease the process of learning for both parties.

There is one teacher that doesn't always use Skype, and that is because she had experienced connection issues with these tools. She mainly uses the phone to connect with her students and deliver classes. As she mentioned in the interview, she had tried to use other tools such as Google Hangout or What's App, however, the connection issue continued to be a problem. She still however, uses emails, YouTube, websites, and of course the LMS to deliver the material.

- **Theme 2:** Enhancing the Learning Experience

Skype is believed to be enhancing the language learning experience for students as well as the student – to – teacher relationship for these distance students. Teachers mentioned that the ability to share the screen with their students or open video has helped them explain concepts and get ideas across. When explaining words, or phrases, and when students have a hard time understanding, teachers quickly browse the Internet to find an image to illustrate the concept or phrase and share that with the student.

> " They progress faster when they can see the same thing you see…" Teacher 5
>
> "If they are on the computer and using Skype, everything becomes faster and easier. I can quickly type up a word and show them using the share screen feature… When students want to explain a phrase for me, even if they do not

know that word in English, they can use their language and quickly look it up on the Internet to find the translation or an image that could explain it to me…" Teacher 5

"Skype has positively impacted students' learning experience. Body language is very important when they don't have the right word…" Teacher 2

"We have a chatbox where I can spell a word for them or send them a link to a video.." Teacher 1

" I make them download a mobile app, so they can scan and take a picture of their handwritten work to send it to me, and then I mark it on pfd and I send it back to them" Teacher 2

Therefore, all teachers seem to agree that using Skype for those distance learners has positively impacted their learning experience. It made them understand concepts much faster and also get their point across easier.

- **Theme 3:** Technology as a Settlement Skill

Teachers strongly believe that all students should learn to use technology and improve their computer skills since it is becoming one of many important settlement skills in Canada. " We deliver online-based material…" one teacher said during the interview. All teachers had pushed their students to use various aspects of technology including Skype, websites, chats, emails, phone applications, online banking, etc. For them, even those who are in the correspondence option need to do everything through the computer. They still read the teacher's emails, complete some homework online, watch videos, write paragraphs, etc. The only

difference between online and correspondence is that one has their course material online and the other has it in a book. A teacher said during the interview;

> "…..even the correspondence students still did everything online, the only difference is that they like to have a book…" Teacher 4
>
> ".. Just because they are doing it with a book doesn't mean we are not using computers, they actually do more (technology) and they don't realize that…" Teacher 2
>
> "Computers are here to stay, and in this program, we teach life skills.." Teacher 3

4.3.2.2 Profiling Online LINC Students

When analyzing teachers' answers in these follow-up interviews, most answers provided a lot of information on students' characteristics and individual differences. Some teachers believed that it is not the learning styles that separate these students, but rather it is their demographics. The three most common themes with regards to students' profiles are; 1) age, 2) technology comfort level, 3) education levels and 4) stay at home parents.

The majority of teachers said that online learners are younger in age, more comfortable with technology, and have higher levels of education. Also, most of them are full-time workers or working part-time but they have families to take care of. They were described as being more excited about learning online since they never tried it; they are willing to test it out and try new things. For some, they already use technology in their daily lives, they have smartphones, they use online banking, they browse the Internet for news or entertainment, etc.

> "They learn faster because they have the visual aid in front of them" Teacher 5

"They are driven, they want this for work, citizenship certificate, school.." Teacher 4

"Students are excited about using technology and learning online. Many enjoy working on the computer and they know the importance of using computers" Teacher 3

Teachers continued to compare students from online and correspondence options. With regards to correspondence students' profiles, four themes appeared to be most common. These four themes are 1) older in age, 2) less comfortable with technology, 3) lower education level, and 4) low CLB level. Most teachers said that their correspondence learners either have lower education levels, and the majority are older in age, or they are afraid of using computers and have low technology skills. Most if not all have no access to computers. They are women that are dependent on their husbands or children when it comes to using the computer.

"They are usually the older students who used to doing school with pen and paper and they have a mental block about [studying on a computer]" Teacher 2

Teachers have mentioned that many correspondence students are very shy and afraid of using computers. They tend to be a little slower when it comes to understanding computer instructions. And, many don't even have access to computers.

" These students are not tech-savvy, and they are dependent on their husbands to operate on the computer" Teacher 5

"Some students cannot type, they don't understand keyboards or computer instructions. Others are afraid to even touch a computer.." Teacher 3

Some teachers also mentioned that some of their correspondence students are beginners and it is very difficult for literacy students to learn online. This either makes them choose correspondence from the start, or it makes the teacher recommend them to switch from online to correspondence. One teacher said that most of her students are stay at home mothers, with low education levels, and that they did not have time to study English.

> "Some of my students are females, and they come from social groups where women don't really have a lot of rights. When they first join the program, they are dependent on their husbands since their English is not very good…" Teacher 5

4.3.2.2.1 Online Students' Learning Styles

When teachers were asked if they perceive any differences between the learning styles of the online and correspondence students, about 80% of teachers said there was no difference in students' learning styles. This is because most of them were not able to clearly identify students' learning styles due to short class time. Teachers said that they are only with the student for 30 minutes a week, they are not physically together, and sometimes they only get the student for few months. Hence, it is very difficult to judge their learning styles. In addition, teachers mentioned that it is also difficult to assess learning styles remotely, they are not seeing the student face-to-face, and they cannot observe their behaviour when presented with any form of material.

Most teachers said that online students like to see things and listen more than read and write. They agreed that online learners are visual learners and auditory learners. They also mentioned that these online students are independent and individual learners.

> "Online students seem to enjoy videos, they heavily use YouTube" Teacher 4

> "A lot of my students said that they like the one-on-one with the teacher and they couldn't have gotten this much time with the teacher in a regular classroom" Teacher 2
>
> "Online students can learn faster if they have the visual aid presented to the,…" Teacher 5

Also some teachers said that those online students are a combination of learning styles, some like to read, others like to listen to a song, and some of them watch a YouTube video. Also, depending on the kind of task students are trying to do, they may prefer to learn with a different style.

> "Most of them do fine with all different teaching styles because they adapt to videos, they adapt to individual learning, they really can do any learning style" Teacher 2
>
> "There is not only one learning styles but rather they are a combination of many…" teacher 5

When asking teachers about the learning style that would benefit most from online classes, almost all of them said visual learners, traditional learners, and individual learners.

4.3.2.2.2 Reason for Opting for Online Language Learning

Teachers all agreed that the reason students choose to study in a distance online program is because it is more convenient for them. Most teachers are either full-time workers or taking care of young ones, their time doesn't allow them to attend classes every day and during working hours. In addition, some students live in a rural area, and distance learning to them is their only

way to connect and socialize with people. One teacher has mentioned that she has an elderly lady who lives in the countryside and she has no access to cars. For her, it is hard to even socialize with people. So, taking online classes is the only way to connect with the outside world, speak to a teacher, and share news.

There are also some students who want to study online because they are confident in their technology skills, so computers do not cause them any fear. They also see the convenience in attending online distance classes.

To summarize, the results we obtained from analyzing both teachers' online questionnaire and follow-up interviews about online students show that most of the online learners who participated in this study are visual and individual learners, and that the reason they choose the online distance program is because it suits their life situation better as most of them are unable to attend language classes because of working hours or at home responsibilities.

4.4 Research Question 3

The results discussed in this section attempt to answer the third research question, which is;

> How do students' and teachers' perceptions compare? What pedagogical recommendations can be made out of these results?

To answer our third research question, we need to compare data gathered from the teachers with data gathered from students with regards to their perception of learning styles and reasons for choosing an online program. First, let us re-state our findings from the students' online questionnaire. Based on our analysis, we know that the majority (12) of the participated online students (20) are Auditory and Kinaesthetic learners based on their answers to the questionnaire. We also know that they are mostly middle-aged female students, educated and working part or full-time. They have lived in Canada for a few years. They choose to study English online because they believe that it is more convenient to them and their families and it suits there at home situation. On the other hand, and based on our analysis from the teachers' questionnaire and follow-up interviews, most teachers believed that online students should ideally be visual and individual learners, and that they are mostly younger educated group of people.

From this analysis, we can see an agreement with regards to online student demographics. Both students and teachers have provided us with the same background information about online students. That is, online students are mostly younger in age, more educated, and more comfortable using the technology. However, with regard to learning styles, teachers' perception of online students' learning styles seems to contradict with students' perception of their own learning styles. Students said they are auditory and kinaesthetic learners

and teachers said they are visual and individual learners. This could be explained by the possibility that, when answering these questions, some teachers may have thought about the kind of material students get during the class (mostly visual material through the online LMS or YouTube videos). In addition, and based on students' questionnaires, most of these online students said that they are group learners, that they prefer learning with a group rather than individually. Again this result contradicts teachers' opinion since they said they are individual learners.

There seems to be a misconception regarding the definition of 'individual' learning styles. Students and teachers have contradicting opinions about this style. Teachers appear to use the term individual and independent interchangeably. As explained previously, the term individual refers to the preference of working alone as opposed to working in collaboration with others. When students refer to themselves as having a group learning style rather than individual, they are expressing their preference of working or studying with other students, or at least have contact online with a person or virtual tutor. However, when teachers described their online students as individual learners, they were asked during the follow-up interviews about their understanding of individual learning style. They explained that individual learners can work individually or independently. It is the autonomy that they are referring to. Though, this PLSPQ tool measures the preference of working alone or in a group but doesn't measure the ability to be an independent learner.

Given these results, we will discuss some pedagogical recommendations for both online LINC students and LINC teachers in the next chapter.

Chapter 5: Discussion

5.1 Overview

In this chapter, the results from the previous chapter are discussed and related to findings from the literature. The data gathered will be discussed with interesting examples from individuals. Qualitative data gathered from the follow-up interviews is also discussed throughout this chapter. In order to answer our research questions, the discussion is organized into six topics:

- Online LINC students' profile (demographic factors and individual characteristics)
- Online students' learning styles
    - From the students' perspective
    - From the teachers' perspective
- Teachers' role in online class
- Factors influencing students' learning style in online learning
- Factors influencing students' choice to opt for online learning
- Pedagogical recommendations

5.2 Online LINC Students' Profile

In order to address the first part of research question 1, *"What does the Online learners' profile look like, in terms of demographic variables (factors)?"* this study looked at the results of 27 online LINC students. A total of six themes were found to be interesting about our population sample; age, gender, formal years of education, years lived in Canada, and employment. Based on our findings, with regards to age, we can conclude that the vast majority of students enrolled in the online LINC program are young and middle-aged adults. Although

the program contains a few senior students, the majority is between the ages of 25 and 50. This can be explained by the idea that maybe most seniors tend to be traditional learners, and may have never been exposed to online learning. Their technology and computer skills may be limited, and this can explain why there are not as many seniors in the program as young adults. This same observation was found in other studies in the field such as Morris and Venkatesh's (2000) and Morris, Venkatesh, and Ackerman (2005), who state that positive attitudes towards the use of technology in language learning is more common among young adults (aged 39 and younger). Second, with regards to gender, based on our results, we found that most of our sample students were females. This was somewhat expected since females are usually more likely to participate in voluntary surveys. According to Slauson-Blevins & Johnson (2016), when studying the gender difference in research participation in general, they found that women are more likely to share their opinion and disclose some personal information compared to men. These communication traits have been historically associated with women and femininity (Slauson-Blevins & Johnson, 2016). Women are socialized to exhibit more expressive and socio-emotional behaviours when it comes to communication and sharing point views, as such, women may generally be more willing to be research participants.

Other factors investigated in this study are formal years of education, number of years lived in Canada, and number of years spent studying English. The majority of the participants have at least a university education, which makes our newcomer population sample educated. In fact, a good number of these students have higher education degrees such as Masters and PhD. Perhaps, this may have contributed to their decision to pursue formal language training over distance. This finding supports results from Viriya and Sapsirin (2014)'s study which shows that factors such as gender, length of time abroad, field of study, level of education and

age are related to differences in learning styles. The number of years lived in Canada is an interesting factor to investigate. The reason why it was included in the demographic questions is because it might explain students' comfort level with using technology and adapting to Canadian education system. As most of the students are parents, they most likely have children in schools that are used to learning with technology. Perhaps their children's technology skills have somewhat influenced their parents' use of educational technology. For example, a parent who has a child in middle or highschool, might have a good background knowledge of technology used in Canadian education systems and would be more willing to try this type of instructions.

Finally, with regard to employment, we found that almost all of our students are employed. Young and middle-aged adults are most likely to be employed, part-time if not full-time. They are at the stage where work responsibility and family care are number one in their lives. Yet, learning English and working towards fully integrating into a new society is an absolutely important matter for newcomers (Lam, 2019), especially that most of them have been living in Canada for less than five years. Their basic language levels may get them through their daily tasks; however, they are still aiming to improve their language skills. This might be the reason why they chose to study English as part-time online.

Therefore, we can conclude that those online LINC students participated in the study are young or middle-aged adults, employed, and most likely parents. Also, the majority of these students are highly educated and have been living in Canada for less than 5 years.

5.3 Online Students' Learning Style

It is considered challenging to investigate online or distance learners, especially in second-language context. As Blake points out, distance language learners tend to respond only to

emails that directly relate to their own academic progress or grade (Blake, 2009). In our case, not all LINC online learners participate in our study because they tend to only read and reply to emails that come from their teachers. To these learners, anything directed from the program or invitation to participate in a survey is useless and not worthy of their time. Language abilities can also influence students' decisions to participate in things such as voluntary surveys.

The majority of participants from this part of the study are enrolled in LINC levels 4, 6 and 7. This can be due to the language ability of higher-level students as they are more likely to understand instructions written in their second language and be able to comprehend survey questions. Lower language proficiency level students may be more careful in participating in surveys that come from other sources than their language teacher. They might not understand the importance of participating in such a study or afraid to say something they should not say.

The learning style questions were designed to gain further insights on students' perspective of their learning styles.

5.3.1 Students' Perspective

To investigate the students' perspective on their learning styles, the PLSPQ was administered to the participants and the data collected was statistically analyzed by referring to the scoring sheet as in the PLSPQ. Based on our results, we can conclude that the online student learning style can be identified using the appropriate tool or measurement instrument. This supports findings from Lee et al (2016) study, which states that students' learning styles could be clearly differentiated. However, learning styles are not exclusive of each other, which means that the four learning styles are positively associated and that individuals are likely to simultaneously exercise a range of learning styles during a language learning process (Lee et al, 2016). This is seen true in our study as well. Not a single student expressed a single learning style; in fact, most

of them have a number of major and minor learning styles. For example, student's 19 major learning styles are kinaesthetic, auditory and group, and minor learning styles are visual, tactile and individual. In other words, students seem to combine a number of learning styles when approaching a language-learning task. In addition, as Lee et al (2016) argue, the dominance of certain styles may vary from one person to another. Our findings show that not all online learners have the same major and minor learning styles, but rather that a student's dominant learning style may vary depending on demographic factors.

From the student online questionnaire, we found that the majority of online students' identified themselves as auditory and kinaesthetic learners. According to Lee et al (2016), someone with a kinaesthetic learning style has a preference for physical experience - touching, feeling, holding, doing, and practical -hands-on experiences. These students will use phrases such as 'let me try', 'how do you feel?' and will be best able to perform a new task by going ahead and trying it out, learning as they go. This finding echoes other research results in the field of second-language English learning. Studies such as Peacock (2001); Isemonger and Sheppard (2003); Ong, Rajendram & Yusof (2006); Naseriah and Anani Sarab (2013); and Lee et al (2016), who used the PLSPQ instrument to measure the learning style of hundreds of English learners in Hong Kong, Korea, and Iran. These studies found that the majority of students in EFL settings favour kinaesthetic and auditory learning styles. All of these studies, except for Lee et al (2016), investigated the learning styles of second-language learners in a regular classroom or blended setting. Lee investigated the correlation between learning style and technology application factors in a computer-based setting. Lee found that there are positive correlations between technology application and visual, auditory, and kinaesthetic styles. This is also seen as pattern for the participants in this study. In our case, we found that kinaesthetic and auditory

styles associate with the use of computer-based language learning. The association between visual learning style and the use of technology appears to be weak in our study. Therefore, we cannot conclude a positive correlation between the visual learning style and the use of technology in a language learning setting.

Our results also show that most online learners appear to favour group-learning style more than individuals. This came as a surprise since the online distance environment is based on individual learning. Online students almost always work individually in completing their tasks. The group work opportunities are very limited in this online class. In fact, as argued by Blake (2009), it is very difficult to conduct group activities in distance language classes. Even with the advanced teleconferencing tools available, due to sound delays and gaps in fluidity, group activities cannot be carried out in the same way as with face-to-face traditional classes. These online LINC students, who expressed to be in favour of the group learning style, may indeed suffer from being isolated and miss the experience of collaborating with other learners. Perhaps, online language learning is not an ideal learning environment for these group learners, as they cannot benefit from socializing and collaborating while learning.

The effectiveness of online language learning can be affected by a number of factors such as teacher's style, attitude, and experience in incorporating appropriate technology applications. It can also be affected by student-related factors such as: attitude towards technology use in language learning, technology competency level, personality, and other individual characteristics such as age, gender and learning style. Studies in the field such as: Morris & Venkatesh, 2000; Morris, Venkatesh, & Ackerman, 2005; Ong & Lai, 2006; Yeung, Taylor, Hui, Lam-Chiang & Low, 2012 found a positive relationship between age and gender and the use of computer technology in language learning. However, our results couldn't predict any correlation between

students' learning style and their age and gender. Our population sample encompassed various age groups and most of them are between the ages of 25 and 50. Although most of the participants are female, this does not indicate any relationship between gender and learning style.

Other factors such as previous knowledge and learning experience or social circumstances may indeed influence the way students express their learning style. In addition, students' previous exposure to different instruction styles may impact their perception of their preferred way of learning, per se. Some studies such as Mestres, 2006 and Lee et al, 2016 argue that factors such as personality can be attributed to one's perspective of their learning style. Some learners are independent-type of people; they like to take control of their learning. Those individuals have a good characteristic for independent learning, and they tend to do better in individualized learning environments. Online learning is characterized by giving the learner control over their learning process. The online learning environment benefits independent learners more than dependent learners. Online students, especially in the LINC context, are given material and instruction to complete tasks. They are given a full week to complete their language learning tasks, so they need to take charge of the way they approach and achieve their weekly goals. This is a trait the LINC program teachers try to build in their online students. Teachers believe that students need to be independent learners in order to learn and adapt to Canadian society. If they know how to learn, they can learn anything they want.

As Lee et al (2016) argue, not all learning styles were strongly associated with students' preference for using technology in a language learning setting. In fact, as she explains, "tactile learning style may not have a significant bearing on students' application of technology for language learning" (Lee et al, 2016, p.1042). This is also true for our study. We found that an extremely low number of students responded with 'strongly agree' to statements that describe

tactile learning styles. In fact, when asking teachers about their correspondence students (those who prefer having a book instead of using the computer), unlike online learners, most of them mentioned the tactile learning style as a major learning style for those correspondence students.

When investigating the effects of learning styles on performance in computer-based language learning settings, we can suggest that it is completely dependent on the nature of the task. This is also supported by Cassidy (2004)'s finding, which suggests that the nature of a learning task may explain the effects of style on performance. For example, a visual learner is most likely to perform better on pictorially-based tasks than on verbal-based tasks (Rayner & Riding, 1997). In our case, kinaesthetic learners may perform well in an online setting because the nature of tasks in computer-based environments involves 'doing' and not just 'looking'. When completing a language task online, most students need to scroll up and down the page, click on some buttons, type words and navigate the Internet. The experience of completing exercises online makes those kinaesthetic learners feel involved in their learning process, as opposed to sitting back reading a text and listening to lectures. This supports findings from Moeller (2000), Federico (2000), and Ross (1998). Theses studies use Kolb's (1984) learning styles, which are accommodators, divergers, assimilators and convergers. Findings from these studies show that accommodator learning style is found to be the most dominant style in computer-based learning environments. Therefore, based on our results we can conclude that kinaesthetic and auditory learning styles are the most dominant learning styles among online LINC students. However, we cannot conclude there is a clear relationship between a student's learning style and performance in an online environment, but rather it is completely dependent on the nature of the task. This finding is supported by Gohar & Sadeghi, (2015), who reports that

there is no clear relationship between learning styles and academic achievement in a second-language learning context.

It was suggested that the student's learning styles could change over time as a result of exposure to different tasks. The original theory goes back to Rayner and Riding (1997)'s argument that Kolb's model of the developmental nature of learning suggests a potential change in learning style. For example, a student in an online distance language program might at first identify themselves as having auditory and tactile learning styles, but then, because they are exposed to so many visual inputs, they become familiar with this kind of instructions and perhaps their learning style might slightly lean towards visual style overtime.

5.3.2 Teachers' Perspective

To investigate teachers' perspectives of their online students' learning styles, first an online questionnaire was administered to 11 LINC teachers, then among these 11 teachers, 5 of them participated in follow-up interviews. Based on the data gathered from teachers through the online questionnaire and follow-up interviews, we found that teachers believe that online students are visual and individual learners. This finding supports Reid (1984) who found that visual and kinaesthetic learning styles appeared to be the most common in computer-based instructions. This perception contradicts with students' perspective. Students perceived themselves as kinaesthetic and auditory learners. Many students indicated having a group learning style as well. This contradiction between teachers' and students' perspectives can be due to three factors. First, the teachers' perspective may be a reflect of their hypothesis, which is only based on their individual opinion rather than empirical data. Second, due to the nature of online learning, which consists mainly of visual inputs and requires independent effort, teachers believe that students must have visual and individual learning styles. Third, teachers claim that it is

challenging to identify students' learning styles in a short time over distance. One teacher explained during the follow-up interview, "it is difficult to assess learning style because you are with the student for only 30 minutes per week, and sometimes you only get the student for a short period of time, few months" Teacher #2. Therefore, we can conclude that teachers believe that online learners have visual and individual learning styles. Only a few teachers said that online students are auditory, which contradicts students' perspective as most of them reported having kinaesthetic and auditory learning styles.

Therefore, teachers' perspective on online students being visual rather than kinaesthetic perhaps supports Kolb's learning styles framework or classification. According to Kolb (1984), learning styles consist of four styles: accommodators who learn through concrete experience; divergers who learn best through concrete experience and reflective observations; assimilators who learn through reflective observations; and convergers who learn through abstract conceptualization and active experience (Biabani and Izadpanah, 2019). As mentioned previously, due to the nature of online learning, teachers believe that students who learn by doing (i.e. kinaesthetic) or accommodators as Kolb names it, may be at risk in the online environment. This perspective supports Mestre (2006)'s findings that accommodators seem to be the most at risk in online learning environments. This is also supported by other studies such as: Simpson & Du, 2004; Holmes & Brown, 2000; and Rourke and Lysynchuk, 2000. However, our study show that kinaesthetic learning style is found to be the most dominant style among these online LINC students. Our finding supports Moeller (2000)'s results, which state that accommodator learning style is found to be the most dominant style in computer-based learning environments. In addition, studies such as: Federico (2000) and Ross (1998) found that assimilator and

accommodator learning styles tend to have more of a positive attitude towards the use of technology in instructions.

Profiling LINC learners was one of the themes investigated throughout this study. Teachers' perspective of the profile of their online students was an important aspect of our study. When teachers were asked about the kind of learners they have in the online program, they all agreed that online learners tend to be: younger in age, more comfortable with using computers, understand the importance of technology in daily life, more excited about trying new things in general and studying online in specific, and employed. Teachers also said that online students tend to be faster than correspondence students when it comes to understanding and grasping a specific concept. This is mainly due to the way they receive and view material. With the use of the Internet and Skype, the teachers can explain a concept to students in many ways. She can share her screen and show them a picture or can spell words in the chatbox. These features of online class helped put online students in advance in terms of accessibility and convenience of knowledge transfer.

Teachers were asked to comment on the learning style that best suits the online learning environment. In other words, based on their opinions, they needed to identify the learning style or styles that perform well and benefit the most from online learning. As a result, almost all teachers said that online environment is great for visual and individual or independent learners. Online learning focuses on presenting the material through text, graphics, illustrations, and video representations (Bonk, Wisher & Lee, 2004). This is ideal for visual learners as they can take their time learning through reading texts and see images. Teachers' perception with regards to the most suitable learning style for online environments agrees with Honey and Mumford (2000)'s observations and classification. According to their framework, learning styles are

classified into: activists, reflectors, theorists, and pragmatists (Mestre, 2006). Activists learn through problem-solving experiences, reflectors tend to be excellent observant, theorists are logical thinkers, and pragmatists are the ones who enjoy being involved in the application side of things. According to Honey and Mumford, reflectors and theorists tent to perform best in online environments. This is because online environments may provide them with more time to think about their tasks. Similar to LINC teachers' perspective which states that kinaesthetic learners may be at risk in online environments, Honey and Mumford argue that activists and pragmatists tend to enjoy problem-solving and hands-on aspects of learning, which make them ideal learners for face-to-face learning environments rather than online environments.

Online learning is also characterised by being an environment that suits independent learners. According to Chia (2007) and Lia & Gu (2011), computer-based material are considered valuable resource for self-regulated and out of class learning. All information is made available to the student at all times. It is the student's responsibility to organize their time and work towards achieving an outcome. Therefore, the independent type of learners would be ideal for the online environment.

Although teachers seem to use the terms 'individual' and 'independent' interchangeably, they mean different things. Throughout the follow-up interviews, teachers made reference to the online students having individual independent learning styles. There seems to be a misconception regarding the definition of individual style. Teachers seem to use the two concepts; individual vs. collaborative and individual as being autonomous to refer to the same style. An independent learner is one who can take charge or control of their learning process; they can set their own goals and work towards achieving them. It is, therefore, a learning strategy that is part of an independent and autonomy personality. However, an individual learner is one

who enjoys learning individually rather than with a group of people, hence it is considered a learning style or preference. Not all independent learners individual learners and vice versa. There can be an independent learner with a group learning style preference, which means that they can take full control of their learning process and goals but enjoy participating in group activities.

Unlike Corbin (2017) who categorizes students' learning styles into six categories: independent, dependent, collaborative, competitive, participant, and avoidant, LINC teachers who participated in this study perceive their online students as independent learners. In fact, the idea that online students may favour a collaborative or group learning style did not come up in the questionnaire or during follow-up interviews. Their perception agrees with Cassidy (2004)'s findings, which show that learning styles correlate with performance-related factors such as self-efficacy and locus of control. LINC teachers believe that students with individual learning style have strong self-efficacy and can take control of their learning, which relates to learning strategies that Cassidy and Eachus (2000) argue to impact learning styles.

In the follow-up interviews, teachers commented on the positive experience of their students. All teachers said that students enjoy the LINC program and find the interaction between teacher and student very helping. The online-language learning environment is student-centered, which indicates that the emphasis is on the student rather than the teacher. Online LINC students seem to value this aspect of the program and enjoy the one-on-one experience with their language teacher. As one teacher explained during the interview, students in traditional language classes do not get much of individual mentoring or one-on-one time with their teacher; this is seen to be of great value in this LINC program. This supports Viberg (2015)'s argument that students appreciate online learning, as they are very positive towards the integration of

computer technology into their language learning practices. In order to improve student-teacher communication, teachers use Skype to facilitate this interaction. The use of the Skype video-conferencing feature during online classes makes students feel as if they are attending regular classes since they can see and talk to the teacher in real time. It gives some kind of formality and structure to the distance class, which for most students is a new experience. This observation echoes findings from Magnan (2007), which explain that the relatively positive reaction to online learning might stem from the video presence of the teacher that gives the assurance that the class will be "communicative".

5.4 Teacher's Role In Online Class

Unlike traditional distance-learning language classes, teachers have a different role in online classes. They play the role of a facilitator rather than a lecturer (Oskoz, 2005). According to Hubbard and Levy (2006), teachers can play one of the four roles with respect to language teaching in CALL: the role of practitioner, developer, researcher, and trainer. This is also true in the online LINC program; teachers fill the role of expert guidance and trainers rather than lecturers. This is mainly because the time students spend with their teachers is relatively small compared to the time they need to spend to learn and practice a second language. The online classes only last 30 minutes, and in these 30 minutes, teachers guide students on course material (explain concepts and rules), assign new work, administer assessments, and evaluate learners' comprehension of concepts. Teachers also create and provide their own material, making them play the role of developer and researcher. Therefore, teachers' role in online language learning is extremely important and different from traditional teacher's role.

Teachers have a huge role in computer-based language learning. As Blake (2009) argues, teachers who take a chance in participating in this evolving learning environment must be valued

and rewarded. These online teachers make a huge effort in implementing and using appropriate technology application over distance, rather than simply using the basic approaches of distance learning. In the LINC program context, teachers face some challenges integrating technology-based teaching approached to teach traditional learners who for the most part are not familiar with educational technology. Some of these learners have never been exposed to using computers in classes.. These teachers do a great job at incorporating different aspects of technology into their distance environment in order to enhance learners' learning experience. Based on our results, almost all LNC teachers use Skype to deliver their distance classes. They all reported incorporating the video-conferencing feature in their classes to try and limit some of the issues with distance learning such as isolation, lack of interactivity, etc.

Another important role a teacher can play in online classes and with regards to learning styles is to help students understand their preferred learning styles. It is most likely that learners are not aware of their strong learning style preference. For example, students might know that they like watching videos and learning by drawing, but they are unaware than visual and tactile styles are their strongest learning styles. Teachers can gather this information on students through administering an initial needs analysis and collecting feedback on student's experience when completing a given task. For example, after watching a short YouTube video and answering questions, a teacher could ask a student questions such as: "Did you enjoy watching the video?", "what did you understand from the video/summarize the video you just watched", "Do you think watching this video helped you understand the concept/definition?", "would you like to see more of this kind of material?". These kinds of questions help the teacher gather more insights on students' learning style preferences and provide them with materials that they enjoy and find useful. In addition, online teachers have a role to maximize the benefits of using a

learning style in learning tasks. In the ESL context, teachers can help enhance students' learning experience by recommending relevant CALL materials and pedagogy for self-learning (Hill et al., 2014). It is also important for teachers not to only focus on providing learning material that matches student's learning styles but also encourages students to explore other learning styles. However, teachers need to vary their instruction style and provide material of different nature to match the different learning styles in association with language learning through computer technology (Hill et al., 2014). It is true that learners tend to stick to using their preferred learning style since they are most comfortable with, which shows a certain level of stability. This is another reason why instructions that promote a certain learning style may not work for all learners (Pashler et al., 2008).

5.5 Factors Influencing Students' Learning Style in Online Learning

Unlike other studies such as Corbin (2017); Baneshi, Tezerzani & Mokhtarpour (2014); Li and Kirkup (2007), but in line with Lee et al (2016), our results show no correlation between age, gender and learning styles. As Lee indicated, there is a need for more empirical evidence regarding the influence of age and gender on learning styles of second language learners. Perhaps, as factors such as learning style and age variables are further researched, computer technology can be improved and used more effectively in the context of language learning. Also, unlike Li & Kirkup (2007) who found that males tend to have more self-confidence in their technology skills as well as positive attitudes, we found no gender difference in attitudes towards using technology or learning a language online. However, an observation worth noting is that the majority of the participants are female students who perceived themselves as kinaesthetic learners (i.e. learn through experience). This observation echoes Kolb (1976)'s finding that women tend to score higher on the Concrete Experience learning orientation while

men tend toward Abstract Conceptualization. In other words, women appear to favour learning through experience as oppose to men who prefer learning through conceptualizing facts presented in text or audio. This is also seen true in our study. Similar to Philbin, Meier, Huffman & Boverie (1995), we can suggest that female learners learn better in hands-on settings.

Based on our analysis, there are a number of factors that we believe might influence students' learning styles. Among these factors are: education, previous exposure to educational technology, and culture. This echoes finding from Reid (1987) where she argues that some variables such as length of time abroad, field of study, and level of education are related to differences in learning styles. Also, Viriya and Sapsirin (2014) state that second-language students from different cultural and language backgrounds have different learning styles and preferences compared to native English speaking students, which suggests that culture and language background may perhaps influence learning styles.

First, educational experience can shape the way people perceive themselves and the world around them. Highly educated people are aware of how the world is changing every day, and indeed aware of the advancement of technology use in education. Not only that, but the chance that a highly educated person are independent learners who can take control of their learning process is high. A person who has gone through various levels of education, with different kinds of instructions, is more likely to have used multiple learning styles depending on the tasks. Therefore, their learning style is more likely to change over time and depending on the task at hand. We believe that a second-language learner who is highly educated in their first language has very minimal problems with any kind of instructions as they have developed literacy skills and learning strategies that would allow them to cope in any learning

environment and succeed in any form of instruction. However, we still believe that these individuals most likely have a major and preferred learning style, yet can still use multiple styles to complete tasks. This leads to the second factor that can influence learning style, which is previous exposure to educational technology. According to Lee et al (2016), the visual and kinaesthetic learning styles tend to be more related to higher education students' use of the computer for self-directed English learning. This finding seems to agree with our observations, which is that the majority of online students who participated in our study have higher education, and they perceive themselves as kinaesthetic and auditory learners. This means that there might be a correlation between higher education and kinaesthetic learning style, yet more empirical data needs to be gathered to support this correlation.

Previous exposure to educational technology can influence learners' learning styles in online learning environments. Learners who have previously taken online or in blended classes may have developed skills and strategies that allow them to perform well in computer-based settings. Although they might have one or two learning style preferences, being exposed to online environments helped them practice their weaker or other learning styles. These students are most likely to combine a number of learning styles when approaching a language task online. This can be somewhat related to the first factor, education, as the more education a person has, the more likely it is that they have been exposed to some form of computer-assessed learning at some point in their education journey. Therefore, people who have tried online or distance learning can amend their learning styles to better suit the instruction style.

The final factor that can influence people's learning styles in online learning is culture. There may be a possibility that culture influences the way people are used to learning and the kind of instructions they are normally exposed to. As mentioned previously, this supports Reid

(1987)'s original finding and also findings from other studies such as: Viriya and Sapsirin, 2014; Rossi-Le, 1995; Stebbins, 1995; Karthigeyan and Nirmala, 2013; and Nematipour, 2012. Newcomer ESL learners come from all around the world, and since they are adults, their idea and construct of learning are already set. This might impact their learning style and preference. According to the study done by Dunn (2000) investigating the learning styles of second language learners of major cultural groups in the United States, findings indicated that individuals in these groups reflect a diverse array of learning style preferences. She also found that certain learning styles are characteristics of the majority of members of each cultural group. For instance, European Americans have an individual learning style as they are always expected to do things for themselves. Asian Americans prefer learning activities that are highly structured, whereas Americans are able to work with materials that have minimal structure. She also concluded that African Americans prefer kinaesthetic or experiential learning activities more than Asian Americans or European Americans (Mestre, 2006). One important observation made with regards to students' ethnicity, a large number of participants come from Asia (India, Pakistan, Sri Lanka, and China), Iran and North Europe. This can explain the reason the majority of our students prefer using kinaesthetic and auditory learning style. This echoes a study done by Mulalic, Shah & Ahmad (2009) who investigated 160 EFL students, and found that Malay students as well as Chinese students prefer the kinaesthetic style while Indian mainly depends on the visual, auditory and individual learning (Heah, 2019). Moreover, according to Lee et al (2016), Chinese ESL learners in the studies of Reid (1987) and Rossi-Le's (1995) show to have strong visual, kinaesthetic and tactile learning styles. However, both the Indian higher secondary students and the Iranian university students have visual and auditory styles (Lee et al, 2016). Also, in some cultures, the idea of online learning is not heard of for the majority of people. For

these individuals, their learning styles are shaped by the culture they grew up in and have most likely been used in their traditional education classes.

5.6 Factors Influencing Students' Choice to Opt for Online Learning

Based on the demographic questionnaire that was administered to 27 online LINC students, the students' choice of enrolling into an online distance language program was mainly based on their life circumstances. Our results show that it is not the learning style preference that drives students to study online over distance, but rather the characteristics and features of the program. The majority of students responded that they could not physically attend schools because of distance issues or work schedule. As mentioned previously, the majority of the students are working adults and parents; it is extremely difficult for them to seek full-time language training opportunities. For these students, there are other more important aspects of life than school. When students were asked to choose the factor that influenced their decision to study online, the majority responded that online learning suits their life situation better. Therefore, students do not choose to opt for online distance learning because they are visual, kinaesthetic, auditory or individual learners, but rather because it suits their life situation.

Based on our demographic questions, we indicated a number of factors that perhaps make online learning more convenient for online LINC students. Among these factors are: employment, parenting, distance to language class, and attitude. First, all students in the LINC program are adults (18 years of age and up). Based on our results, the majority of online students are between ages 25 and 50, which is the golden age for employment. Almost all of these students are part-time or full-time workers, which makes it difficult for them to attend full-time language classes. For most students, their availability and work schedule won't allow them to attend physical classes. This makes online learning convenient and affordable for most students.

Second, since a big percentage of the students in the LINC program is female. They are most likely to be parents who are responsible for raising their young children. For them, it is difficult to go to language classes when they have young kids. As a result, they seek part-time distance opportunities to improve their language skills and still take care of their loved ones. This makes online LINC classes very convenient for these mothers because they can schedule their online classes at a convenient time. Third, one of the reasons many students choose online distance classes is that they live in an area where language classes are not available. Not all communities across Ontario have language classes for newcomers. In fact, according to Burstein (2010), Keung (2017), and Keung (2019), rural communities are becoming an attractive destination for newcomers looking for lower costs of living, affordable housing. However, these communities lack the benefit of years of extensive research to know how these areas are uniquely positioned to welcome newcomers, and what barriers and opportunities exist for integrating newcomers in rural areas (Lam, 2019). One of the issues in these rural communities is the availability and accessibility of language classes across the community. Since the focus of newcomers has been in major cities such as Toronto, Vancouver, and Montreal (Shields, Türegün, and Lowe, 2014), the majority of the effort on implementing solid language training programs for newcomers is localized in these regions. This leaves rural communities with fewer language training programs and fewer language teachers (Lam, 2019). Although these communities may have some traditional classes with lower numbers of students and few trained English teachers, online learning can provide an excellent opportunity to supplement traditional classes. For this reason, many newcomers living in these communities have limited choices when it comes to studying English. Access to technology and distance learning may increase services that are currently unavailable in smaller centers (Lam, 2019). Without these technologies, a barrier may be created

for those who do not have accesses to services such as free language learning. As a result, this online LINC program became a great solution to these individuals. Therefore, the online distance LINC program is the perfect program for newcomers from different cultures and language backgrounds.

Moreover, the availability of transportation and time are two important factors these adults consider when looking for language learning programs. Therefore, instead of spending money and time traveling to and from school, they find that online classes are a better option. Finally, students' attitude towards online language learning influences their decision to help influence their decision to opt for distance or face-to-face classes. For the most part, online students have a very positive attitude towards the use of computer technology in education. They believe that computers offer many advantages that could help improve their learning experience and ultimately make the learning environment enjoyable. This definately impacts their decision to seek online language training. Therefore, the factors that impact students' decision to study English online and over a distance are mainly related to their lifestyle and circumstances.

With regards to teachers' perspective on the factors that influence students' choice of studying online, there seemed to be an agreement between students and teachers. Although it was predicted that teachers' perspective of students' choice might be based on and influenced by their previous educational experience, comfort level with computers, or previous experience using educational technology, yet results showed otherwise. Based on the teachers' online questionnaire and follow-up interview, all teachers argued that students' choice of attending online classes is completely based on their life circumstances. They believe that their time availability and commitments to work and family are what make them decide to enroll in a distance language program.

During the follow-up interviews, a number of teachers raised an interesting point. They said that students in the LINC program do not get to choose to enroll in the online or correspondence options. They are placed in one of the options based on their access to technology and the level of computer skills. When completing the language assessment, students need to indicate whether or not they have convenient access to computers (i.e. own one or can use one on a daily basis). If students indicate that they can access a computer at home or at a nearby library, they are automatically placed in the online program. Only if students do not have access or are unable to use a computer are they then placed in the correspondence program. Therefore, students do not have the choice to study online or by correspondence, but rather it is the LINC program decision to enroll them into one of the programs based on their access to computers. Few teachers have shared that the LINC program is pushing for the online option. Students are highly encouraged by both teachers and program to study online. This is due to the convenience and accessibility of online modules to LINC teachers and the convenience of periodically updating online material. In addition, teachers strongly believe that unlike correspondence, online classes provide great advantages to learners. By teaching online, teachers can provide various kinds of materials that can be easily accessed by learners. This is true as supported by studies such as Allen & Seaman (2006) who argue that online learning has the capability to support both real-time and asynchronous communication between instructors and learners. As a result of this, almost all teachers strongly suggest that all correspondence students switch to online classes. During the follow-up interviews, teachers informed us that they have previously suggested students to switch to online. They explain to the correspondence student the advantages of the online option and show them how the online class operates. They also go over the disadvantages of the

correspondence class, which are: a) students still need to find a way to send every single homework and exercise to their teachers, b) the book lacks interactivity and visuals, and c) unlike the self-corrected online material on the LMS, teachers take more time to correct and return correspondence homework. Teachers try to support these correspondence students who agree to switch to online classes with the online tools and LMS until they are able to use the material on their own. In case a student felt uncomfortable with the online class after switching to it, teachers do not mind switching them back to the correspondence class until they feel more confident in their technology skills. This is to say that LINC teachers are very supportive and will make great efforts to get their students comfortable with class material whether it was online or correspondence.

5.7 Pedagogical Recommendations

In order to answer the third research question, we compared the perspectives of teachers and students and we found that they differ. After analyzing the data, we come to provide a number of pedagogical recommendations for both program teacher and students to improve the learning experience for their distance students. Among these recommendations are:

1. Providing teachers training,
2. Raising teachers' and students' awareness of learning styles,
3. Using various instruction styles for students with different learning styles, and
4. Using a Learning Style questionnaire as a tool to measure students' learning styles in online language programs.

Since educational technology is advancing every day, new tools and applications are created to help both teachers and learners achieve academic goals and complete assignments and tasks. It

is important for language educators to be made aware of useful tools and applications that can help enhance their distance class delivery. Besides, some distance language teachers may face some challenges integrating technology-based teaching approaches to teach traditional learners who for the most part may not be familiar with educational technology. Some of these learners in distance classes come from other counties and have never been exposed to using computers in classrooms, not alone learn exclusively with technology. Providing teachers training on how to successfully integrate educational technologies in their distance language classes, and how to help familiarize students with useful tools and applications will ultimately enhance the learning experience for students and teachers. These teacher trainings do not have to be formal and once, but rather it could take place during informal team meetings, annual workshops and professional developments, group discussions, etc. Also, it is important that these informative sessions happen periodically so that teachers remain up to date with the advancing field.

The second recommendation we would like to make for teachers is the importance of raising awareness of learning styles. It is key to establish a common understanding of the concept of learning styles between teachers and students. This is so that teachers can help raise students' awareness on their learning styles. As suggested by Warner, it is very important for students to understand their major or strongest learning styles (Warner, 2000). LINC teachers play a big role in making students aware of their learning styles. Teachers can help students discover their learning style by providing various materials and seek students' feedback on their experience. One way to raise students' awareness of their learning styles is for the LINC program to design a tool such as a questionnaire for students to do during the first few weeks of joining the program. Results of these self-reported questionnaires could be shared with students' teachers to understand their perception of their learning styles. Teachers could also discuss these results with

their students to establish a shared understanding of their students' learning styles and preferences. Also, the teacher can tune their instruction style to recommend relevant CALL materials and pedagogy that matches students' learning style preference. Moreover, it is important to remember that students do not express a single learning style preference, but rather use a combination of learning styles when approaching a language task. Therefore, teachers not only need to provide materials that match a single learning style, but instead offer various kinds of materials to help students discover other learning styles. Since online learning features independent learning, knowing one's learning style preference and learning strategies can be the first step to help learners to successfully use appropriate language learning materials with or without teacher support.

The third recommendation we like to provide to distance language educators is to offer and use different instructional styles to help students achieve learning outcomes. As we explained throughout this thesis, different students have different learning styles preferences. In fact, every student may have a number of major and minor learning styles. It is important that the instruction style in online environments suits all kinds of learning styles. That being said, it can be difficult to establish and implement a single instruction style that matches every learning style and ultimately suits every learner. However, using various styles of instructions or combining instruction styles to suit all learning styles. As Mestre (2006) argues, when a diversity of learning approaches is offered, all students are enabled to choose from different environments to make learning as efficient as possible. For example, to deliver a specific concept, a teacher might first uses an online video to provide a general idea. Then, she could give a written text of definitions and examples. Following that, she could provide some illustrations and images to explain the concept. Finally, she could ask students to perform a task by doing something. In the course of a

class or two, all kinds of students have been given a chance to understand the concept using at least one of their preferred learning styles. Although this might be difficult to do in an online setting, it is suggested that teachers provide some group learning opportunities for students, especially since the majority of learners in the online program enjoy learning in a group. These kinds of group activities do not have to involve other online learners, but can involve family members, friends, co-workers or even strangers in a bus stop. Therefore, it is important that LINC teachers deliver various kinds of materials for the different kinds of learners they have in their classes. Since the majority of online LINC students who participated in this study are proven to be kinaesthetic and auditory learners, here are a number of tips for teachers to help students who display dominance for these learning styles. These tips were adopted from Lee et al (2016):

- Ask the student to envision a scene in which the material to be learned is being used or acted out somehow. For example: a student could imagine being a character in a novel.
- Have the student take notes (on paper, word processor, in textbooks) while reading or listening.
- Use some form of body movement (snapping fingers, pacing, mouthing ideas) while reciting material to be learned

As Viberg (2015) explains, educators have to support such adaptation by providing students with an effective combination of both technology and education design, thus offering better conditions for learning. For example, if students are auditory and kinaesthetic learners, it is important that teachers provide material in combination of these teaching styles.

The fourth recommendation we would like to make to LINC program administrators is to adapt and use a learning styles measuring tool, such as the one used for this study, as an initial needs assessment for students opting for the LINC program. Having an instrument that could potentially inform the LINC program educators and teachers on the profile of students enrolling in the program would give them insights on how to deliver their distance language classes in a more suitable way for students to achieve the best learning outcomes. As discussed in the previous chapters, studies such as: Mestre, 2006; Simpson and Du, 2004; Holmes and Brown, 2000; Rourke and Lysynchuk, 2000; Moeller, 2000; Federico, 2000; Ross, 1998; Buch and Bartley, 2002; and Barron, 2002, have shown that not all learning styles are equally successful in online learning environments. According to these studies, there are certain students who can benefit more from online learning environments. Therefore, for the LINC program, it would be of a great value to raise students' awareness of their learning styles before being directed towards the online classes. Students could learn about their learning styles and individual characteristics through administrating a self-assessment learning style questionnaire. These results could also be shared with the assigned teachers to understand their students better and vary their delivery style to help enhance these students' learning experience. The self-assessment learning style questionnaire used for this study could be used as an example (see Appendix B and C).

Chapter 6: Conclusion

6.1 Overview

In this chapter, an overview of findings discussed in the previous chapter is summarized. The limitations and implications of the presented study are also discussed. Finally, to conclude this chapter, some recommendations are given for future research.

6.2 Summary of Findings

This study looked at profiling online students in the LINC program in terms of characteristics and learning styles. The perspectives of both online LINC students and teachers were investigated to gain insights on the kind of learners in the online LINC program. The study had three main objectives. The first objective was to explore the perspective of online LINC students on their learning styles and preferences. The second objective was to investigate LINC teachers' perspective on the profile of their online students in terms of characteristics and learning styles. The third objective was to compare the perspectives of both students and teachers to gather more information on the kind of students in the online program. In addition to these three objectives, the aim is to provide some suggestions and recommendations on the pedagogy of online teaching in this organization, and on the facilitation of optimal pairing of instruction and learning styles.

The first objective was met by administering an online questionnaire to 27 online LINC students. This questionnaire included two parts: demographic questions, and learning styles questionnaire. This online questionnaire was designated and delivered online using Survey Monkey. The first part of the questionnaire, demographic questions, provided background information on the online students, which helped with profiling them. In the second part,

learning styles questions used the PLSPQ instrument to measure students' learning styles and preferences.

The second objective was met by administering an online questionnaire and follow-up interviews with a number of LINC teachers. A total of 11 teachers participated in the online questionnaire, and 5 teachers participated in the follow-up interviews. Both instruments helped provide data on teachers' perspective of the kind of students they have in both online and correspondence program options. Their perspective was then compared to students' perspectives.

The third objective was met by comparing the gathered quantitative and qualitative data from the first two objectives. This part involved investigating both teachers' and students' perspectives and explaining the reason behind the contradiction in opinions.

Researching these three objectives by using the three research questions previously outlined, it was found that auditory and kinaesthetic learning styles are significantly associated with learning language through computer applications (online learning). These results support findings from Peacock (2001); Isemonger and Sheppard (2003); Ong, Rajendram & Yusof (2006); Naseriah and Anani Sarab (2013); and Lee et al (2016) who found that the majority of English learners who choose online classes favour kinaesthetic and auditory learning styles. Results also showed that teachers' perspective of their online students' learning styles contradicts with students' perspective of their own learning styles. Teachers believed that online students have visual and individual learning styles, whereas according to students, they prefer kinaesthetic and auditory learning styles. This contradiction in perception may be due to several reasons, which include: lack of shared understanding of learning styles, students' limited awareness of

their learning styles and preferences, and lack of time to evaluate, assess and discuss individual student's learning styles during class.

It was also found that other demographic variables contribute to students' choice of enrolling into online language programs. These variables are convenience, time availability, at-home situation, and work schedule. Since all LINC students are newcomers, many of these students live in communities where the availability of language classes may be limited (Lam, 2019). For these students, especially those who live in rural Canadian communities, the online LINC program is a great opportunity for them to learn English while living in low cost communities, regardless of their learning styles.

Furthermore, our results could not predict any correlation between students' learning styles and their age, gender, years lived in Canada. However, factors such as previous knowledge and learning experience may indeed influence the way students express their learning styles. Also, students' previous exposure to different instruction styles may impact their perception of their preferred way of learning. Moreover, these results also found that learners may hold different learning styles simultaneously, and can exercise dominant styles or change from one learning style to another when learning a language through computers in different contexts.

Based on the results of this study, we recommend; 1) that online teachers receive trainings on integrating and using different educational tools; 2) raising language teachers' and learners' awareness of learning style preference; 3) using various and creative learning instructions, activities and material to optimize learning effects; 4) using a learning styles questionnaire as a measuring tool for students to use when first opting for the LINC program. It is worth mentioning that knowing one's perceptual learning style preference can be the first step to help individual learners to use appropriate language learning materials with or without teacher

support (Lee et al, 2016). In addition, it is important for teachers to have a shared understanding of learning styles, perhaps using different frameworks or classification to reach an agreement to how to categorise students' learning styles. However, we are aware of the limitations of this study and its pedagogical implications.

Finally, since all LINC students across Canada are newcomers, many of them are localized in rural communities, which are more affordable, but have fewer language training programs (Lam, 2019). Having access to online language training program such as LINC provides an excellent opportunity for these newcomers to learn in a good quality program while living in low cost centres.

6.3 Implications of Study

This study contributes to the fields of online second-language learning and teaching by providing insights to the LINC program educators on the kind of learners they have in the online programs. Also, it supports other studies investigating students' learning styles and factors that influence these learning styles in CALL. The main aim of this study is to investigate the profile and learning styles of online LINC students, which gives insights to both LINC teachers and LINC program administrators on the kind of students enrolled in the online LINC program. The other aim is to investigate teachers' perspective of their online students to find out if their prospective matches their students.

Although this study involves online learners from an Ontario LINC program, the findings are applicable to other LINC programs across the country. In addition, these findings are also applicable to other online language programs that involve newcomers. The insights on the profiles of newcomer students studying language online over distance can be seen as valuable knowledge for second-language educators and language curriculum designers who deal with this

group of the population. Hopefully, these results encourage future courseware designers and teachers to combine a number of instruction styles in order to suit the different learning styles they have in online language classes.

Although this study involves a small population sample, these findings can be useful to LINC courseware designers and instructors when implementing and delivering courseware material. These findings can also be useful to the LINC program instructional designers when deciding on the kind of material to include as part of the LINC curriculum. For example, evaluating the type of material presented in the online LINC curriculum and providing additional guidance to teachers on how to deliver certain elements to ensure a delivery that suits a number of learning styles. In addition, insights from this study can be useful to the LINC program administrators to gather data on the learning styles of new online students about to be enrolled into the online program in order to ensure that they are in a program that best suits their learning styles. Furthermore, these findings will help LINC program administrators to better support their teachers with professional development opportunities and topics that could help them better support their students.

Finally, these findings could also be important to language assessors who build online assessment tools to evaluate online second language learners. It will be interesting to integrate assessment tools that vary in administration and work for different learning styles.

6.4 Limitations of Study

There are various limitations to this study. All these limitations were mainly based on the data available and methodological decisions were made in order to account for these limitations and their potential effects on the results.

When analyzing data, the main limitation was regarding the use of the PLSPQ instrument. First, this instrument only measures the quantitative means of learning styles, which are not sufficient to ascertain the effectiveness and usefulness of the learning style instrument, especially in the case of second-language learners. Therefore, a qualitative measure of learning styles may provide more data in the case of ESL students. Second, although the PLSPQ has been widely used in the context of ESL, it lacks measures related to the use of computer technology in a classroom. The questionnaire offers little information about how the learning style preference may be associated with the use of technology for language learning. That is, the PLSPQ refers to traditional learning environment rather than today's learning environment (i.e. it makes reference to "classroom" as in face-to-face classes and not online classes). Finally, when using the self - reported learning style instrument, the PLSPQ, it is important to bring to attention that interpreting the self-perceived learning styles only provides a subjective view of individuals' learning style, and may not be entirely reliable. Students, when self-reporting their learning style in the survey, may under-report their learning style or apply more than one learning style simultaneously or even exercise a dominant style when learning online.

The other limitation to this study is the small sample size. While we were aiming for more LINC students and teachers to participate in this study, it was difficult to gather participants from this organization. Future attempts to gather more participants are discussed in the following section.

6.5 Future Work

With regards to future research based on or related to this study, a broader look into the profile and learning styles of other online second-language learners would be desirable. Conducting a mixed-method study with questionnaires and follow-up interviews, and involving

online learners from other LINC programs across Canada would be ideal. This would give us insights on their profile and may allow us to have a better understanding of online LINC students' learning styles.

Moreover, since this study only involved online LINC students, it would be interesting to investigate the profile and learning styles of those students enrolled in the LINC correspondence program option. Comparing the profile of the two groups can provide interesting insights for LINC teachers to amend or mix their instruction styles.

6.6 Conclusion

To conclude, this study ultimately showed that the online LINC learners' who participated in this study perceived their learning styles as kinaesthetic and auditory learning styles preferences. It contradicts with the teachers' perspective that they have visual and individual learning styles. The reason behind this contradiction may include lack of shared understanding of learning styles and students' minimal awareness of their learning styles and preferences. These findings can help motivate LINC teachers to include various types of material to help address the different learning styles students have in the LINC program. In addition, this study provides recommendations to LINC educators to: provide teachers trainings on different topics associated with learning styles, raise both teachers' and students' awareness of students' learning styles, use a combination of instructing style to suit the different learning styles in the program, and finally use a Learning Style questionnaire as a tool to measure students' learning styles in online language programs. These findings also encourage future courseware designers to implement various forms of material to help all kinds of learners. Nevertheless, although this study involves only a small number of participants, we hope that it contributes to the

advancement of knowledge in the field and the continual growth towards the development of online second-language learning and teaching.

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Appendices

Appendix A - Students' Demographic Questions

Part 1: Demographic Questions (16 questions)

1. What type of class are you enrolled in;
   - **a.** Online class.
   - **b.** Correspondence class.
   - **c.** Classroom.
   - **d.** Other: Specify

2. What level are you in?
   - **a.** Level 1
   - **b.** Level 2
   - **c.** Level 3
   - **d.** Level 4
   - **e.** Level 5
   - **f.** Level 6
   - **g.** Level 7

3. What is your gender?
   _____

4. How old are you?
   - **a.** Less than 25.
   - **b.** Between 25 and 35.

c. Between 35 and 40.
d. Between 40 and 50.
e. Between 50 and 70.
f. More than 70.

5. How many years have you lived in Canada?
   a. Less than 1 year.
   b. Between 1 and 3 years.
   c. Between 3 and 5 years.
   d. Between 5 and 7 years.
   e. Between 7 and 10 years.
   f. More than 10 years.

6. How long have you been studying English as a Second Language (ESL)?
   a. Less than 1 year.
   b. Between 1 and 2 years.
   c. Between 2 and 3 years.
   d. Between 3 and 5 years.
   e. More than 5 years.

7. What level of schooling did you complete? (Education from your country and/or Canada)
   a. Elementary School.
   b. High School.
   c. College diploma.
   d. University degree.
   e. Master's degree.
   f. Doctorate (PhD) degree.

8. Which of the following statements about occupational status apply to you?
   a. I am not working at the moment.
   b. I work part-time.
   c. I work full-time.
   d. I am on a temporary leave (maternity leave, sick leave, etc.)
   e. I am studying.

9. What is your country of origin?

   _____

10. What is your first language?

    _____

11. If you are studying English **online**, why did you choose online? Select all that apply
    a. I believe that I can learn better if I choose online classes.

b. I took online classes before and I liked them.
c. I wanted to try something new.
d. I learn better with a computer.
e. I have friends who are in the online class and they like it.
f. It suited best my life situation (at home situation).
g. I cannot go to an English school.
h. The English program administrator recommended the online option to me.
i. My teacher told me to pick the online class.
j. I don't know.
k. Other: please explain

_____

12. If you are studying English by **correspondence**, why did you choose the correspondence option? Select all that apply.
    a. I believe that I can learn better if I choose correspondence classes.
    b. I took correspondence classes before and I liked them.
    c. I wanted to try something new.
    d. I learn better with a book.
    e. I have friends who are in the correspondence class and they like it.
    f. It suited best my life situation (at home situation).
    g. The English program administrator recommended the correspondence option to me.
    h. My teacher told me to pick the correspondence option.
    i. I don't have a computer at home.
    j. I don't know how to use the computer.
    k. I cannot go to an English school.
    l. I don't know.
    m. Other: please explain

    _____

13. If you are studying English in a **classroom**, why did you choose the classroom option? Select all that apply.
    a. There is an ESL school near me.
    b. I learn better in a class.
    c. I studied English in a classroom before, and I liked it.
    d. I have friends who are studying in an English class and they like it.
    e. It suited best my life situation (at home situation).
    f. My teacher told me to pick the class option.
    g. I don't have a computer at home.
    h. I don't know how to use the computer.
    i. I don't know.
    j. Other: please explain

    _____

14. Are you satisfied/happy with your choice of learning mode (online, correspondence, or in classroom)?

a. Very satisfied/very happy.
b. Satisfied/Happy.
c. Neutral.
d. Not at all.
e. I wish to change to another program mode.

15. Does this learning mode give you the opportunity to practice speaking, listening, reading, and writing? On a scale from 1 to 4 (4 being the maximum opportunity and 1 being the minimum opportunity), select the score for each language skill.

Speaking	4	3	2	1
Listening	4	3	2	1
Reading	4	3	2	1
Writing	4	3	2	1

16. Would you recommend this learning option (online, by correspondence, or classroom) to someone else?
    a. Yes, I would recommend this learning option to someone else.
    b. Maybe.
    c. I am not sure.
    d. No, I would not recommend this learning option to someone else.

Appendix B – Students' Learning Styles Questions

Part 1 B: Learning Styles Questions (30 questions)

1. I understand oral instructions (when teacher tells me the explanation) better than written instructions (when teacher writes the explanation).
   - **a.** Strongly agree.
   - **b.** Agree.
   - **c.** Neither agrees nor disagrees.
   - **d.** Disagree.
   - **e.** Strongly Disagree.

2. I prefer to learn by doing something.
   - **a.** Strongly agree.
   - **b.** Agree.
   - **c.** Neither agrees nor disagrees.
   - **d.** Disagree.
   - **e.** Strongly Disagree.

3. I get more work done when I work with other students.
   - **a.** Strongly agree.
   - **b.** Agree.
   - **c.** Neither agrees nor disagrees.
   - **d.** Disagree.
   - **e.** Strongly Disagree.

4. I learn more when I study with a group of students.
   - **a.** Strongly agree.
   - **b.** Agree.
   - **c.** Neither agrees nor disagrees.
   - **d.** Disagree.
   - **e.** Strongly Disagree.

5. I learn best when I work with others.
   - **a.** Strongly agree.
   - **b.** Agree.
   - **c.** Neither agrees nor disagrees.
   - **d.** Disagree.
   - **e.** Strongly Disagree.

6. I learn better by reading what the teacher writes on the board/screen.
   - **a.** Strongly agree.
   - **b.** Agree.
   - **c.** Neither agrees nor disagrees.
   - **d.** Disagree.
   - **e.** Strongly Disagree.

7. When someone tells me how to do things, I learn better.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

8. When I do things, I learn better.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

9. I remember better things I hear than things I read on my own.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

10. When I read instructions or explanations, I remember them better.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

11. I learn more when I can make a model or build something.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

12. I understand better when I read instructions/ explanations.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

13. When I study alone, I remember things better.
    - **a.** Strongly agree.
    - **b.** Agree.

c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

14. I learn better when I make something for a school project.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

15. I enjoy learning by doing experiments.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

16. I learn better when I make drawings as I study.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

17. I learn better when the teacher gives a lecture.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

18. When I work alone, I learn better.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

19. I understand things better when I participate in role-playing.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

20. I learn better when I listen to someone.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

21. I enjoy working on an assignment with two or three people.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

22. When I build something, I remember what I have learned better.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

23. I prefer to study with others.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

24. I learn better by reading something than by listening to someone.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

25. I enjoy making/building something for a school project.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.
    - **d.** Disagree.
    - **e.** Strongly Disagree.

26. I learn best when I can participate in school activities.
    - **a.** Strongly agree.
    - **b.** Agree.
    - **c.** Neither agrees nor disagrees.

d. Disagree.
e. Strongly Disagree.

27. In general, I work better when I work alone.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

28. I prefer working on school projects by myself.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

29. I learn more by readying from a textbook than by listening to teacher explanation.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

30. I prefer to work by myself.
a. Strongly agree.
b. Agree.
c. Neither agrees nor disagrees.
d. Disagree.
e. Strongly Disagree.

Appendix C – PLSPQ Self-Scoring Sheet

SELF-SCORING SHEET

Instructions

There are 5 questions for each learning category in this questionnaire. The questions are grouped below according to each learning style. Each question you answer has a numerical value:

SA	A	U	D	SD
5	4	3	2	1

Fill in the blanks below with the numerical value of each answer. For example, if you answered Strongly Agree (SA) for question 6 (a visual question), write a number 5 (SA) on the blank next to question 6 below.

Visual
6 - __ 5__

When you have completed all the numerical values for Visual, add the numbers. Multiply the answer by 2, and put the total in the appropriate blank.

Follow this process for each of the learning style categories. When you are finished, look at the scale at the bottom of the page; it will help you determine your major learning style preference(s), your minor learning style preference(s), and those learning style(s) that are negligible.

SELF-SCORING SHEET

VISUAL
6 - _____
10 - _____
12 - _____
24 - _____
29 - _____
Total_____ x 2 = _____(Score)

TACTILE
11 - _____
14 - _____
16 - _____
22 - _____
25 - _____
Total_____ x 2 = _____(Score)

AUDITORY
1 - _____
7 - _____

GROUP
3 - _____
4 - _____

9 - _____	5 - _____
17 - _____	21 - _____
20 - _____	23 - _____
Total_____ x 2 = _____(Score)	Total_____ x 2 = _____(Score)
KINAESTHETIC	INDIVIDUAL
2 - _____	13 - _____
8 - _____	18 - _____
15 - _____	27 - _____
19 - _____	28 - _____
26 - _____	30 - _____
Total_____ x 2 = _____(Score)	Total_____ x 2 = _____(Score)

Major Learning Style Preference	38-50
Minor Learning Style Preference	25-37
Negligible	0-24

(Copyright 1984, by Joy Reid. Explanation of learning styles was adapted from the C.I.T.E. Learning Styles Instrument, Murdoch Teacher Center, Wichita, Kansas 67208)

Appendix D - Teachers' Online Questionnaire

Teachers Questionnaire
(13 questions)

1. What type of distance learning modes (program options) do you currently teach?
    a. Online
    b. Correspondence
    c. Both

2. How long have you been teaching in this distance language program?
    a. Less than 1 year.
    b. Between 1 year and 3 years.
    c. Between 3 and 5 years.
    d. Between 5 and 10 years.
    e. Between 10 and 20 years.
    f. More than 20 years.

3. How many students do you have in **total** in each distance learning option?
    a. Online _____
    b. Correspondence _____

4. How do you deliver your distance language class? Select all that apply.
    a. By phone.
    b. Skype.
    c. Both.
    d. Others (please specify). _____

5. If it applies, how often do you get new students in the **online** distance learning option?
    a. Always.
    b. Usually.
    c. Sometimes.
    d. Rarely.
    e. Never.
    f. Others (please specify).

6. If it applies, how often do you get new students in the **correspondence** distance learning option?
    g. Always.
    h. Usually.
    i. Sometimes.
    j. Rarely.
    k. Never.
    l. Others (please specify).

7. If it applies, what learning styles correspond best to most of your students in the **online** distance learning option? Select all that apply.
   a. Visual learners (learn best when seeing writing instructions, visual representations, etc.)
   b. Auditory learners (learn best when hearing oral instructions/explanations)
   c. Kinaesthetic learner (learn best by experience, being involved physically in class)
   d. Tactile learners (learn best by doing hands-on experiences with material)
   e. Individual learners (learn best when studying on their own)
   f. Group learners (learn best when studying in a group)
   g. I am not sure.
   h. Others (please specify). _____

8. If it applies, what learning styles correspond best to most of your students in the **correspondence** distance learning option? Select all that applies.
   a. Visual learners (learn best when seeing writing instructions, visual representations, etc.)
   b. Auditory learners (learn best when hearing oral instructions/explanations)
   c. Kinaesthetic learner (learn best by experience, being involved physically in class)
   d. Tactile learners (learn best by doing hands-on experiences with material)
   e. Individual learners (learn best when studying on their own)
   f. Group learners (learn best when studying in a group)
   g. I am not sure
   h. Others (please specify). _____

9. According to you, is there a learning style that would suit best the **online** distance learning option? Please select all that apply.
   a. Visual learners (learn best when seeing writing instructions, visual representations, etc.)
   b. Auditory learners (learn best when hearing oral instructions/explanations)
   c. Kinaesthetic learner (learn best by experience, being involved physically in class)
   d. Tactile learners (learn best by doing hands-on experiences with material)
   e. Individual learners (learn best when studying on their own)
   f. Group learners (learn best when studying in a group)
   g. I am not sure.
   h. Others (please specify).

10. According to you, is there a learning style that would suit best the **correspondence** distance learning option? Please select all that apply.
   i. Visual learners (learn best when seeing writing instructions, visual

representations, etc.)
j. Auditory learners (learn best when hearing oral instructions/explanations)
k. Kinaesthetic learner (learn best by experience, being involved physically in class)
l. Tactile learners (learn best by doing hands-on experiences with material)
m. Individual learners (learn best when studying on their own)
n. Group learners (learn best when studying in a group)
o. I am not sure.
p. Others (please specify). _____

11. According to you, what factors **may** influence students' decisions when first choosing a distance learning option (online & correspondence)?

12. What do you think **does** influence students' decisions of distance learning options (online & correspondence)?

13. Have you ever recommended students to change their distance learning option (i.e. asked a student to switch from one mode to another)? Why?

14. Are you interested to participate in a follow-up interview with the researcher? If yes, please provide your email address to contact you.
a. Yes, provide your email _____
b. No.

Appendix E - Teachers Follow-up Interview Script

Semi-Structured Follow-up Interview Script

Note: All the questions and dialogue bellow are said by the interviewer.

Thank you for agreeing to participate in this follow up interview (I will take your verbal consent in just a moment). I would just like to inform you that this interview will be recorded for the sake of qualitative analysis, however everything will remain anonymous including your name.

Do you consent participating in this follow-up interview done by me (Nasren Elsageyer) on the (date)

Perfect, I am going to start with the questions, please do take the time to elaborate on your answers as much as you like since most of the questions are open ended.

1. Do you teach in the LHS program?
2. What program option do you teach in?
3. How long have you been teaching with LHS?
4. How many students do you have in each program option?
   Online _____
   Correspondence _____
5. How do you deliver your distance class? Phone? Skype? Etc.

Few months back, you participated in an online questionnaire about Learning Styles and delivery options in second language distance programs. Being a LHS instructor, you had the opportunity to teach students in both delivery modes (online and correspondence)…. You might have notices that different students may have different Learning Styles….

6. According to you, how would you define the concept of learning styles? What do you think about when I first said Learning styles?
7. Do you perceive differences in the learning styles of the students in the online options vs. the ones in the correspondence option? (Are they more visual, auditory? Etc.)
8. Can you profile the learners you have in the online class? List their characteristics and/or individual differences?
9. Can you profile the learners you have in the correspondence class? List their characteristics and/or individual differences?
10. According to you, is there a specific learning style that would be more successful or benefit more from online classes?
11. According to you, is there a specific learning style that would be more successful or benefit more from correspondence classes?
12. According to you, what factors may influence students' choice of program option?

13. Have you ever recommended students to switch from one option to the other? If so, please explain why.
14. In your opinion, how could LHS better prepare and direct student to the option that better suits their learning style?

Appendix F – Ethics Certificates from University of Ottawa

24/09/2019

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE I CERTIFICATE OF ETHICS APPROVAL

Numéro du dossier / Ethics File Number	S-06-18-780
Titre du projet / Project Title	Learning Styles and Language Instruction for Newcomers (LINC) Home Study Program Delivery Options: Profiling Learners Opting for Computer-Based Instruction (CBI)
Type de projet / Project Type	Thèse de maîtrise / Master's thesis
Statut du projet / Project Status	Renouvelé / Renewed
Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)	24/09/2019
Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)	16/10/2020

Équipe de recherche / Research Team

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